CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800.321.CSLB (2752) | *www.cslb.ca.gov* | *CheckTheLicenseFirst.com*

STATE OF CALIFORNIA
Governor Gavin Newsom

April 5, 2024

Subject:

Regulatory Rulemaking Proposal; Sections 810, 832.10 and 832.46 of Title 16, Division 8 of the California Code of Regulations – Battery Energy Storage Systems. Written and Oral Comments Received.

Memo:

On June 16, 2023, the Office of Administrative Law (OAL) published the Notice of Proposed Rulemaking in the Notice Register. Written comments on this matter were received during the 45-day comment period between June 16, 2023, and August 2, 2023. A regulatory hearing was held on August 3, 2023.

The file to follow is all written comments received between June 16, 2023, and August 2, 2023, and written comments received at the August 3, 2023 hearing. Included in the file is a transcript of that hearing.

ACCESSIBILITY NOTICE

The Board is posting information over which the Board has no content or formatting control. The Board does not modify materials created by external sources; therefore, such documentation may not be fully accessible. Interested parties may request an accessible version or hard copy of these materials by calling (916) 255-4000.

TITLE 16. PROFESSIONAL AND VOCATIONAL REGULATIONS DIVISION 8.

CONTRACTORS STATE LICENSE BOARD

FINAL STATEMENT OF REASONS

PUBLIC COMMENT LETTERS AND PUBLIC HEARING TRANSCRIPT

Organized in Order of Presentation in Final Statement of Reasons

Four Hundred Fifty-Eight (458) Written and Oral Opposition Comments

For ease of reference, this Table of Contents appears in the Bookmarks panel on the right side of the window, with an interactive link to each listed document and exhibit. To open the Bookmarks panel, select the bookmarks icon from the right navigation bar to open the Bookmarks side panel.

SHUTE, MIHALY & WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

HEATHER M. MINNER
Attorney
Minner@smwlaw.com

August 3, 2023

Via Hand Delivery and Electronic Mail

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Re: Proposed Rulemaking Concerning Battery Energy Storage Systems: Failure to Satisfy Procedural and Substantive Requirements of the California Administrative Procedure Act

Dear Ms. Godines:

Shute, Mihaly & Weinberger, LLP represents the California Solar and Storage Association in matters related to proposed amendments to the C-46 Solar Contractor license classification. We write to provide comments on the proposed rulemaking concerning battery energy storage systems ("Batteries" or "Battery Storage"). As described below, the Contractors State License Board's substantial failure to comply with the procedural and substantive requirements of the California Administrative Procedure Act (APA), Government Code section 11340 et seq., renders this rulemaking unlawful. The CSLB's proposed rule will have devastating effects on C-46 license holders, their employees, and customers, and the legal flaws in the proposed rule and rulemaking process mean the Office of Administrative Law (OAL) cannot approve it.

I. Introduction

The APA seeks to center small businesses in the state's rulemaking processes, noting that "[t]he complexity and lack of clarity in many regulations puts small businesses, which do not have the resources to hire experts to assist them, at a distinct disadvantage." Gov. Code § 11340(g). The APA specifically requires consideration of a proposed regulation's "impact on business[es]," including small businesses. *Id.* §§ 11346.3(a)(2); 11342.610. This evaluation of possible impacts includes the creation or elimination of jobs and creation or elimination of existing businesses. *Id.* § 11346.3. So

strong is the APA's desire to protect businesses from unnecessary burdens, that a regulation can only apply to businesses if an agency makes a finding that the regulation is "necessary for the health, safety, or welfare of the people of the state." *Id.* § 11346.3(c); *see also Western States Petroleum Assoc. ("WSPA") v. Board of Equalization* (2013) 57 Cal.4th 401, 424-25 (APA "was born out of the Legislature's perception that there existed too many regulations imposing greater than necessary burdens on the state and particularly upon small businesses.").

Yet, as this letter details, the CSLB completely dismisses this fundamental tenant of the APA and ignores the proposed rule's numerous impacts on small businesses. Indeed, the CSLB did not even *attempt* to assess the rule's potential impacts on small businesses operated by C-46 license holders. Without conducting the requisite analysis and revising its proposed rule accordingly, the CSLB has violated the APA's stated goal of "reduc[ing] the unnecessary regulatory burden on private individuals and entities." Gov. Code § 11340.1(a); *WSPA*, 57 Cal.4th at 424-25.

Moreover, the proposed rule's prohibition on C-46 contractors' ability to add Batteries to existing solar systems, to maintain and repair the Batteries that they install, or to install or repair Batteries that exceed 80 kWh runs directly counter to California's energy goals. This type of reckless rulemaking is in direct tension with the purposes of the APA, which seeks to discourage "regulations" that prevent "development of improved means of achieving desirable social goals." Gov. Code § 11340(d).

II. The Rulemaking Package Fails to Comply with the APA.

The APA sets out a number of substantive and procedural requirements that an agency must satisfy in proposing a new rule or regulation. These obligations help to ensure that the proposed rules are transparent, subject to public input, and not unduly burdensome on small businesses. *See e.g., Armistead v. State Personnel Board* (1978) 22 Cal.3d 198, 204 (APA designed "to provide a procedure whereby people to be affected may be heard on the merits of the proposed rules"); *California Optometric Assn. v. Lackner* (1976) 60 Cal.App.3d 500, 506 (APA ensures "meaningful public participation in the adoption of administrative regulations by state agencies."). The Legislature was particularly concerned that complex regulations put small businesses at a disadvantage. Gov. Code § 11340(g).

Yet, here, the CSLB has not met the APA's procedural requirements, nor does the proposed rule satisfy the statute's substantive demands. Rather, the CSLB made several unsupported determinations about the proposed rule's impacts, failed to meet the APA's

substantive rulemaking standards, and did not identify reasonable alternatives. For all of these reasons, the OAL cannot approve this rulemaking. Gov. Code § 11350(a).

A. The CSLB's rulemaking analysis fails to comply with the APA's economic impact analysis requirements.

The APA requires agencies to make a series of economic and fiscal determinations during the rulemaking process. Gov. Code § 11346.5. A number of those required determinations, findings, and analyses must be included in the agency's Initial Statement of Reasons—a document that explains the reasons why the agency seeks to make the proposed regulatory changes. The Initial Statement of Reasons should give the public an understanding of the estimated economic (private) and fiscal (governmental) monetary impacts of the proposed regulation. *See* Decision of Disapproval of Regulatory Action, OAL Matter No. 2016-010401, 9-10 (proposed regulation may have both fiscal and economic impacts).

The agency's determinations regarding the proposed regulation's significant adverse economic impacts (or lack thereof) must be supported by evidence or rational analysis. If the agency does not provide the requisite support for its economic impact analysis, the proposed regulation will be invalidated. *WSPA,* 57 Cal.4th at 426-31. Here, the CSLB failed to comply with the APA's economic impact analysis requirements in reaching erroneous, unsupported determinations. For this reason, the proposed rule cannot be approved.

1. The CSLB failed to assess the impacts of the rule it actually proposes and improperly determined that there would be no significant economic impacts on business enterprises.

Under the APA, a state agency "shall assess the potential for adverse economic impact on California business enterprises and individuals" Gov. Code § 11346.3(a). If the rule will have a significant adverse economic impact, the agency must identify the types of businesses that would be affected and what compliance requirements would result from the proposed action. *Id.* § 11346.5(a)(7)(A)-(B).

An initial determination that the proposed rule will not have a significant adverse economic impact must be supported by "[f]acts, evidence, documents, testimony, or other evidence." Gov. Code § 11346.2(b)(5). "Mere speculative believe is not sufficient to support an agency declaration of its initial determination about economic impact." *WSPA,* 57 Cal.4th at 428.

Here, the CSLB initially determination that the proposed rule "will not have a significant statewide adverse economic impact directly affecting businesses." CSLB, *Notice of Proposed Rulemaking Concerning Battery Energy Storage Systems ("Notice")*, April 28, 2023, at 5-6; CSLB *Initial Statement of Reasons ("ISR"),* April 28, 2023, at 17-18. However, at a basic level, this assessment—as well as the CSLB's economic impact assessment discussed below—does not even analyze the full scope of the proposed rule or the types of businesses that will be effected by it.

To begin with, the CSLB's business impact assessment assumes that C-46 contractors could only be impacted if they installed Batteries larger than 80 kWhs in 2020. It thus concludes that "the number of licenses potentially affected is insufficient to create a statewide economic impact." Yet, as detailed in CALSSA's Comment letter submitted separately, the proposed rule would not only cap C-46 battery installations at 80 kWhs, it would *also* prohibit C-46 contractors from installing Batteries *of any size* to existing solar panels, and it would prohibit C-46 contractors from maintaining or repairing Batteries *of any size* that they install. Thus the rule also impacts C-46 contractors installing Batteries within the proposed 80 kWh threshold. The CSLB fails to acknowledge, must less analyze, the significant business and economic impact these aspects of the proposed rule would cause.

In addition, limiting its analysis to 2020 data ignores the reality that Battery installations have soared since then and installation of Batteries over 80 kWh will likewise continue to be a growing market, one that more C-46 contractors are currently engaged in and expecting to expand into. *See* CALSS Letter to CSLB (Aug. 3, 2023), Exh. B (compiling various comment letters on the BESS rulemaking), Anita Bradbury Letter, Barry Cinnamon Letter, Jeanine Cotter Letter. Turning a blind eye to this industry dynamic is not the "reasoned effort" to assess economic impacts that the APA requires. *WSPA,* 57 Cal.4th at 431.

Further, the CSLB erroneously asserts that "the only types of businesses that may be affected are licensed contractors who hold a C-46 Solar Contractor classification and no other license classification that authorize the contractor to install BESS"—a group we refer to as "pure C-46" contractors. Yet CALSSA and individual contractors have repeatedly informed the Board that restrictions on C-46 Battery installations will also impact contractors who hold both a C-46 and a C-10 license classification (a group we refer to as "dual license holders."). *See, e.g.,* Jeanine Cotter Letter; CALSSA Letter to CSLB (Aug. 3, 2023), Exh. B (compiling CALSSA's numerous letters to the Board during the consultation phase of this rulemaking); CALSSA Letter (June 15, 2022), at 2; CALSSA Letter (Nov. 24, 2021) Attach. 1 at 4-5. This is because by excluding Batteries from the scope of the C-46 license, the proposed rule will require the use of expensive,

and often unavailable, certified electricians under Labor Code section 108. The CSLB cannot continue to ignore this issue. As the Court of Appeal found in *John R. Lawson Rock & Oil, Inc. v. State Air Resources Board*, "the Board must look at each type of business subject to the relevant proposals and consider whether those proposals will advantage or disadvantage that particular type. [It] cannot ignore evidence of impacts to segments of businesses already doing business in California." (2018) 20 Cal.App.5th 77, 114-15.

Moreover, CSLB attempts to minimize the impacts to the businesses they do identify by estimating that these businesses install only a "small share" of the overall number of Battery projects. From this it concludes that any impact to these businesses is insufficient to create an adverse statewide impact. But as emphasized by the *John R. Lawson* decision, the APA is trying to expose a significant adverse impact to discrete types of businesses. Gov. Code §§ 11346.3(a), 11346.2(b)(5). In this case, the CSLB's rule would be devastating to those businesses it impacts, regardless of their share of the entire solar industry. Moreover, the proposed rule will in fact have a significant, statewide adverse economic impact, as an independent assessment of the proposed rule confirms.

Given the anemic and fundamentally flawed analysis included in the CSLB rulemaking package, CALSSA requested a third-party expert, Beacon Economics LLP, to conduct an economic impact assessment of the proposed rule. Beacon Economics is an independent research and consulting firm that delivers objectively-based economic analysis. Their clients include government entities as well as industries and non-profits. Beacon Economics' report, "Economic Impact Analysis of the CSLB's Proposed Battery Energy Storage System Rule," ("Beacon Report"), July 31, 2023, is attached as Exhibit E to CALSSA's Letter (Aug. 3, 2023), submitted separately.

Beacon Economics identified the value of impacted projects performed by pure C-46 contractors in 2022 and estimated their value in 2024, based on identified growth trends in these market sectors. The analysis demonstrates that the total business impact to pure C-46 contractors from the CSLB's rule in 2024 will be $119,900,000. Beacon Report at 1. This represents the value of prohibited projects that pure C-46 contactors would have otherwise installed. This $121 Million is undoubtedly a significant impact on business.

2. The CSLB improperly and incorrectly concluded that its proposed rule is not a major regulation.

The APA requires an initial statement of reasons to include an economic impact assessment (for non-major regulations) or a standardized regulatory impact analysis (for major regulations). Gov. Code § 11346.2(b). Under California law, a major regulation is one "that will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented." 1 C.C.R. § 2000. If an agency anticipates promulgating a major regulation, it must prepare a Standardized Regulatory Impact Assessment (SRIA) and submit it to the Department of Finance for review and comment. State Administrative Manual (SAM) § 6600. This SRIA must include specified analyses and follow prescribed methodologies in explaining the proposed rule's economic impact. See Gov. Code § 11346.3(c); 1 C.C.R. § 2003.

Here, the CSLB did not even conduct the required economic assessment to determine whether the proposed rule would qualify as a major regulation. For instance, it failed to consider the direct, indirect, and induced economic impacts. *See* 1 C.C.R § 2000 ("'Economic impact' means all costs or all benefits (direct, indirect and induced) of the proposed major regulation on business enterprises and individuals." "'As estimated by the agency' means the agency has estimated the economic impact of a proposed action in the manner prescribed by section 2003"), *id.* § 2003 (specifying economic impact method and approach); Beacon Report at 12 ("the Labor Center has not analyzed or reported the traditional metrics of an economic impact report – direct, indirect, and induced effects").

In fact, when Beacon Economics assessed the proposed rule's direct, indirect, and induced economic effects it found that the rule will result in a total economic impact of $86.9 million in 2024, well exceeding the $50 million threshold to qualify it as a major regulation. Beacon Report at 18.

3. The CSLB's economic impact assessment is unsupported by relevant evidence.

Not only did the CSLB skirt its responsibility to prepare a Standardized Regulatory Impact Assessment, the Economic Impact Assessment it included in the ISR is wholly inadequate. CSLB's Economic Impact Assessment relies entirely on an "Evaluation of Alternative Contractor License Requirements for Battery Energy Storage Systems" report issued by the UC Berkeley Labor Center on June 30, 2021. ISR at 18-19.

Aside from being out of date, the Labor Center report analyzed an entirely separate regulatory proposal: precluding C-46 contractors from installing Batteries entirely.

The CSLB suggests it is nonetheless appropriate to repurpose this report because the current 80 kWh threshold is less restrictive than a complete ban. But regardless of whether the proposed rule is less restrictive than prior proposals, the result of this approach is the same: policy makers and the public have no assessment of the economic impacts of *this* proposed rule. The Labor Center Report does not analyze it.

Even if it was appropriate to rely on the Labor Center's report for an entirely different regulatory proposal, that report was results driven, deeply flawed, and poorly researched. CALSSA has refuted the Labor Center's arguments and clarified the report's deficiencies in a November 24, 2021 memorandum that it resubmits as comments on this rulemaking. CALSSA letter to CSLB (Nov. 24, 2021), attached as Exhibit C to CALSSA's August 3, 2023 letter.

4. The CSLB improperly determined that the proposed rule will not affect small businesses.

The agency's notice of rulemaking must determine whether compliance with the proposal would affect small businesses. 1 C.C.R. § 4(a) ("The notice … shall include a determination as to whether or not the adoption or amendment affects small business … within the meaning of [Gov. Code §] 11342.610"). Small businesses impacts must likewise be addressed in an economic impact assessment. Gov Code § 11346.3(b)(4); *John R. Lawson Rock & Oil, Inc.,* 20 Cal.App.5th at 114-15 ("The desire to relieve burdens on small businesses necessarily entails a consideration of how those small businesses are impacted by regulations relative to larger in-state businesses that will not feel the impact of such regulations at the same scale."). The APA defines a small business as a business that is independently owned and operated, not dominant in its field of operation, and, for special trade construction, with annual gross receipts that do not exceed $5,000,000. Gov. Code §§ 11342.610(a), (c)(3).

Here, the CSLB baldly states that "the proposed regulations will not affect small businesses." Notice at 9. The CSLB then qualifies this statement by adding that "[a]lthough small businesses owned by licensees of the Board may be impacted, the Board does not maintain data relating to the number or percentage of licensees who own a small business," so "the number or percentage of small businesses that may be impacted cannot be determined." *Id.* In essence, the CSLB admits that its assertion regarding the regulation's non-impact on small businesses is unsupported by any evidence in the record because it never bothered to actually identify the small businesses

in the solar construction field or determine the rule's potential impact on those businesses.

This type of non-analysis does not satisfy the APA's requirements. As the OAL has recognized, changes to allowable business practices will have an "obvious potential significant impact" on small businesses who are currently engaging in those practices. *See* Decision of Disapproval, OAL File No. 2009-0831-01S, 1 (2009) (change to registration of used or waste tire haulers would impact waste tire haulers' small businesses). Here, the CSLB's refusal to even attempt a small business impact analysis violates the statute.

The fact that the CSLB "does not maintain data" relating to licensees who own small businesses provides no excuse. Where other agencies have been uncertain about small business numbers, they have turned to census data or other records to estimate those impacts. *See, e.g.,* California Regulatory Notice Register 2023, Vol. No. 9-Z (March 3, 2023), 193, 197 (data from the California Employment Development Department Labor Market Information used to estimate the number of California employees who work for small businesses); California Regulatory Notice Register 2023, Vol. No. 13-Z (March 31, 2023), 364,369 (data from the U.S. Census Bureau's County Business Patterns and the U.S. Department of Agriculture's Census of Agriculture used to determine number of small family farms). Beacon Economics was readily able to identify 86 pure C-46 contractors alone that qualified as small businesses under the APA using the interconnection data set that the CSLB has already accessed for this rulemaking. Beacon Report at 20-21.

CSLB's proposed rule's effect on small solar businesses is readily apparent. *See* 1 C.C.R. § 4(a) (small business is affect if it is "legally required to comply with the regulation [or] incurs a detriment from the enforcement of the regulation."). These 86 companies will no longer be able to add battery storage to the solar panels that they previously installed for their customers. Nor will they be able to install batteries exceeding 80 kWh for off-grid homes or small commercial buildings. And they will not be able to install any solar and storage project connected to the grid as they will be unable to offer the required service warranty. *See* Beacon Report at 21 (discussing adverse economic impacts on pure C-46 small businesses).

The CSLB's failure to consider these devastating small business impacts is particularly egregious given that the APA "was born out of the Legislature's perception that there existed too many regulations imposing greater than necessary burdens on the state and particularly upon small businesses." *WSPA*, 57 Cal.4th at 424-25 (Board failed to comply with APA where it did not adequately analyze impacts on small businesses or

respond to comments in light of testimonials that regulations would cause substantial harm to businesses).

5. The CSLB improperly determined that the proposed rule would not eliminate jobs, existing businesses, or impede the expansion of businesses.

The APA requires that the agency's economic impact assessment consider "whether and to what extent" the proposed rule will affect the "elimination of jobs [and] existing businesses within the state [and] the expansion of businesses currently doing business within the state." Gov. Code § 11346.3(b)(1)(A),(C).

Here, the CSLB asserts that the proposed rule will not significantly eliminate jobs in the state because C-46 contractors can continue to install residential Batteries below 80 kWh and they can apply for a C-10 electrical license if they wish to install larger, batteries for the commercial market. Notice at 7. It likewise concludes that "No existing business that already installs BESS paired with PV systems, is precluded entirely from installing BESS paired with PV systems as a result of this proposal." *Id.* The CSLB similarly asserted that the proposed rule "will not adversely affect the expansion of businesses currently doing business within the State of California" because "BESS paired with PV systems is an emerging and expanding business already conducted by C-10 and C-46 businesses." Notice at 7. These conclusions could not be further from the truth.

Numerous solar contractors have commented to the CSLB that the prosed rule will cut off the very markets that they plan to expand or further gown into, cause them to lay off workers, or event put them out of business entirely. *See* Letters from Karin Poelstra, Bob Irwin, Meghan Stimmler, Anita Bradbury, and Barry Cinnamon, attached as Exhibit B to CALSSA's August 3, 2023 letter; *see also* Letter from Daniel Kammen, attached as Exhibit B to CALSSA's August 3, 2023 letter.

The CSLB's cursory analysis ignores many of the proposed rule's pernicious effects. Namely, the rule would prohibit C-46 contractors from adding Batteries to existing systems and from installing any solar and storage project connected to the grid, in addition to its prohibitions on Batteries above 80 kWhs. *See* CALSSA Letter (August 3, 2023). The rule thus prohibits the expansion of existing pure C-46 businesses into these growing market segments. All that would be left is installing solar and storage systems below 80 kWhs to off-grid residences. We have not identified any C-46 solar contractors whose companies rely entirely on this niche market.

Further, simply obtaining a C-10 electrical license will not solve these problems, even if a C-46 solar contractor decided to apply for that license. As discussed, Labor Code section 108 would then require these contractors to hire certified electricians for much of their installations. To begin with, this would lead to the elimination of jobs for qualified solar installers. *See e.g.,* Letter from Meghan Stimmler, attached as Exhibit B to CALSSA's August 3, 2023 letter. Moreover, it will be difficult if not impossible to replace those workers with certified electricians given the "highly constrained certified electrician market that is only expected to get worse." *See* Beacon Report at 5-9. Numerous solar contractors have testified as to the difficulty of hiring certified electricians, as well as having their existing solar installers become certified electricians. *See e.g,* Letters from Jeanine Cotter, Barry Cinnamon, Meghan Stimmler, attached as Exhibit B to CALSSA's August 3, 2023 letter. Others have testified that using certified electricians would make retrofit and solar and storage projects "too expensive for a majority of residential projects." Letter from Karin Poelstra, attached as Exhibit B to CALSSA's August 3, 2023 letter.

From the standpoint of the state's economy as a whole, Beacon Economics' analysis found that 165 jobs will not be supported in 2024 as a result of the proposed Rule. Beacon Report at 18. The CSLB cannot ignore these real world impacts of its proposed rule.

6. The CSLB improperly determined that the proposed rule would not have fiscal impacts on government agencies.

The APA also requires an agency to prepare an estimate of the cost or savings to any state agency or local government. Gov. Code § 11346.5(6); SAM § 6601; Department of Finance Form 399. Known as "fiscal costs," these costs to the agency can be direct or indirect. Gov. Code § 11346.5(6); SAM § 6602. In looking at costs or savings to government entities, the proponent agency must also consider revenues, or "[a]ny changes in the amounts of operating income received by state and local agencies as the result of [the] executive regulation." SAM § 660.

Here, the CSLB's Notice of Rulemaking asserted that the proposed rule would "not result in a fiscal impact to the state," or "result in costs or savings in federal funding to the state." Notice at 5. But this cursory analysis ignores the very real loss in tax revenue that local and state governments will face if the proposed rule goes into effect. According to Beacon Economics' assessment, the proposed rule will result in a $13 million total dollar loss in tax revenue to local, state, and federal government. Beacon Report at 19. The state of California would lose $ 4.9 million in tax revenue. This is the

logical outcome of prohibiting contractors from conducting certain types of work and, thus, creating a decrease in economic activity.

The OAL has explicitly recognized loss in tax revenue as a fiscal impact that must be disclosed. *See* Decision of Disapproval*,* OAL File No. 2016-0104-01, 7, 9 (2016) (disapproving rule based on agency's failure to disclose loss of tax revenue from proposed regulation). This is true even where an agency claims its proposed regulation merely clarifies existing law. *Id.* Indeed, the State Administrative Manual's definition of revenues explicitly "includes taxes." SAM § 6602. The APA requires disclosure of the lost tax revenue that will result from this proposed rule; the CSLB's failure to do so means the OAL must disapprove this rule.

7. The CSLB improperly determined that the proposed rule would not have a significant effect on housing costs.

Under Government Code section 11346.5(a)(12), an agency must determine if the proposed regulation will directly impact housing costs. *See also* SAM § 6603. Though the statute and regulations do not provide a definition for "housing costs," the California Practice Guide: Administrative Law suggests that it be given the common dictionary meaning of "costs associated with dwellings." California Practice Guide: Administrative Law Ch. 23:185 (2022).

In its Notice, the CSLB asserted that the proposed rule would not have any significant effect on housing costs. Notice at 5. Yet, according to analysis of the proposed rule conducted by Beacon Economics, Batteries prohibited by the proposed rule will be 4.1% more expensive to install based on increased labor costs. Beacon Report at 10. If a pure C-10 contractor is used instead of a pure C-46 contractor, they will be 11% more expensive. *Id.* This will increase the costs of housing that is built with or retrofitted with solar and storage projects.

In addition, Beacon Economics' analysis found that in many cases, the increased costs will lead consumers to forego solar and storage installations or retrofits. Beacon Report at 11. These missed opportunities will likewise increase housing costs as consumers pay higher electricity bills than they would have if they had battery storage to run their homes during peak hours. The CSLB has received numerous comment letters from consumers testifying to this effect. *See, e.g.,* Letter from Randi Harry, attached as Exhibit B to CALSSA's August 3, 2023 letter. Professor Dan Kammen has also pointed out the proposed rule particular harms lower income residents in his letter to the CSLB.

8. The Proposed Rule will harm California residents, worker safety, and the state's environment.

The APA requires that the agency's economic impact assessment consider the benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment. Gov. Code § 11346.3(b)(1)D. The CSLB claims that the proposed rule will provide public protection in the marketplace by establishing who is qualified to install Batteries. But it has long been established that C-46 contractors are qualified to install Batteries, as discussed below in this letter. Moreover, as explained in CALSSA's letter submitted with this rulemaking, the proposed rule will actually harm consumers by voiding the warranties for the existing panels when they add Batteries and by prohibiting contractors from honoring the service warranties for existing Batteries.

The proposed rule will likewise not benefit worker safety, contrary to CSLB's assertions, because solar installers and their workers are as qualified to maintain and repair Batteries, and to install Batteries above 80 kWh, as C-10 contractors and their certified electricians. *See* CALSSA letter to CSLB (June 15, 2022) at 2-4; CALSSA letter to CSLB (Nov. 24, 2021), Exhibit A at 6-8; Brandon Carlson Letter, attached as Exhibit B to CALSSA's August 3, 2023 letter. In the experience of many commentators, they are more qualified. *See e.g.,* Letters from Karin Poelstra and Barry Cinnamon, attached as Exhibit B to CALSSA's August 3, 2023 letter.

Finally, the proposed rule would have a potentially significant effect on the environment, as outlined in our letter regarding CEQA compliance submitted separately in this rulemaking. *See also* Professor Daniel Kammen letter, attached as Exhibit B to CALSSA's August 3, 2023 letter.

B. The CSLB did not identify reasonable alternatives in its Initial Statement of Reasons in violation of the APA.

Under APA regulations, the Initial Statement of Reasons must include a description of "reasonable alternatives to the regulation" and the agency's reason for rejecting them. Reasonable alternatives include those "that are proposed" as less burdensome and equally effective in achieving the purposes of the regulation. Gov. Code § 11346.2(b)(4)(A); Decision of Disapproval 2016-0616-01, 10 (2016) (initial statement of reasons "failed to provide sufficient information to explain why" proposed rule should be adopted, "as opposed to any other entity's recommended [alternative].")

Here, the CSLB's ISR merely states that the CSLB "looked into alternatives" to precluding C-46 Solar Contractors from installing Batteries entirely, "and eventually

proposed adoption of the 80-kWh threshold." ISR at 26. Nowhere does the ISR mention the alternatives to the proposed rule that CALSSA proposed to the CSLB on June 15, 2022. There, CALSSA suggested higher battery capacity limits of 1 mWh, 600 kWh, and 280 kWh that would still satisfy the CSLB's expressed safety concerns with fewer economic impacts on solar contractors and their qualified workers. CALSSA also suggested that these and any other alternatives clarify that solar contractors may install batteries to existing solar panels and to repair the batteries that they have installed. CALSSA Letter (June 15, 2022) at 5.

In violation of the APA, the ISR makes no mention of those reasonable alternatives presented to the CSLB, much less provide any reason for rejecting them. "Meaningful public participation on the merits of a proposed regulation takes place only when there is *actual* compliance with the basic minimum procedural requirements for the adoption, amendment, or repeal of administrative regulations established under the APA." *Sims v. Department of Corrections & Rehabilitation* (2013) 216 Cal.App.4th 1059, 1074 -75 (invalidating rulemaking that failed to set forth alternatives in ISR, provide rationale for rejecting alternatives, or explain why selected alternative was superior). This failure to set forth reasonable alternatives in the ISR or provide a rational for rejecting them renders the rulemaking invalid. Gov. Code § 11349.1(a).

C. The proposed rule fails to meet the APA's substantive standards.

Under Government Code section 11349.1, the OAL must review all proposed regulations for compliance with the APA's substantive standards and reject a regulation if it does not comply.

1. The proposed regulation is not "necessary."

Under Government Code section 11349.1, subdivision (a)(1), the OAL must review all proposed regulations for compliance with the APA's necessity standard. The APA defines "necessity" to mean that "the record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute, court decision, or other provision of law that the regulation implements, interprets, or makes specific, taking into account the totality of the record. For purposes of this standard, evidence includes, but is not limited to, facts, studies and expert opinion." Gov. Code § 11349(a).

In order to meet the "necessity" standard, the record of rulemaking proceeding must include:

> (1) a statement of the specific purpose of each adoption, amendment, or repeal; and
>
> (2) information explaining why each provision of the adopted regulation is required to carry out the descried purpose of the provision. Such information shall include but is not limited to, facts, studies, or expert opinion. When the explanation is based upon policies, conclusions, speculation, or conjecture, the rulemaking record must include, in addition, supporting facts, studies, expert opinion, or other information. An "expert" within the meaning of this section is a person who possesses special skill or knowledge by reason of study or experience which is relevant to the regulation in question. 1 C.C.R. § 10(b).

To provide the public with an opportunity to review and comment upon an agency's need for a regulation, the APA requires the proposing agency to describe the need for the regulation and identify any documents relied upon in proposing the regulation in the Initial Statement of Reasons, pursuant to Government Code section 11346.2, subdivision (b). The ISR must include the "rationale for the determination by the agency that each regulation is *reasonably necessary* to carry out the purpose for which it is proposed or, simply restated, 'why' a regulation is needed and 'how' this regulation fills the need." Decision of Disapproval, OAL File No. 2010-0226-03S, 2-3 (2010) (emphasis added) (quoting Gov. Code § 11346.2(b)(1)). The ISR must also identify any technical, theoretical, or empirical study, report, or similar document upon which the agency relies. Gov. Code § 11346.2(b)(2). All data and other factual information, studies or reports upon which the agency relies in the regulatory action must also be included in the rulemaking file. Gov. Code §§ 11347.3(b)(2), (7).

a. CSLB's stated purpose and need is an insufficient basis for regulatory amendments.

Here, the CSLB insists that because "[t]here are no existing CSLB regulations that define [Battery Energy Storage Systems] for the purpose of contractor license classifications" and no regulations that "specify that BESS is not part of a PV system, or when a BESS is 'incidental and supplemental' or essential to a specialty contractor's installation of a PV system," it proposes to adopt such regulations. ISR at 5. In proposing revisions that would bar C-46 contractors from certain Battery installations, the CSLB states that the purpose of the regulation is "to specify expressly that photovoltaic solar energy systems do not include battery energy storage systems and to establish the activities in which a C-46 Solar Contractor may not engage." *Id.* at 11. The CSLB claims that these changes are "necessary" to "clear up claimed ambiguities identified in the Board's current regulation as it relates to BESS." *Id.*

But general statements about the need to promulgate specific regulations, establish rules, or clarify existing law are not sufficient to meet the APA's necessity standard on their own. *See* Decision of Disapproval 2019-0226-03S, 3-4 (2010) (stated purpose of establishing and clarifying real estate continuing education course criteria failed to meet the APA's necessity standard because "[t]he initial statement of reasons does not…contain the rationale for the amendments proposed by the [agency], or why each of the specific standards or amendments is needed to carry out the purpose for which they are proposed."); Decision of Disapproval 2017-0623-01, 2-4 (2017) (general purpose of making motor vehicle fuel regulations consistent with other laws did not prove necessity because "there is no rationale for why the provision [in question…] is needed to effectuate the purpose of the statute."); Decision of Disapproval 2016-1201-03, 6 (2016) (amendment to provide direction and clarity regarding jockey riding fees failed to show necessity when agency did "not provide any specific explanation for" the proposed fee decrease).

The justification for a regulation cannot just rephrase the text of the regulation and the statutory authority to demonstrate necessity—it must state specific purpose and provide substantial evidence of necessity under the APA. Decision of Disapproval, OAL File No. 2018-1226-03, 4 (2018); Decision of Disapproval, OAL File No. 2017-0427-01, 3 (2017). Indeed, "[g]enerally stating that a regulation is needed to clarify existing law is an insufficient necessity rationale, as it fails to describe any rationale or policy reason for the regulation." Decision of Disapproval, OAL File No. 2012-1026-01S, 6 (2012).

Yet, this is exactly what the CSLB's Initial Statement does: provides cursory justifications based on the need for "clarification" without explaining *why* it chose to clarify the law in the way that it did or even why clarification was needed. The CSLB has provided the public with no explanation as to why it chose to revise the C-46 license regulations in this harmful way, especially when there are regulatory amendments that could be made in significantly less harmful ways. The APA requires specificity and detailed support for "why each of the specific standards or amendments is needed to carry out the purpose for which they are proposed." Decision of Disapproval, OAL File No. 2010-0226-03S, 4 (2010). What little justification the CSLB did put forward in its rulemaking materials failed to demonstrate that the proposed changes are based on specific facts or data, let alone that they were reasonably necessary. *See* CALSSA Letter to CSLB (Aug. 3, 2023).

b. No substantial evidence supports CSLB's determination that the regulation is reasonably necessary.

The CSLB's proposed amendments provide that a solar contractor "may install a battery energy storage system as 'incidental and supplemental to the installation of a photovoltaic solar energy system." The CSLB attempts to justify this by claiming that this provision is necessary to allow the installation of Batteries with a PV system. ISR at 13. But that is not the case because (1) the CSLB has not established that Batteries are not part of a solar energy system, and, regardless, (2) solar contractors can also continue to install Batteries through amendments that specify that Batteries may be one component of a solar energy system, as CALSSA has proposed.

The CSLB also attempts to rationalize this amendment by claiming that it "will help expressly align the classification with the practice currently found in the construction industry" and "will help meet California's clean energy and carbon reduction goals." ISR at 13-14. But it includes no evidence in the record to support these claims, contrary to APA requirements. 1 C.C.R. § 10(b). ("When the explanation is based upon policies, conclusions, speculation, or conjecture, the rulemaking record must include, in addition, supporting facts, studies, expert opinion, or other information.").

In fact, all the evidence in the record shows that C-46 contractors install Batteries as part of a solar energy system, such as through retrofits modifying an existing solar energy system to add Battery storage. *See, e.g.,* CALSSA Letter (Aug. 2, 2023); Beacon Report at 14; Letters from Karin Poelstra, Bob Irwin, attached as Exhibit B to CALSSA's August 3, 2023 letter. The record also shows that by specifying that Batteries may only be installed as incidental and supplemental work, and thereby prohibiting retrofits, the proposed regulations would actually make it more difficult for the state to meet its clean energy and carbon reduction goals. Beacon Report at 19-20; Kammen Letter, attached as Exhibit B to CALSSA's August 3, 2023 letter. CALSSA's August 3, 2023 Letter to the CSLB further demonstrates that the proposed incidental and supplemental amendment is not reasonably necessary.

If the CSLB somehow responds that the proposed regulation is an improvement because Batteries, or Battery retrofits, were never within the scope of the C-46 license classification, that would not only be incorrect: it would also be a void underground regulation and such an interpretation may not be relied on in this rulemaking. *See John R. Lawson Rock & Oil, Inc.,* 20 Cal.App.5th at 113 ("to give weight to an improperly adopted regulation in a controversy that pits the agency against an individual member of exactly that class the APA sought to protect would permit an agency to flout the APA by penalizing those who were entitled to notice and opportunity to be heard but received neither.").

In similar fashion, the CSLB attempts to justify the proposed 80 kWh threshold by speculating that "electrical system connections required at thresholds above 80 kWh are more appropriate for a C-10 Electrical Contractor." ISR at 14. The only potential evidence it cites to, however, is the June 2022 Staff Report. That Staff Report, in turn, makes certain conclusions with reference to a May 2022 meeting with unnamed Subject Matter Experts. Again, however, there is no *documentary evidence* of what those SMEs opinion's actually are. And indeed, it appears that many of their opinions conflict with the proposed regulations. *See* CALSSA Letter (Aug. 23, 2023).

The APA does not permit such hide-the-ball tactics. If the regulation is justified by expert advice, the record must include documentation or the study underlying and supporting the subject matter expert's opinion. *See, e.g.,* Decision of Disapproval, OAL File No. 2016-0921-03, 4-5 (2016) (disapproving rulemaking where initial statement of reasons "only indicates that the [agency] collaborated with subject matter experts" and did "not reflect or include what the subject matter experts' opinions are.").

CALSSA's Letter to the Board further discusses why the CSLB's proposed amendments to the C-46 license classification are arbitrary and not reasonably necessary.

2. The CSLB lacks the authority to adopt the proposed regulation and the regulation is not consistent with state law.

Under Government Code section 11349.1, subdivisions (a)(2) and (a)(4), the OAL must review all proposed regulations for compliance with the APA's authority and consistency standard. The APA defines "authority" to mean "the provision of law which permits or obligates the agency to adopt, amend, or repeal a regulation." Gov. Code § 11349(b). The APA defines "consistency" to mean "being in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or other provisions of law." *Id.* § 11349(d). Here, the CSLB lacks the authority to adopt the proposed regulation and the regulation conflicts with numerous provisions of state law.

a. The proposed rule exceeds the Board's regulatory authority under Business and Professions code section 7059.

Although state law authorizes the Board to establish specialty license classifications, that authority is limited in key respects. First, the Board may only adopt regulations that "effect the classification of contractors *in a manner consistent with established usage and procedures* as found in the construction business." Bus. & Prof. Code § 7059 (emphasis added). This statute clearly requires the Board to follow existing

industry practice when establishing license classifications. *See* 55 Ops.Atty.Gen. 141 (in defining a license classification, the "Board must find from established usage and procedure . . . that a particular area of construction operations requires special skill and involves the use of specialized building trades or crafts.").

i. Excluding Batteries from the C-46 Classification is inconsistent with the established usage and procedures of solar contractors.

Here, by excluding Batteries from the in-license scope of the C-46 classification entirely, which it does in the amendments to section 832.46, the Proposed Rule is fundamentally *inconsistent* with established usage and procedures in the solar industry. Solar contractors have been installing energy storage systems as part of solar energy systems since the inception of the C-46 classification. As the Board itself explained in its 2019 study of energy storage systems, "[t]he C-46 Solar Contractor has been installing some form of [energy storage systems] in conjunction with a photovoltaic system *for approximately 40 years*." CSLB, Energy Storage Systems Report (March 2019) (emphasis added).

With increased demand for solar and storage projects today, licensed solar contractors continue to be well-versed in battery installations. In 2017, the Board conducted an occupational analysis "to identify the *critical job activities* performed by [Board]-Licensed C-46 Solar Contractors." CSLB, Occupational Analysis Report, C-46 Solar Examination (August 2017) at 5 (emphasis added). "Photovoltaic (PV) System Installation and Commissioning," including the installation of "equipment used in the generation and *storage* of electricity," received the highest critical task score. *Id*. at 18 (emphasis added). Reflecting this assessment, 22 percent of the C-46 (Solar Contractor) license exam covers battery storage and assesses a candidate's knowledge in the installation of photovoltaic systems "with energy storage (i.e., batteries)," among other tasks. The *Contractors State License Board License Examination Study Guide, Solar C-46* likewise lists "Install energy storage systems (ESS)" as a key exam topic for the C-46 classification. Thus, as the Board has repeatedly recognized, the "established usage and procedures" for the C-46 classification includes installing batteries as part of solar energy storage systems.

This established usage and procedure is likewise reflected in the interconnection data. Since 2018, pure C-46 solar contractors (i.e. contractors holding a C-46, and no C-10, A, or B license) have installed 3,406 projects with a Battery storage component. Not all of these were installed at the same time as the PV solar panels either: 1,347 of these projects were retrofits, adding Battery storage to existing PV solar panels.

Thus CSLB's C-46 exam materials, as well as project data, demonstrate that the proposed rule is inconsistent with "established usage and procedures as found in the construction business" and would prohibit solar contractors from conducting work for which they are "qualified to engage" under Business and Professions Code section 7059. The Board thus lacks the authority to adopt it.

ii. The Board is not authorized to regulate worker certifications.

Additionally, the Board is only authorized to employ license classifications to "effect the classification of *contractors*." Bus. & Prof. Code § 7059 (emphasis added). Crucially here, the driving purpose of the Proposed Rule's 80 kWh threshold is not to regulate contractors themselves, but rather their *workers*. *See* ISR at 16 ("This preserves the distinctions between the trades and their workforces while promoting public protection by limiting that work to those who have met the minimum qualifications."); June 30, 2021 UC Berkeley Battery Energy Storage Systems License Classification Report at 16 ("The main difference between C-10 and C-46 license holders is that the technical capacity of the C-10 workforce is greater than that of the C-46 workforce."). This focus on workforces is premised on the (erroneous) view that solar contractors' workers are not qualified to install batteries, and that only certified electricians may install batteries. As discussed in other Letters CALSSA has submitted to the Board, there is no basis for this distinction, especially where there is no evidence that certified electricians are better equipped to install batteries. *See, e.g.,* CALSSSA Letter to CSLB (Nov. 24, 2021), Attch. A at 7-8.

Indeed, regulating all solar contractors in this manner conflicts with the fundamental purpose of the California's Contractor Laws, which is to protect consumers from unscrupulous contractors:

> It was not the purpose of the legislature in adopting the original 'Contractor's License Law' in 1929 or in making additions or amendments thereto . . . to work a hardship upon honest men engaged in a contracting business. The legislative intent was to protect the public against incompetent and dishonest operators.

Oddo v. Hedde (1950) 101 Cal.App.2d 375, 382. Here, C-46 contractors and their works have been safely and professionally installing the batteries in energy storage systems for over four decades, including batteries over 80 kWhs. Beacon Report at 13 (pure C-46 contractors installed $8.5M in BESS projects exceeding 80 kWhs in the year 2022).

There is no evidence that precluding these contractors from continuing with this work would provide any protection for battery consumers in California.

iii. Restricting C-46 incidental and supplemental work conflicts with Business & Professions Code § 7059 and the Board is not authorized to do so.

Even assuming the Board could lawfully amend the C-46 classification to exclude battery installations, the Proposed Rule further violates Business & Professions Code section 7059 by attempting to define and limit "incidental and supplemental" work that may be performed by solar contractors. Business & Professions Code section 7059 expressly allows specialty contractors to perform work in crafts or trades outside of their specialty license classification where that additional work is "incidental and supplemental" to work performed under their license.

Section 7059(a) provides that "the board may adopt reasonably necessary rules and regulations to effect the classification of contractors" but then expressly limits this authority in subsection (b), by stating that "[n]othing contained in this section shall prohibit a specialty contractor from taking and executing a contract involving the use of two or more crafts or trades, if the performance of the work in the crafts or trades, other than in which he or she is licensed, is incidental and supplemental to the performance of the work in the craft for which the specialty contractor is licensed." The Board thus cannot prohibit Battery work that is incidental and supplemental to solar energy systems, regardless of what the Board excludes from the definition of such systems.

Courts have long interpreted "incidental and supplemental" work as being "necessary to the main purpose" of the work authorized by a license classification. *Currie v. Stolowitz* (1959) 169 Cal.App.2d 810, 814. This settled legal interpretation aligns with the Board's current regulatory definition of "incidental and supplemental," which is "essential to accomplish the work in which the contractor is classified." 16 Cal. Code Regs. § 831.

The Proposed Rule would amend the C-46 license classification to narrowly define what type of Battery work is incidental and supplemental to the C-46 classification. We are aware of no other attempt by the Board to arbitrarily single out another specialty license classification in such a manner.

Indeed, doing so here ignores that *by design*, many solar energy systems require batteries to operate. For instance, solar energy systems that are not connected to the grid cannot function without a Battery, as the ISR itself recognizes, and many of these

systems require Batteries with ratings exceeding 80 kWhs. ISR at 12; *see e.g.* Jeanine Cotter Letter, Brandon Carlson Letter, attached as Exhibit B to CALSSA's August 3, 2023 letter. In other words, installing and maintaining these Batteries is "necessary" and "essential" to the installation of the solar energy system. This is just one instance of many, as contractor letters to the Board have discussed. By attempting to limit what Battery work is "incidental and supplemental" to installing a solar energy system, the Proposed Rule exceeds its statutory authority and the Proposed rule conflicts with the established statutory meaning of that term.

b. The proposed regulation conflicts with state laws requiring warranties for BESS installations

The CSLB's proposed regulation would allow C-46 contractors to install Batteries in limited circumstances, but would not allow C-46 solar contractors to modify, maintain, or repair the batteries they install. *See* CALSSA letter to CSLB (Aug. 3, 2024). This Directly conflicts with state laws requiring the installers of grid-tied Batteries, or Batteries that receive an SGIP rebate from the state, to include installation and service warranties. California Public Utilities Commission Decision 16-01-44, Conclusion of Law ¶ 28 ("In order to promote safety and reliability of customer-sited renewable DG systems, each IOU should require the applicant to verify, as part of each interconnection request for a NEM successor tariff system, that a warranty of at least 10 years has been provided on all equipment and the installation of that equipment."); California Public Utilities Commission, D.22-12-056: Decision Revising Net Energy Metering Tariff and Subtariffs[1] (Dec. 15, 2022) at 137-138 ("This decision clarifies that all references to net energy metering requirements established in other decisions will continue to apply to the net billing tariff unless explicitly altered by this decision. The Commission reiterates here that all consumer protection efforts initiated for prior net energy metering customers will continue for future customers taking service under the net billing tariff."); *Self-Generation Incentive Handbook* (Oct. 28, 2022), at 70 ("As part of the Executed Contract, all storage systems are required to include a minimum 10 year service warranty. A service warranty ensures proper maintenance and continued project performance. The service warranty must cover the system maintenance to include (but not limited to) system support, problem diagnosis, on-site repair and preventative maintenance.").

The OAL cannot approve the proposed regulation given this direct conflict.

[1] Available at https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M500/K043/500043682.PDF

c. The Proposed Rule Would Unconstitutionally Impair Solar Contractors' Contracts.

Additionally, the Proposed Rule will violate, and therefore conflicts with, the Contract Clauses of the California and United States Constitutions, both of which prohibit the state from impairing the obligations of contracts. Cal. Const. Art. I, § 9; U.S. Const. Art. I, § 10. Under both state and federal law, regulations that substantially impair a contractual relationship and are not justified by a "significant and legitimate public purpose" are void. *Energy Reserves Group, Inc. v. Kansas Power and Light Co.* (1983) 459 U.S. 400, 410-412; see also *Fourth La Costa Condominium Owners Assn. v. Seith* (2008) 159 Cal.App.4th 563, 584.

Here, the Proposed Rule would substantially impair existing contracts between solar contractors and their customers by preventing contractors from performing their warranty obligations. Based on the interconnection dataset, in 2022 alone, pure C-46 contractors installed solar and storage projects worth $37M. Beacon Report at 16. As explained above, for each of these installations, there is a contract between the installing contractor and the customer, which is required by CPUC decisions to include a minimum 10-year service warranty, which guarantees the continued performance of the system over the warranty period. Batteries that receive an SGIP rebate from the state are also required to include installation and service warranties.

The Proposed Rule would prevent contractors from performing their warranty obligations under these contracts, and any other contracts containing service and maintenance obligations. From the consumer's perspective, the Proposed Rule would eliminate contractually guaranteed service and maintenance of their systems. Moreover, in some cases, system and/or equipment warranties are conditioned on service and maintenance by the installing contractor alone. Therefore, the Proposed Rule, by preventing the installing C-46 contractor from servicing and maintaining, would in some instances void the system's and/or equipment's warranties entirely. These are substantial impairments of the parties' obligations under their contracts.

Excerpts from solar contracts including these warranty provisions are included as Attachment A to SMW's Letter to the CSLB (Nov. 3, 2022), attached to CALSSA's letter to the Board (Aug. 2, 2023), Exh. C.

Finally, there is no significant and legitimate public purpose behind the Proposed Rule. There is no evidence that C-46 contractors and their workers are not qualified to safely install and maintain battery energy storage systems, and the Board has failed to identify any other valid basis for the Proposed Rule. To the contrary, the Proposed Rule

would have a devastating impact on solar contractors and workers, as well as the state's clean energy policy goals and mandates, with no benefit to public or consumer safety. Thus, the Proposed Rule would squarely violate the Contract Clauses of the California and United States Constitutions.

3. The proposed regulation is not "clear."

Under Government Code section 11349.1, subdivision (a)(3), the OAL must review all proposed regulations for compliance with the APA's clarity standard. The APA defines "clarity" to mean "written or displayed so that the meaning of regulations will be easily understood by those persons directly affected by them." Gov. Code § 11349(c).

Here, the CSLB claims that one of the purposes of the proposed BESS rule is to "establish the activities in which a C-46 Solar Contractor may not engage," and to "establish the circumstances under which a C-46 Solar Contractor may permissibly install BESS." ISR at 11, 13. However, average solar contractors are unlikely to understand what BESS work they may or may not perform under the proposed regulatory language. For instance, in what circumstances may a contractor install a Battery less than 80 kWh as "incidental and supplemental" to a PV solar energy system? Is modifying and maintaining a battery part of installing it? Do the restrictions apply to software updates and programming? *See, e.g.,* Brandon Carlson Letter at 2, 3 ("The language as drafted creates several grey areas, unknowns, and obstacles.").

III. Conclusion

A proposed regulation "may be declared to be invalid for a substantial failure to comply with [the requirements of the APA]." Gov. Code § 11350(a). As described above, the proposed C-46 rulemaking has been riddled with serious substantive and procedural violations that prevent OAL's approval. Rather than continuing to promote this harmful, nonsensical rule, the CSLB should deliver notice of its decision not to proceed with the proposed action and withdraw the rule. *See* Gov. Code § 11347(a).

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Heather M. Minner

August 3, 2023

Via hand delivery and electronic mail

Diana Godines, Regulations and Legislation Specialist
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail Address: Diana.godines@cslb.ca.gov

Re: Superior Alternative for Battery Energy Storage Systems Regulatory Amendments

Dear Ms. Godines, Registrar Fogt, and Honorable Members of the Board,

When the Board authorized the Registrar to initiate this rulemaking in June of 2022, Board members stated a desire to use the rulemaking process to more fully consider the proposed language and any unintended consequences. The staff report for that item likewise stated that concerns regarding conflicts with contractual and warranty obligations "should be considered further through the regulatory rulemaking process." CALSSA submits this letter to provide the CSLB with information on the perverse effects of the draft regulation, and with alternative regulatory language to help address these concerns. The alternative is attached as Exhibit A to this letter.

CSLB's proposed amendments to the C-46 (Solar Contractor) license classification would have the following four effects:

1. **Prohibit solar contractors from maintaining or repairing battery energy storage systems (Batteries) *of any size***—even batteries that they previously installed or ones that they install in the future under the new rule.

2. **Prohibit solar contractors from connecting or installing Batteries *of any size* to existing solar panels**—even if the contractor installed the original solar panels.

3. **Prohibit solar contractors from installing Batteries above 80 kWh—**which would prohibit installation of a single Tesla Powerpack for small businesses and off-grid homes.

4. **Require solar contractors to halt all prohibited work within 4 months of the regulations being approved**—regardless of whether doing so would require termination of pending contracts or laying off workers.

Obviously, these changes would be **devastating to the 472 solar contractors who currently hold a C-46 license and no other license classification that would allow them to continue**

this work. The proposed rule also threatens the livelihoods of their workers, eviscerates customer warranties, and would severely restrict the pool of authorized and experienced contractors and workers for solar and storage projects, especially in rural areas, at a time when demand is Batteries is soaring. As a result, this rule could actually create safety concerns, where none exist today, if consumers turn to unlicensed, unpermitted work to meet their needs.

CALSSA has gathered a few of the comment letters for this rulemaking being submitted by solar contractors, consumers, and experts in the field that detail the harms that the proposed regulations will cause in compelling narratives. The letters are compiled in alphabetical order and attached to this letter as Exhibit B. We have also compiled the prior letters that CALSSA and our legal counsel have submitted to the CSLB urging it not to proceed with a restriction on solar contractor Battery installations in an effort to avoid these harms. Those letters are compiled in reverse chronical order and attached to this letter as Exhibit C, to be included a part of the record for this rulemaking.

CALSSA continues to believe that it is not necessary to make *any* changes to the existing C-46 license classification. We urge the Board to seriously consider the "if it ain't broke, don't fix it" option as one alternative and cancel this rulemaking. If the Board nonetheless decides to proceed, it must amend the proposed language to mitigate the havoc that would otherwise result from plowing ahead.

In this letter, CALSSA proposes alternative regulatory language that would meet all of the CSLB's objectives while minimizing the harm to the public. We offer this "Retrofit & Repair 280" alternative as a compromise, in an effort to avoid disputes. The specific language is included in Exhibit A. In summary, the Retrofit & Repair 280 alternative would:

1. Expressly authorize solar contractors to install, modify, maintain, and repair Batteries that do not exceeds 280 kWhs as one component of a solar energy system.

2. Prohibit solar contractors from installing, connecting, modifying, maintaining, or repairing Batteries with a rating that exceeds 280 kWhs.

3. Create an exception to this 280 kWh threshold where necessary to protect existing customer warranties.

4. Phase in the 280 kWh threshold to allow time for existing solar workers to become certified electricians and for solar contractors to complete pending contracts, obtain additional licenses, and hire certified electricians.

In discussions below, CALSSA explains this alternative further and details the adverse impacts that CSLB's originally proposed language will impose on C-46 solar contractors, their workers, and solar customers. Given that the Retrofit & Repair 280 alternative would be as effective and less burdensome than the current proposed regulation, the Board cannot proceed with the CSLB's originally proposed language.

I. Introduction

CALSSA's mission is to promote the widespread deployment of smart, local, clean energy technologies, including solar panels and energy storage projects, while supporting a wide variety of businesses that build a better energy future in urban and rural communities throughout the state. Our member companies come from all segments of the solar industry. Member businesses include contractors who hold a C-46 (Solar Contractor) license classification, some of whom also hold C-10 (Electrical Contractor), A (General Engineering Contractor), or B (General Building Contractor) classifications, and the manufacturers of solar and battery storage products that these contractors install.

We are proud that solar contractors have been installing solar and storage systems safely in California for over forty years—assisting the state in meeting its clean energy goals while supporting small businesses and providing good quality jobs for our qualified installers. Investor-owned utility companies, however, see our progress as a threat to their profits and have set out to create roadblocks to halt the deployment of local solar and storage projects. This rulemaking is one example.

There was no uncertainty over the authority of C-46 contractors to install batteries, or concern over their ability to do so safely, before the utilities (including PG&E) claimed that C-46 contractors were not qualified to install batteries in 2018 and urged the CSLB to do something. *See* letters attached as Exhibit D. The attack was then taken up by electricians unions, primarily IBEW, who build and maintain the infrastructure of PG&E and other utilities, and who have agreed to work with PG&E to "face the competitive challenges" to the utility "due to changing energy policies and competition." *See* https://ibew1245.com/wp-content/uploads/2021/11/2022-2025-Physical-Agreement-FINAL.pdf.

It is no surprise then that five years later, hypothesized safety incidents have not materialized and the CSLB cannot articulate a reason for restricting the scope of the solar contractor license aside from the fact that utility interests have asked it to. *See* Initial Statement of Reasons ("ISR"), at 2 (Explaining under "Statement of the Problem" that "The Board has faced questions about the appropriate specialty license classification(s) to install BESS as between C-10 and C-46 license contractor classifications.").

What has become clear is the harm that would be caused by the proposed restrictions. At the June 16, 2022 Board meeting, Board members raised concerns regarding potential harms to small businesses and their workforce and agreed to initiate this rulemaking with the understanding that those concerns could be addressed during the rulemaking process. *See* June 16, 2022 Board Meeting Minutes. The staff report for that item likewise made clear that there were two "unresolved issues" to address during the rulemaking process (1) contractual and warranty provisions that conflict with regulations prohibiting maintaining or repairing Batteries, and (2) the economic impact of the regulation. CSLB, "Battery Energy Storage Systems, CSLB Staff Report" (June 3, 2022) at 15-16 ("These issues should be considered further through the regulatory rulemaking process" and "the potential impact of regulatory action on the labor workforce of C-10 and C-46 contractors will be a factor in any regulatory action taken on this matter.").

Now is the time for the Board to consider these and other adverse impacts and correct course in this rulemaking. CALSSA respectfully requests that the Board, with staff's recommendation, (1) decide not to proceed with this rulemaking, or (2) direct staff to change the proposed regulatory language to adopt our alternative —two options that the Administrative Procedures Act expressly allows. Gov. Code §§ 11346.8 (c), 11347(a).

II. The Proposed Regulation Would Prohibit Maintenance, Repairs, and Retrofits, as well as the Installation of Batteries Exceeding 80 kWhs.

Reading the CSLB's rulemaking package and its assessment of impacts, one would imagine that this rule simply prohibits solar contractors from installing Batteries with ratings greater than 80 kWhs and that other aspects of their trade are unaffected. This would be a mistake; and one that undermines nearly all of the CSLB's initial determinations. Because these issues are fundamental to CALSSA's objections to the proposed rule, we bring them to light in this section of our comments.

CSLB's proposed language amending 14 C.C.R. section 832.46 (Solar Contractor) would prohibit solar contractors from maintaining or repairing Batteries of any size. Proposed subsection (b) of the solar license classification provides that a solar contractor "shall not install, connect, modify, maintain, or repair a battery energy storage system," except as provided in subsection (c). Proposed subsection (c) then provides that a solar contractor "may install a battery energy storage system" as incidental and supplemental if it does not exceed 80 kWhs. Critically, subsection (c) does not provide that a solar contractor may "connect, modify, maintain, or repair" those Batteries. Accordingly, under subdivision (b) they are prohibited from doing so. Moreover, the proposed regulation makes no exception for maintaining or repairing batteries that the solar contractor has already installed. CALSSA reserves the right to challenge any such interpretation of the proposed rule, but given the proposed language, we must assume the risk that it would prohibit maintenance and repair of any Batteries. Given the harm to consumers alone, the Board must not move forward with any prohibition on maintenance and repairs.

CSLB's proposed regulatory language would also prohibit solar contractors from installing batteries of any size to existing solar panels, projects that we refer to as retrofits. First it specifies in subsection(b) that Batteries "shall not be considered part of a photovoltaic solar energy system or required to install a photovoltaic solar energy system." In other words, Batteries are not within the scope of operations for the C-46 license. Subsection (c) of the amendments, however, provide that solar contractors "may install a battery energy storge system as 'incidental and supplemental' to the installation of a photovoltaic solar energy system" if it does not exceed a rating of 80 kWh.

In 2019 CSLB staff asserted in a few emails and correspondence that C-46 solar contractors may install Batteries only at the same time they install solar panels because, in their view, batteries were not part of a solar energy system and were not required for the installation of the system if they were installed later. These statements, of course, were not binding on all C-46 contractors. If they had been intended as formal interpretations they would have been illegal underground regulations, void for failing to comply with the APA's notice and comment rulemaking requirements. Indeed, staff was well aware of this and their emails expressly provided that "This

determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act." *See* Wendel Rosen letter to CSLB (Nov. 4, 2019) (legal counsel for CALSSA attaching CSLB statements and detailing their legal and logical errors and how they would result in voiding consumer warranties), submitted separately.

Nonetheless, it appears that the CSLB intends these proposed regulatory amendments to similarly limit solar contractors to Battery installations that occur at the same time as PV panels by providing that batteries are not required to install a solar energy system and may only be installed as "incidental and supplemental work." For instance, the ISR states that the proposed regulation "would preclude a C-46 Solar Contractor from installing a standalone BESS that does not also include installation of a PV system." ISR at 12, *see also id.* at 14 ("C-46 contractors should be permitted to install BESS in conjunction with the installation of PV systems, up to a certain threshold" as out of classification work that is incidental and supplemental). CALSSA reserves the right to challenge this interpretation of the proposed regulation, if the Board should proceed with the originally proposed language.

Nonetheless, as the ISR has claimed that the proposed rule would preclude adding Batteries to PV systems that were already in place, CALSSA is making the Board aware of the devastating implications of such a prohibition.

III. The Proposed Regulation Would Be Incredibly Harmful to Hundreds of Pure C-46 Contractors, as Well as Dual License Holders, Qualified Solar Workers, Consumers, the Environment.

CSLB's ISR suggests that the proposed regulation will have no negative impacts and great public benefits. In a separately submitted comment letter, legal counsel for CALSSA detail how this is wildly incorrect from a factual and legal perspective. *See* Shute, Mihaly & Weinberger Letter to CSLB (Aug. 3, 2023). The numerous letters from solar contractors, experts, and consumers attached to our letter likewise provide evidence of the catastrophe that will result if the Board proceeds with the proposed rule.

CALSSA was also concerned with CLSB's inaccurate and misleading economic impact report included in the ISR. CALSSA requested a third-party expert, Beacon Economics LLP, to conduct an economic impact assessment of the proposed rule. Beacon Economics is an independent research and consulting firm that delivers objectively-based economic analysis. Their report, *Economic Impact Analysis of the CSLB's Proposed Battery Energy Storage System Rule* (July 31, 2023) is attached as Exhibit E to this letter. Beacon Economics' key findings include the following:

1) The total business impact to pure C-46 contractors from the CSLB's rule in 2024 will be approximately $119.9M. This represents the value of prohibited projects that these 472 contactors would have otherwise installed in 2024 alone.
2) The Total Economic Impact to the statewide economy from the CSLB's rule will be roughly $86.9M in the year 2024 alone in the state of California.
3) The fiscal impact from the CSLB rule, in 2024, will be $13M in lost tax revenue to local, state, and the federal government.

4) 165 jobs will not be supported in 2024, that would have otherwise. This represents total jobs lost in the in economy and does not include job shifts where solar workers would lose their current jobs and eventually be reemployed elsewhere.
5) While demand for certified electricians is expected to grow 7% a year until 2030, the number of certified electricians has decreased by roughly 6% over the last two years.
6) If pure C-46 contractors are eventually able to hire certified electricians, who have significantly higher labor wages, they will have to raise their prices 4.1%, resulting in a drop in demand of 7.4%.
7) 10.1M lbs of CO^2 will be emitted in 2024, that would otherwise have not been.
8) In regard to economic benefits, Beacon was not able to find any economic damage that the CSLB's rule would prevent.

These conclusions, and the testimony submitted by solar contractors in their letters, demonstrate that affected contractors will not be able to easily comply with the proposed rule by obtaining a C-10 and/or hiring certified electricians. Indeed they demonstrate that in most cases, this is not a realistic possibility at all, given the shortage of certified electricians.

The testimony also shows that qualified and experienced solar workers cannot easily or quickly become certified electricians, and many may not be able to do so at all. We provide an overview of the convoluted state requirements for becoming a certified electrician below.

Requirements to Become a Certified Electrician:

To become a certified electrician (CE), there are essentially two different routes (from DIR here):

1. be enrolled in a State-approved Electrician Trainee (ET) Program AND registered as an ET with the State, or
2. be indentured in a State or Federal approved Electrical Apprenticeship Program.

Electrical Trainee

The basic pathway to becoming a CE via the ET pathway requires an individual to combine schooling in a state approved school as well as accruing the necessary hours to become a CE working under a certified electrician at a one-to-one ratio (from DIR website here). The individual must register as an ET with the DIR. As part of this process, they need to pay $25 and disclose the state approved school in which they are enrolled.

The ET cannot qualify to take the exam until they meet the minimum number of hours of on-the-job experience under the direct supervision of CE (application for the exam is here).

To become a General Electrician, the ET must have 8,000 hours of experience which must consist of work in two or more fields and, of which, the time counted towards that 8,000 hours cannot exceed the a set number of hours in certain fields (this is all spelled out here):

To become a Residential Electrician, the ET must have 4,800 hours of experience which must consist of work in one or more fields and, of which, the time counted towards that 4,8000 hours cannot exceed a set number of hours in certain fields.

The DIR also requires documentation of Social Security earnings from the employer obtained via the SSA-7050 form from the Social Security Administration (SSA) to be submitted with the application to take the exam. An important factor to keep in mind for contractors hoping to move quicky to allow their ETs to take the CE exam is that SSA says to allow up to 120 days for them to *process* the request.

Electrical Apprentice

Under this pathway, an individual enrolls in and completes an approved apprenticeship program. More specifically, this requires (from DIR) "…successful completion of an apprenticeship program approved by the California Apprenticeship Council, the federal Bureau of Apprenticeship Training, or a state apprenticeship council authorized by the federal Bureau of Apprenticeship Training to approve apprenticeship programs[.]"

It is unclear what level of oversight is required of an apprentice by a CE. Title 8 Regulations of DAS section §296.3 "Employment of Electrician Trainees" says,

(a) An employer who employs an Electrician Trainee to perform work for which certification would otherwise be required must ensure that the trainee is under the direct, on-site supervision of a Certified Electrician who is responsible for supervising no more than one trainee, but who also **may be responsible for supervising registered apprentices. Registered apprentices are not to be counted as uncertified persons for purposes of this ratio.**

This appears to imply that the limit of one-to-one supervision of an apprentice to a CE is not applicable. However, the Western Electrical Contractors Association (WECA) believes that one apprentice can be overseen along with an ET by a CE. From their website:
Q. What is the supervision requirement under California's electrician certification law?

The required supervision ratio is one Certified Journeyman Electrician to one Electrician Trainee and one Apprentice. This means a Certified Journeyman can supervise up to two uncertified electricians at a time as long as the two workers consist of one Trainee and one Apprentice.

An apprentice must attach their certificate of completion of the apprenticeship program to qualify for the exam, or, if they are still in their last year of their apprenticeship, they may apply to take the exam so long as they submit a DAS1 form. They will not receive their CE card until completion of the apprenticeship program however. If they are a first-time applicant, even if they are an apprentice, they must submit their SSA earnings as documented above.

The Exam

After submitting the required paperwork, Division of Labor Standards Enforcement (DLSE) needs to approve the request to take the exam, at which point the individual will receive a notice. The individual must then schedule an exam within one year of receiving the notice or

resubmit their application and requisite fees. If the individual fails the exam (which means a score of less than 70%) they must wait 60 days before submitting their application for a retest and pay $100. It is important to note that the pass rate is surprisingly low. As of January 2022, we have the following statistics (From DIR website):

Exams authorized to date 211,362
Exams taken to date 140,598
Exams passed to date 76,659
Exams failed to date 63,939

More detailed data can be found here, which also shows that 69% of individuals taking the Residential CE exam fall the retest and 44% taking the General CE exam fail the rest. It is also instructive to see the scope of contents covered as well a sampling of the questions asked on the General and Residential Electrician exam (here). It is mostly devoid of any information about solar or energy storage systems.

Those at least, are the formal steps. In practice, the process can be even more frustrating. *See, e.g.,* Letter from Janine Cotter. CALSSA also heard from one of the largest residential solar companies who has been trying to assist its workers to become certified electricians. They reported that there is a lack of transparency at DIR and the process for reviewing electrician certification applications is problematic. Employees of residential solar companies who meet the eligibility criteria set forth in the code (8 CCR 291.1) are having great difficulty being certified. Since 2021, this large company has had only had four employees issued certifications. Many of the rejection letters are clearly overlooking the section of the regulation that allows for on-the-job experience (the regs specify that successful completion of an apprenticeship program is not the only pathway). It is their understanding that there are only two staffers at DIR who review the applications and process. They are concerned that the CSLB proposed rulemaking addressing C46 license holders will impede the ability to perform retrofit or repair work. While C46 can still be used to install ESS under 80 kwh, as currently proposed only a C10 can perform retrofit or repair work. They ask, if we cannot have employees certified as electricians, who will be able to do this work?

IV. The Retrofit & Repair 280 Alternative Would Avoid These Harms While Meeting CSLB's Objectives

The Retrofit & Repair 280 Alternative regulation would avoid the devastating harm that the CSLB's originally proposed language would cause, while still meeting the CSLB's objectives.

A. The Alternative is straightforward and clear.

Unlike the proposed regulation, which includes many ambiguities, this Alternative is a straightforward regulation that clearly articulates the permitted scope of the solar contractor's license as it relates to Battery storage. The Alternative would change the CSLB's proposed language for the Solar Contractor license classification in section 832.46. The Alternative would keep the proposed definition of Batteries in section 810 and the proposed amendments to the C-10 Electrical Contractor classification.

B. The Alternative specifies that Batteries may be one component of a solar energy system.

Subsection (b) of this alternative provides:

> "For the purposes of this section, a battery energy storage system, as defined in section 810, may be one component of a photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 280 kilowatt-hours (kWh)."

The first provision of subsection (b) recognizes that Batteries are distinct device, but follows well-established convention that they can be "one component" of a PV solar energy system. This would allow C-46 solar contractors to install, modify, maintain, and repair Batteries within a 280 kWh threshold as one component of a solar energy system. Solar contractors would thus be able to perform retrofits, installing Batteries within the 280 threshold to existing solar panels.

1. Specifying that Batteries may be one component of a solar energy system is consistent with established usage and procedures in the solar contractor industry.

Expressly including Batteries within the scope of the C-46 license classification, by specifying that they may be one component of a PV solar energy system, is entirely consistent with established usage and procedures in the solar industry, as the CSLB has long recognized. Solar contractors have been installing energy storage systems as part of solar energy systems since the inception of the C-46 classification. As the Board itself explained in its 2019 study of energy storage systems, "[t]he C-46 Solar Contractor has been installing some form of ESS [energy storage systems] in conjunction with a photovoltaic system *for approximately 40 years*." CSLB, Energy Storage Systems Report (March 2019) (emphasis added). With increased demand for solar and storage projects, licensed solar contractors continue to be well-versed in battery installations. In 2017, the Board conducted an occupational analysis "to identify the *critical job activities* performed by [Board]-Licensed C-46 Solar Contractors." CSLB, Occupational Analysis Report, C-46 Solar Examination (August 2017) at 5 (emphasis added). "Photovoltaic (PV) System Installation and Commissioning," including the installation of "equipment used in the generation and *storage* of electricity," received the highest critical task score. *Id*. at 18 (emphasis added). Reflecting this assessment, 22 percent of the C-46 (Solar Contractor) license exam covers battery storage and assesses a candidate's knowledge in the installation of photovoltaic systems "with energy storage (i.e., batteries)," among other tasks. The *Contractors State License Board License Examination Study Guide, Solar C-46* likewise lists "Install energy storage systems (ESS)" as a key exam topic for the C-46 classification. Thus, as the Board has repeatedly recognized, the "established usage and procedures" for the C-46 classification includes installing batteries as part of solar energy storage systems.

This established usage and procedure is likewise reflected in the interconnection data. Since 2018 pure C-46 solar contractors (i.e. contractors holding a C-46, and no C-10, A, or B license) have installed 3,406 projects with a Battery storage component. Not all of these were installed at the same time as the PV solar panels either: 1,347 of these projects were retrofits, adding Battery storage to existing PV solar panels.

Thus CSLB's C-46 exam materials, as well as project data, demonstrate that including Batteries as one component of a solar energy system for the C-46 license classification is entirely consistent with "established usage and procedures as found in the construction business" and for which C-46 contractors are "qualified to engage," under Business and Professions Code section 7059 (authorizing CSLB to classify contractors).

2. Specifying that Batteries may be one component of a solar energy system is consistent with established law and code.

Specifying that Batteries may be one component of a PV solar energy system is also consistent with established law and code. The California Electrical Code recognizes that a "Energy Storage System," which the CSLB refers to as BESS, is a component of a solar PV systems. Please refer Exhibit F of this letter, which includes Figure 690.1(b) of the 2022 California Electrical Code, 24 C.C.R. Part 3, Article 690. As you can see, Article 690 of the Electrical Code address "Solar Photovoltaic (PV) Systems." Figure 690.1(b) is titled "Identification of PV System Components in Common Configurations." The bottom three of these configurations include a box for the "Energy storage system" as one of these components.

CSLB's ISR attempts to justify its originally proposed language establishing that Battery storage "shall not be considered a part of" a PV solar energy system by referencing outdated language in California Electrical Code section 690.1. That section used to provide that a solar PV system "may or may not be connected to separate energy storage systems such as batteries." Tellingly, that quote is no longer included in the most recent Electrical Code section 690.1.

California statutory laws likewise establish that solar energy systems *include* energy storage. For instance, Civil Code section 801.5 defines "solar energy system" as "[a]ny solar collector or other solar energy device whose primary purpose is to provide for the collection, *storage*, and distribution of solar energy for space heating, space cooling, electric generation, or water heating." (Emphasis added.) Revenue & Taxation Code § 73(b)(1) similarly defines an "Active solar energy system" as a "system that . . . uses solar devices, which are thermally isolated from living space or any other area where the energy is used, to provide for the collection, *storage*, or distribution of solar energy." (Emphasis added.) Thus, the alternative is consistent with these state laws that recognize that methods of storing solar energy, like batteries, are considered *part of* a solar energy system.

3. There is no "Jurisdiction Creep" and multiple specialty licenses include electrical work.

At the June 2022 Board meeting to initiate this rulemaking, representatives of IBEW and NECA complained that allowing C-46 solar contractors to install Batteries as part of their in-license work (rather than out-of-license, incidental and supplemental work) constitutes "jurisdiction creep." June 16, 2022 Board Meeting Minutes. Yet as discussed above, solar contractors have long performed Battery work as a core part of their scope of work.

In fact, this established practice and the regulatory history of the C-46 license demonstrate that Battery storage is already included within the C-46 classification. *See* Wendel Rosen letter to

Registrar of Contractors at 3-4. The fact that battery technology may be different today is immaterial. In adopting the most recent amendments to the C-46 classification, the CSLB statement of reasons explained that they "would simply refer to thermal and photovoltaic solar energy systems to allow for new innovations that would also meet this definition." *Id.*

Even the Subject Matter Experts (SME) that the CSLB consulted with for this rulemaking in May 2022 told the CSLB that Batteries are *already* included within the C-46 license classification. *See* May, 4 2022 SME meeting notes, attached to this letter as Exhibit G (noting that one SME "said that the C-46 can install 'systems,' those include a battery, esp. if it's off-grid" and a second SME said "he thinks it's already in the C-46 definition").

Further, the C-46 solar contractor license has always been a multi-craft trade, and one that includes electrical work, as the CSLB license exam materials clearly indicate. Multiple other specialty license also include electrical work, such as the C-20 HVAC contractor. Overlapping electrical work between the C-10 electrical contractor license and other specialty license has obviously not been a concern of the CSLB's.

Regardless, expressly including Battery storage within the C-46 license classification is more than justified here to avoid the harms to solar businesses and consumers that would otherwise occur from the CSLB's originally proposed language that prohibits retrofits, maintenance and repair. "Jurisdiction creep," if even such a thing were at issue here, is not a sufficient reason to ignore these business and consumer protection concerns.

C. The Alternative sets a 280 kWh threshold for Batteries within the Scope of the C-46 license

The second provision in subsection (b) of the Alternative specifies that Batteries may be one component of a PV solar energy system "if the battery energy storage system does not exceed a rating of 280 kilowatt-hours (kWh)." It thus limits the size of Batteries within the Solar Contractor license to well below the 1 megawatt-hour (1,000 kWh) threshold for utility and utility-scale systems. See, for example, U.S. Energy Information Administration, (July 2019), *U.S. utility-scale battery storage capacity to grow substantially by 2023* ("Utility-scale battery storage units (units of one megawatt (MW) or greater power capacity) are a newer electric power resource, and their use has been growing in recent years.").

1. The 280 kWh threshold does not raise any safety concerns.

CSLB's originally proposed language sets a 80 kWh threshold for the C-46 license. We agree with the CSLB that "there is no evidence of consumer harm caused by [the C-46] contractor classification installing BESS up to and including this threshold." ISR at 14. But the same can be said of this Alternative's 280 kWh threshold. *See* CALSSA letter to CSLB (Nov. 24, 2021), Exh. A at 6-8 (critiquing Labor Center's safety claims). We also agree that any claimed risks would come from product defects "and not the contractor's installation," do not increase when assembling multiple Batteries together, and that there are sufficient third-party protections in place to limit possible harm. ISR at 14. But again, this same rationale applies to a 280 kWh threshold.

Numerous authorities in this field have informed the board that they have no concern with solar contractors installing batteries for even larger applications. In a November 30, 2021 letter to the Board, the Chair of the California Energy Commission, which recently set building code mandates for solar and storage on new commercial and multi-family buildings, stated that "C-46 solar contracts have consistently delivered safe installations" and urged the Board to consider that implementing the new solar and storage building standards "will be dependent on well-trained and skilled contractors with demonstrated experience in installing these combined systems." Tesla, which produces the 232 kWh PowerPack battery, likewise previously wrote to the Board stating, "As you know, C-46 license holders can and have installed solar and energy storage systems for decades. As a manufacturer and installer that is active in California, our company has worked with C-46 contractors for years and found no lack of knowledge, skill or training needed to properly install our energy products."

2. The CSLB's proposed 80 kWh threshold is not necessary: solar contractors are trained for and experienced in larger Batteries.

In the ISR the CSLB attempts to justify its originally proposed 80 kWh threshold by vaguely suggesting that C-46 solar contractors are not qualified to install larger BESS, which are "more appropriate for C-10 Electrical Contractors. The ISR primarily relies on the June 2022 BESS Staff Report, which attempts to justify an 80 kWh threshold by claiming that these larger batteries would more typically tie into a "three-phase" electrical system. It claims that, in the view of the consultants, connecting to a three-phase system "would fall outside of the C-46 classification because it involves knowledge and skill of a more complex electrical system" and would "typically exceed the knowledge and skill of a C-46 contractor." In reality, C-46 solar contractors have experience safely interconnecting BESS to three-phase systems. C-46 contractors also have experience connecting PV solar panels to three-phase systems, the knowledge of which carries over to BESS. *See* Stakeholder Letters.

Even the Report's consultants contradict themselves on this point. The Report earlier notes that the consultants agreed with CALSSA's statement that batteries do not present higher risk of main service panel overloads than solar systems alone and that "[t]he formulas for wire sizing and breaker sizing are the same." The consultants agreed that "the electrical theory does not change" depending on what is connecting to the panels. Report, p. 8. Not only have solar contractors been connecting batteries to three-phase systems without incidents as discussed above, they connect PV solar systems alone to three-phase systems on a daily basis—all without incident. It would thus be arbitrary to prohibit solar contractors from tying batteries to three-phase systems when solar contractors routinely and safely tie solar panels to these same three-phase systems.

C-46 solar contractors routinely install PV solar panels on commercial, multi-family, and large residential buildings with three-phase electrical systems and they apply this same knowledge and skill when installing BESS. The C-46 License Exam Study Guide thus includes the following electrical resources in their entirety (in addition to references specific to solar and storage installations):

- California Electrical Code
- California Building Code
- NEC Analysis of Changes
- Ugly's Electrical References

- State of California General Industry and Electrical Safety Orders
- State of California Construction and Electrical Safety Orders

The June BESS Report acknowledged that C-46 contractors are required to know the portions of the California Electrical Code that relate to solar PV systems and the devices that connect to them, including BESS. Both the California Building Code and the California Electrical Code include three-phase requirements. If solar contractors know these electrical requirements for PV systems that tie into three-phase systems, they know them for BESS as well.

Additionally, the report states that "the C-10 license examination contains extensive questions on the tools, methods, and procedures to test for voltage, current, resistance, phase rotation, and polarity, the methods for calculating electrical loads, voltages, and currents (e.g., Ohm's Law), protection devices (e.g., overcurrent, overload, fault current, GFCI, GFEP, and shunt-trip devices) for circuits," implying that these topics are the exclusive expertise of C-10 license holders. In reality, C-46 license holders have knowledge of the topics in the list as well because that knowledge is needed regardless of whether the system is single-phase or three-phase. These topics are all covered with the study guide resources for the C-46 examination. See "Contractor's State License Board License Examination Study Guide (Solar C-46)," available at https://www.cslb.ca.gov/Resources/StudyGuides/C46StudyGuide.pdf.

Lastly, 80 kWh is not a proxy for three-phase systems and the threshold is thus irrational on that basis alone. Many single-phase systems are larger than 80 kWh and many three-phase systems are smaller than 80 kWh. There is no building code or standard that dictates that a commercial site has to utilize a three-phase service. Residential and commercial have no bearing on utility service size or type aside from a minimum power capacity.

3. The 280 kWh Threshold is also reflected in the Fire Code.

In the ISR, the CSLB references the thresholds in California Fire Code section 1206.11 and California Residential Code Section R327.5, which is where the proposed 80 kWh threshold derives from. Yet the more appropriate number from those tables would be the total maximum threshold of 280 kWh for a single residence. The Office of the State Fire Marshal recently issued a code interpretation confirming that "[t]he maximum energy rating permitted by this section is 280 kWh if all four location types are utilized." Code Interpretation 21-011 (March 30, 2022). *See also* Brandon Carlson Letter.[1]

[1] At the California Building Standards Commission's meeting on June 27-29, 2023, the Commission approved new ESS capacity limits for the California Residential Code, effective July 1, 2024. The new capacity limit for the property is 600 kWh. The total capacity limit for ESS installed in an attached garage and on exterior walls of the garage or dwelling is 280kWh. The Commission also approved similar language for the sections of the Fire Code that pertain to Group R-3/R-4 occupancies. *See* https://www.dgs.ca.gov/BSC/Rulemaking/2022-Intervening-Cycle/Commission-Mtgs-List-v2/2023-06-27-CommMtg

D. The Alternative Expressly Allows for Retrofits, grandfathers in retrofits to existing system, and phases in the 280 kWh limit.

The final provisions of the Alternative are designed to:
> provide for a clear regulation that is easily understood by expressly allowing for retrofits in subsection (c).
> grandfather in Battery work on solar energy systems that a solar contractor installed prior to a date certain (roughly the effective date of the new regulation) to protect customer warranties and allow contractors to honor them.

> Phase in the 280 kWh threshold to allow contractors time to complete pending Battery contracts, adjust business practices, obtain a C-10 license classification, find, hire and train certified electricians. And, most critically, it allows time for solar workers to try to become a certified electrician. The four years phase in is based on the 8,000 hours required to become a general certified electrician

V. Conclusion

CALSSA objects to the CSLB's originally proposed language to amend Section 832.46, Article 3, Division 8, Title 16 of the California Code of Regulations. We request that the Board select the option of cancelling this rulemaking, or, if it wishes to proceed, to adopt the alternative regulatory language proposed by CALSSA in Exhibit A of this letter.

Sincerely,

Bernadette Del Chiaro
Executive Director

Exhibit A

CALIFORNIA SOLAR AND STORAGE ASSOCIATION

PROPOSED RETROFIT & REPAIR 280

ALTERNATIVE LANGUAGE (Clean)

California Code of Regulations (CCR) Title 16, Division 8

Legend: Added text is indicated with an underline. Deleted text is indicated by ~~strikeout~~.

Amend Section 810, Article 1, Division 8, Title 16, CCR, as follows:

§ 810. Definitions

(a) For purposes of this division, "battery energy storage system" means one or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time.

(b) For the purposes of this ~~chapter~~ division, "Board" means the Contractors State License Board and "Code," unless otherwise defined, means the Business and Professions Code.

Note: Authority cited: Section 7008, Business and Professions Code. Reference: Section 7008, Business and Professions Code.

Amend Section 832.10, Article 3, Division 8, Title 16, CCR, as follows:

§ 832.10. Class C-10 -Electrical Contractor

An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, battery energy storage systems, ~~solar~~ photovoltaic solar energy systems ~~cells~~ or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

Amend Section 832.46, Article 3, Division 8, Title 16, CCR, as follows:

§ 832.46. Class C-46 - Solar Contractor

(a) A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

(b) For the purposes of this section, a battery energy storage system, as defined in section 810, may be one component of a photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 280 kilowatt-hours (kWh).

(c) A solar contractor shall not install, connect, modify, maintain, or repair a battery energy storage system if the battery energy storage system exceeds a rating of 280 kWh, except as provided in subsection (d). A solar contractor may install a battery energy storage system as one component of a photovoltaic solar energy system, whether installed as a modification to an existing photovoltaic solar energy system, or installed at the same time as the other components of the photovoltaic solar energy system.

(d) A solar contractor may install, connect, modify, maintain, and repair a battery energy storage system of any size as one component of a solar energy system that the contractor installed prior to January 1, 2024. The 280 kWh threshold in subsections (b) and (c) shall become effective on January 1, 2028. Until that time, a solar contractor may install, connect, modify, maintain, and repair a battery energy storage system of any size as one component of a solar energy system.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

CALIFORNIA SOLAR AND STORAGE ASSOCIATION

PROPOSED RETROFIT & REPAIR 280

ALTERNATIVE LANGUAGE (Redline)

California Code of Regulations (CCR) Title 16, Division 8

Legend: Added text is indicated with an underline. Deleted text is indicated by ~~strikeout~~.

Amend Section 810, Article 1, Division 8, Title 16, CCR, as follows:

§ 810. Definitions

(a) For purposes of this division, "battery energy storage system" means one or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time.

(b) For the purposes of this ~~chapter~~ division, "Board" means the Contractors State License Board and "Code," unless otherwise defined, means the Business and Professions Code.

Note: Authority cited: Section 7008, Business and Professions Code. Reference: Section 7008, Business and Professions Code.

Amend Section 832.10, Article 3, Division 8, Title 16, CCR, as follows:

§ 832.10. Class C-10 -Electrical Contractor

An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, battery energy storage systems, ~~solar~~ photovoltaic solar energy systems ~~cells~~ or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

Amend Section 832.46, Article 3, Division 8, Title 16, CCR, as follows:

§ 832.46. Class C-46 - Solar Contractor

(a) A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

(b) For the purposes of this section, a battery energy storage system, as defined in section 810, may be one component of a photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 280 kilowatt-hours (kWh).

(c) A solar contractor shall not install, connect, modify, maintain, or repair a battery energy storage system if the battery energy storage system exceeds a rating of 280 kWh, except as provided in subsection (d). A solar contractor may install a battery energy storage system as one component of a photovoltaic solar energy system, whether installed as a modification to an existing photovoltaic solar energy system, or installed at the same time as the other components of the photovoltaic solar energy system.

(d) A solar contractor may install, connect, modify, maintain, and repair a battery energy storage system of any size as one component of a solar energy system that the contractor installed prior to January 1, 2024. The 280 kWh threshold in subsections (b) and (c) shall become effective on January 1, 2028. Until that time, a solar contractor may install, connect, modify, maintain, and repair a battery energy storage system of any size as one component of a solar energy system.

~~shall not be considered part of a photovoltaic solar energy system or required to install a photovoltaic solar energy system. Except as provided in subdivision (c), a licensee classified in this section shall not install, connect, modify, maintain, or repair a battery energy storage system.~~

~~(c) For purposes of Section 7059 of the Code and this division, a licensee classified in this section may install a battery energy storage system as "incidental and supplemental" to the installation of a photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 80 kilowatt-hours (kWh).~~

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

Exhibit B

Solar Contractor, Expert, and Consumer Comment Letters to the CSLB for Battery Energy Storage Systems Rulemaking

Anita Bradbury Comment Letter

SimplySolar

August 2, 2023

Via Electronic Mail Only

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

Re: Comments on the Contractors State License Board's Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines:

I am writing to provide comments on the Contractors State License Board's (Board) proposed rulemaking concerning Battery Energy Storage Systems (BESS). This rule—which would prevent solar contractors with only a C-46 license from installing BESS over 80 kWh, retrofitting existing PV systems to add BESS, or doing repair and maintenance work on past BESS installations—will have a devastating impact on C-46 license holders and small solar businesses like mine.

I helped found Simply Solar in 2013 as a way to change the solar industry and make renewable energy reliable, accessible, and easy for all. Our vision was simple: to deliver every part of the process from sales to installation to service with integrity and accountability. Our service areas cover most of southern California, including Los Angeles, San Diego, Santa Barbara, Orange, Imperial, Riverside, San Bernardino, and Ventura Counties. I installed my first storage system about eight years ago and have been on the front lines of storage systems ever since. Although my company is fairly small in staff, we are something like the 4th largest volume Enphase battery installer in San Bernardino, Riverside, and Orange counties.

I strongly oppose the Board's proposed rule, which will have a significant negative economic impact on my business. The Net Metering 3.0 (NEM3) change in solar billing didn't really phase me because about 50% of my customers were already including storage in their projects over a year ago, and that number has only been increasing. However, if my company is no longer allowed to retrofit BESS or two do any maintenance work on batteries we install along with solar systems, this will significantly erode our ability to capitalize on this increasing demand for battery. One of our four commitments to quality at Simply Solar is based on monitoring and the reassurance that we will watch over our customers' systems for years after it is installed. The Board's rule would completely undercut our ability to do this.

The Board's proposed prohibition on C-46 installations above 80kWh will also significantly hurt our business. We are working on partnerships to serve our numerous small to mid-size commercial clients whose batteries typically fall in the 100-200kWh range—none of which will be possible if the rule goes into effect. And there is absolutely no safety- or expertise-based justification for this rule. Most C-10's I know don't know anything about DC circuits, transfer switches, or managing backup loads and don't want to learn. Many don't even understand 3 phase switch gear even without storage! And somehow they are more qualified to install storage than me? This makes no sense.

Aside from this affecting my business, this one cuts me personally. As a woman who has dedicated her life to construction, I have encountered countless situations where another person or entity has tried to invalidate my credentials. When I sat for my C-46 licensing exam, I was the only woman in attendance. The security guard thought I was not in the right room and insisted I was mistaken when I told him I was there for my licensing exam. I passed both my law and trade exams on my first try, when licensed C-10's I know had to retake and retake the C-46 trade test. I have been doing safe, high quality installations for nearly a decade without incident and am now told that I am no longer qualified to do that work.

Conclusion

Put simply, this rule is insulting, economically harmful, and unjustified. I urge the Board to withdraw this rule before these devastating impacts become a reality.

Very truly yours,

SIMPLY SOLAR

Anita Bradbury
Founder and CEO

1672537.1

Brandon Carlson Comment Letter

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Comments on Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines,

First and foremost, I would like to thank the board for their time as I recognize that your review and decision making is no small task. I also recognize that you've heard at length from individuals on both sides of the discussion that have something to gain and to lose. I'd like to open with the admission that with nearly 25 years in the solar and energy storage industry, I have nothing to profit from how this language turns out. My goal is to provide industry concerns and potential solutions.

My Proficiency in this subject matter

I am a Principal Applications Engineer for a manufacturer. My main task in this role is to train qualified individuals to ensure that they reach a level of competency when installing solar energy equipment. Whether they are a contractor, an architect, an engineer, a foreman, or an installer. I am a C-10 Licensed contractor specializing in solar and energy storage, and hold an International Code Council (ICC) certification as both an E1 Residential Electrical Inspector and an E2 Electrical Commercial Inspector. I have personally designed and managed installation of more than 40 megawatts worth of residential solar and energy storage systems over the years and consulted for energy storage manufacturers regarding installation of their product. I spend much of my time volunteering for electrical industry organizations and governmental bodies on energy storage installation and safety. This would include, but not limited to:

- International Renewable Energy Council (IREC), Technical Advisor EMPOWER
- UL Solutions, Technical Panel UL1741,
- Sustainable Energy Action Committee (SEAC),
    - SEAC Group Focus: Qualified Professionals,
    - SEAC Group Focus: Energy Storage,
- International Association of Electrical Inspectors (IAEI),
- California Energy Commission (CEC),
    - CEC Focus: Energy Storage,

Additionally, I have provided guidance over the years with much of the language included within the I-codes, that are then adopted into the California versions.

Lastly, although I work with the organizations that I have mentioned above, the opinions that I share here are solely mine and do not necessarily reflect the opinions and beliefs of these wonderful organizations.

What's at risk and the problem with the current drafted language

As an industry, the solar and energy storage stakeholders need a continued path that brings as many into the trade as possible if California is going to achieve its electrification, EV infrastructure, and green goals. With these types of trade jobs already suffering low numbers in recruitment, the industry needs as many passionate individuals as possible. I am concerned about what will result from constricting the field of licensed contractors who are experienced and competent installers to do this work.

Due to my years in the industry and the networking that comes with it, I have access to something few others have, and that is access to the conversations of most entities within California's vast energy storage landscape. It gives me the opportunity to hear from all types of stakeholders, whether they be installer, manufacturer, first responder, utility, or Authority Having Jurisdiction (AHJ). This is what many of them are saying,

- Energy Storage is becoming more and more commonplace.
- "Electrification" is adding to demand of energy storage installations and will continue to do so.
- Qualified Individuals need to be competent in energy storage installations.

I have heard absolutely no conversations about contractor license type being an issue. Not from building departments, fire representatives, utility upper management, manufacturers, or codes and standards groups. The only time I hear this concern discussed is from unions, electricians, and contractors.

The current edited language for the § 832.46. Class C-46 Solar Contractor is problematic. The language as drafted creates several gray areas, unknowns, and obstacles. After discussing it at length with industry colleagues, these were some of the more immediate concerns:

1. **Why would Battery Energy Storage Systems (BESS) only be allowed to be installed during the initial solar installation?**
    a. This is read as an arbitrary obstacle, rather than a solution to an unqualified personnel problem. **Why would a contractor be deemed qualified at first, but not at a later date after further experience?**
    b. Additionally, not allowing BESS to be installed after the initial solar installation could cause multiple problems. For example, the contractor who did the original solar installation may be the most competent to install BESS to that same system. However, by the CSLB proposed language, if a client doesn't have the money up front, they won't be able to get the batteries later by the same contractor, resulting in forcing a client to utilize two separate contractors of record for the same solar energy system. In this case, who holds liability if the addition to the energy storage devices results in a non-functioning system?

2. **If a leased energy storage system is installed by a C-46 contractor, by the CSLB proposed language, it appears that the energy storage system cannot be serviced by the original contractor who owns the system.**
    a. How then is maintenance supposed to be performed?
    b. Why would the C-46 contractor now be required to hire another contractor to service the very system that it owns and installed?

3. **Does the contractor's warranty vanish if that contractor is no longer allowed to service the equipment already installed?**
    a. I expect there to be problems and disputes as it appears that C-46 contractors will not be able to adhere to these warranties by government intervention.

4. **Do the C-46 restrictions apply to software updates and programming?**
    a. Software update and reprogramming is sometimes required for energy storage systems, but by the CSLB proposed language, it appears that these services may not be able to be performed by a C-46 contractor who originally installed the system. Additionally, I do not know of many third-party contractors, in this case, C-10, that can send an electrician at short notice to re-program a multi-mode inverter that has gone down in the middle of the night and do it for low cost. This is something that should be handled under the system warranty and after by the original contractor.

5. **In rural areas there are few C-10 contractors that specialize in residential energy storage. Who picks up the slack on BESS repair and equipment replacement?**
    a. I have worked with quite a few warrantied energy storage systems that are installed in areas with no electrical contractors within an hour drive. BESS were designed for and popularly utilized for off-grid and energy backup situations and has been since the start of the C-46 license. Many of these are large systems that exceed an 80-kWh rating. The most common reason for these systems to be installed has always been due to poor grid reliance or availability in remote locations. In many cases, C-46 contractors are willing to serve these rural areas, because off-grid solar and battery systems, and solar thermal have always been part of those communities. C-10 contractors typically work in more densely populated towns, so it may be tougher to locate one when your community's population is under 500.

Recommendation #1:

Don't make any modification to the current language and process. If safety is the concern, the drafted language won't address this. There is no efficient way to tell that a C-10 electrical contractor or their staff has any training in energy storage systems, or that a C-46 contractor hasn't been installing energy storage systems with their solar systems for 15+ years after receiving safety training from a manufacturer on their products.

Definitions commonly used for what constitutes as a "qualified person" are as follows:

- National Fire Protection Association (NFPA(R)) 70(R) defines a qualified person as "one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved."
- NFPA 70E(R) Standard for Electrical Safety in the Workplace(R) defines a qualified person as "one who has demonstrated skills and knowledge related to the construction and operation of electrical equipment and installations and has received safety training to identify the hazards and reduce the associated risk."
- Occupational Safety and Health Administration (OSHA) regulations define qualified to mean "one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated [an] ability to solve or resolve problems relating to the subject matter, the work, or the project."

Therefore, in the eyes of the code and OSHA, if a C-46 contractor can demonstrate that they have skills, knowledge, and received safety training to identify the hazards and reduce the associated risk related to the energy storage equipment, they should be allowed to install and maintain said equipment. The same goes for a C-10 contractor.

For further reading on this matter, I would like to suggest a the SEAC Document: "Qualified Persons Guidance Document" Abstract: this guidance document on Qualified Persons and Renewable Energy Systems discusses concepts and terminology from applicable codes and standards, including the National Electrical Code, the NPFA 70E(R) Standard for Electrical Safety in the Workplace(R), Occupational Safety and Health Administration regulations, and other resources.

Recommendation #2:

If a limitation based on a system size or type of installation is the only option, have the limitation be simple to track by an AHJ, where the type of electrical infrastructure being interconnected to typically changes, and already mentioned within the code. For example, energy storage systems installed under the California Residential Code (CRC), rather than defaulting to the California Fire Code.

CRC R328.5 states, “ESS installations exceeding the permitted individual” (individual battery units over 20kWh) “or aggregate ratings” (System Size of 280kWh*) “shall be installed in accordance with Section 1207 of the California Fire Code.”

*Aggregate ratings calculated from “Code Interpretation 21-004” published by the Office of the State Fire Marshall on December 1, 2021.

Additionally, the current drafted language must address the remaining issues raised regarding previously installed systems under the C-46 classification. A recommended fix for this part would be the following modification to the drafted language:

> (b) … Except as provided in subdivision (c) **and (d)**, a licensee classified in this section shall not install, connect, modify, maintain, or repair a battery energy storage system.
>
> **(d) For the purpose of this section, a battery energy storage system, as defined in section 810, may be installed, connected, modified, maintained, or repaired provided that the licensee was the original installer of the photovoltaic solar energy or battery storage system.**

Thank you for your time and patience in this matter.

Brandon Carlson
Principal Applications Engineer | C10 Electrical Contractor

Barry Cinnamon Comment Letter

Cinnamon
Energy Systems

809 University Avenue, Los Gatos, CA 95032
408-883-7000 www.cinnamon.energy

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. I have C-46, C-10 and B licenses, and am the CEO of Cinnamon Energy Systems. I have been installing solar, storage and electrical systems in California since 2001. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

As you may know, the majority of commercial and industrial (C&I) customers use inverters from SolarEdge, Enphase and SMA. At the present time, **none** of these inverter companies have battery storage systems for the C&I market. Effectively, the C&I market for Energy Storage Systems (ESS) has been limited by **product availability** from major inverter manufacturers – **not demand.** This has supressed the number of C&I ESS installations that my company and other solar companies could have been doing over the last few years.

Every single one of the commercial customers for whom we installed solar systems over the past decade is interested in adding an ESS. Moreover, these customers are now even more motivated to install an ESS because of frequent blackouts. The energy requirements to power their entire facility during a multi-hour blackout is almost always greater than the 80 kwh limit proposed by the CSLB.

There is obvious pent up demand for C&I ESS. These ESS are coming to the market within the next few years. The CSLB should not limit the workforce just prior to the

Cinnamon
Energy Systems

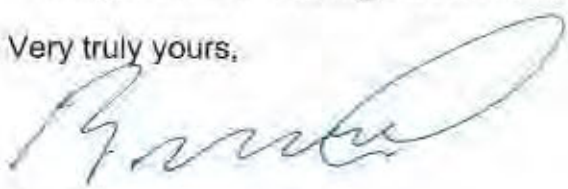
809 University Avenue, Los Gatos, CA 95032
408-883-7000 www.cinnamon.energy

increase in ESS installations – especially since these systems are required to keep both small and large businesses running in the face of an increasingly unreliable grid.

C-46 solar contractors with the proper manufacturer certifications are well-qualified to install ESS systems. We have tried in vain to hire certified electricians with manufacturer inverter and ESS training in our territory of Silicon Valley. For all intents and purposes, these ESS-trained certified electricians simply do not exist. Limiting this workforce to certified electricians will simply result in a further drop of C&I installations – instead of the growth that our state so desperately needs.

Thank you for considering these comments.

Very truly yours,



Barry Cinnamon
CEO
Cinnamon Energy Systems

1672907.3

Jeanine Cotter Comment Letter Hand Delivered Separately

Guy De Primo Comment Letter

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

When redoing my roof three years ago, I had a Sunpower solar system installed on my roof as my contribution to fighting global warming. When it is time to replace my aging car, I will very likely go electric and add a battery system to my solar setup.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Guy De Primo

Guy De Primo, San Francisco

Yvonne Elkin Comment Letter

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had solar panels on our home since 2009 and upgraded our system to double the energy producing capacity in 2016, when we bought our first EV. At the time home batteries were not yet widely available for residential properties, and to be honest they were not tested enough for us to feel comfortable with installing them anyway. But 7 years have passed, and home battery systems are both effective and safe. We are ready to add batterie storage to our home energy system and have been interviewing potential suppliers over the past couple months. All the vendors we have interviewed are licensed and are highly recommended as providers of both solar systems and batteries. I fear this pending rule could prevent us from adding this additional energy saving feature to our home. We are conscientious about energy conservation and about lowering our carbon footprint. Home batteries are the next step in our goal to make our home totally green. I urge you to vote no on this proposal.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Yvonne Elkin

San Diego, CA

Randi Harry Comment Letter

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed solar panels in 2015, but found that, because they only produced power during the day, we did not achieve the savings we had anticipated. In 2020, we used our original installer to add 3 15 KwH Tesla batteries, which enabled us to save significantly on our utility costs and gave us considerable energy independence when Public Safety Power Shutoffs were necessary.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users who have not yet added batteries in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at their home. In most cases, this would void their warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Randi L Harry

Randi L. Harry
3525 Fieldcrest Avenue
Fairfield, CA 94534

Bob Irwin Comment Letter

August 1, 2023

Via Electronic Mail Only

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

Re: Comments on the Contractors State License Board's Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines:

I am writing to provide comments on the Contractors State License Board's (Board) proposed rulemaking concerning Battery Energy Storage Systems (BESS). This rule, which would prevent solar contractors with only a C-46 license from installing BESS over 80 kWh or retrofitting existing PV systems to add BESS, will have a harmful impact on C-46 license holders and small solar businesses like Solar Unlimited.

Solar Unlimited has been in business since 1980. We are one of the oldest and most experienced solar installation companies in Southern California. We provide services all over the southern end of the state, doing work in in cities like Ventura, Lancaster, Rancha Cucamonga, and Long Beach and numerous locations in between. Solar Unlimited has 16 employees, none of which are certified electricians. Many of our employees have gone through workforce training programs and have been with our company for over a decade. We meet the definition of "small business" under California

law as an independently owned and operated entity with annual gross receipts less than $5M and fewer than 100 employees.

Increased Demand for Retrofits

Roughly 40% of Solar Unlimited's current jobs involve solar system installations that include battery storage. We have noticed a sharp increase in the desire for retrofit work to add battery to existing solar panels. Up to this point, retrofit work made up roughly 10% of Solar Unlimited's jobs, but we are getting more and more of those contracts as customers seek to add batteries to existing systems.

Much of the changes in solar and battery demand stem from the recent Net Metering 3.0 ruling (NEM 3.0). In sharply reducing the value of excess electricity pushed back onto the grid by solar systems, NEM 3.0 has essentially wiped out demand for solar system only installations in Southern California Edison service territory. Solar Unlimited has already seen a 40-50% drop in solar system installation business. For example, we typically check out a dozen leads a week with prospective customers who are considering solar system installation. Of the only two dozen leads we have run since April, not a single customer has purchased a solar system. This reduced demand makes sense in light of the changing financial incentives. Installation of a solar system no longer has the ability to zero out someone's electricity bill; people do not want to make a $30,000 investment that only reduces their monthly bill to $250.

Because of this, customers who want to install solar systems almost always want battery storage with it so they can be fully independent of the grid. Solar Unlimited had been planning to shift most of our advertising over to battery installations, and have already invested funds to do so. Even before the NEM 3.0 changes, we saw an increased demand for battery storage from many customers in hillside communities who were afraid of power outages. Grid uncertainty and concerns about climate change motivated most of our pre-NEM 3.0 battery customers. We have previously installed and provide continued maintenance for around 1,000 BESS.

Catastrophic Impacts for C-46 Small Businesses

The Board's rule will have catastrophic impacts on small C-46 holder businesses like Solar Unlimited. As I mentioned, we have already seen a significant decline in the demand for solar system installations without battery. I get roughly 10 calls per week from people looking for work; things are already tough for some people in the solar industry. And now the Board is seeking to prevent C-46 contractors from doing the very work that customers *do* want: battery retrofits.

Prior to the decreasing battery costs and NEM 3.0 changes, many of our solar installation customers opted to have their systems set up to accommodate battery later on, but did not want the added cost of battery at that time. We work with repeat customers and referrals based on the strength of our work and our high quality customer service, so we have every reason to believe that we would be the ones asked to do those battery retrofits. Given how long Solar Unlimited has been in business and the high interest in retrofit work, this represents thousands of potential jobs that we would no longer be able to do if the Board's proposed rule goes forward. Coupled with the decreased demand for solar-only installations after NEM 3.0, this would potentially decimate our business. I estimate that we would lose another 30-40% of our solar installation jobs if we are cannot retrofit existing systems with BESS or to provide maintenance work on batteries we have already installed. If this rule goes forward, it will push us right off the cliff.

Damage to Customer Relationships

The Board seems to think that allowing C-46 contractors to simultaneously install solar systems and BESS will be enough to avoid the rule's devastating impacts, but this is simply not true. Even if Solar Unlimited could find enough new customers with the ability to finance and install a solar system with BESS, the rule would prevent C-46 contractors from doing subsequent maintenance work on the battery. And while service work does not provide solar contractors with much income, we rely heavily on good customers relationships and word of mouth to develop further business. Once a customer has established a positive and trusting relationship with a company, they want to continue to work with us. Customers want to know we are a phone call away and will be there if there is an issue. This customer service leads to referrals and work on additional residences. If you have to send your customers to someone else for maintenance and warranty work, that will all be lost.

I have seen firsthand the importance of being able to do maintenance work and to build those positive customer relationships over time. Solar Unlimited was a SunPower dealer for a long time, but stopped when SunPower went in a different direction with a business model that no longer made sense for Solar Unlimited. Once the change occurred, Solar Unlimited was no longer able to service all the SunPower systems we had previously installed. Solar Unlimited could not perform any warranty work on SunPower systems. Not only did this negatively impact Solar Unlimited's relationships with those customers, it became a nightmare for the customers to try and figure out who could help them. We heard from many people that they had a difficult time reaching SunPower to resolve their issues.

Rule Is Not Needed

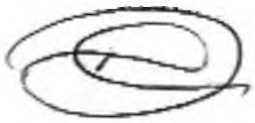
It is incredibly frustrating to watch the Board try to move forward with this devastating rule when there is simply no justification for doing so. For instance, there is no logical reason why C-46 contractors should not be allowed to retrofit an existing system with BESS—especially when the rule acknowledges that C-46 holders can do simultaneous BESS installations. Logistically, there is very little difference in the skills needed to install a battery at the same time as solar panels or at a later time. Solar contractors will typically install one or two types of products over and over, and become very familiar with them. There may be a slight adjustment if a contractor is retrofitting BESS on solar equipment they did not install, but not much given that batteries are mostly similar. Moreover, the C-46 installer would receive the same manufacturer training that a certified electrician would receive; for almost all retrofits jobs, there is no technical or experiential advantage to having a certified electrician do the work.

Conclusion

Put simply, this unnecessary rule change will be a death blow for small C-46 businesses. We will lose any chance we have to adopt our business models to a post-NEM 3.0 solar industry. Solar Unlimited would be unable to complete at least four contracts in the next three weeks alone under the Board's proposed rule and this is just the tip of the iceberg. We urge the Board to withdraw this rule before these devastating impacts become a reality. If the Board refuses to do so, we encourage the Board to adopt the California Solar & Storage Association's proposed alternative.

Very truly yours,

SOLAR UNLIMITED



Bob Irwin
Vice President

Dan Kammen Comment Letter

Berkeley
UNIVERSITY OF CALIFORNIA

Daniel Kammen
James and Katherine Lau Distinguished Chair in Sustainability
Professor, Energy and Resources Group
Professor, Goldman School of Public Policy
Professor in the Department of Nuclear Engineering
Director, Renewable and Appropriate Energy Laboratory
Co-Chair, Roundtable on Climate and Environmental Justice

339 Giannini Hall
510.642.1640 (Office)
kammen@berkeley.edu
http://rael.berkeley.edu
Twitter: @dan_kammen

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail Address: Diana.godines@cslb.ca.gov

Dear Ms. Godines,

I write to provide comments on the Contractors State License Board's (Board) proposed rulemaking concerning Battery Energy Storage Systems (BESS). This rule—which would prevent solar contractors with only a C-46 license from installing BESS over 80 kWh, retrofitting existing PV systems to add BESS, or doing maintenance or warranty work on BESS installations—will have a harmful impact on small solar businesses, their employees, customers, and the solar industry as a whole. I write to you as someone who has worked on California, national, and international energy science and policy for over three decades, and as a primary of author of items including the California Low Carbon Fuel Standard, as the primary academic witness for SB32, among other areas of service to the State. I have researched and implemented energy storage systems in California, and in Africa[1].

I have reviewed the draft *Rulemaking Concerning Battery Energy Storage Systems.* and while it is an improvement over a complete ban, it will still have devastating effects without any real benefits. In my opinion, the Board's proposed rule is directly contrary to decades of state policy aimed at fighting climate change, which promote renewable energy resources, including solar systems with battery storage. Given California's numerous policies to grow renewable energy production, including battery storage, to face the growing threats from global climate change and extreme wildfire events, state agencies must find ways to maximize renewable energy and storage installation projects, not slow them down. I implore you and the Board to revise based on the huge economic, energy, climate, and social justice benefits that will be undermined if this is not changed.[2]

The rule is contrary to state policy, including 1) California's Global Warming Solutions Act, which sets greenhouse gas reduction targets for 2030 while critically integrating racial and social justice into the fight for a livable climate; 2) SB 100 (2018), which set a state goal to achieve a climate neutral economy by 2045; 3) Governor Newsom's executive and administrative actions to decarbonize the state's electrical sector; 4) California's 2019 Building Energy Efficiency Standards, which require installation of solar panels on all new single-family residential homes and multi-family dwellings; 5) 2021 updates to the Building Efficiency Standards, which require installation of solar panels and battery storage on new commercial buildings and high-rise multifamily buildings beginning in 2023 and require that new single-family homes be battery ready; 6) the Self-Generation Incentive Program, which provides rebates for installing battery storage systems that can function during a power outage at both residential and non-residential facilities; 7) the 2021 California Public Utilities Commission interconnection rules, which aid connection of smaller energy storage systems that do not send

[1] Kittner, N., Lil, F., and **Daniel M. Kammen** (2017) "Energy storage deployment and innovation for the clean energy transition ," *Nature Energy*, **2**, 17125. DOI: 10.1038/nenergy.2017.125

[2] **Daniel M Kammen** (2022) *Los Angeles Times*, "California can do better than carbon neutrality by 2045", May 17. https://www.latimes.com/opinion/story/2022-05-17/california-air-resources-board-carbon-neutrality-2045-2030

Berkeley
UNIVERSITY OF CALIFORNIA

Daniel Kammen
James and Katherine Lau Distinguished Chair in Sustainability
Professor, Energy and Resources Group
Professor, Goldman School of Public Policy
Professor in the Department of Nuclear Engineering
Director, Renewable and Appropriate Energy Laboratory
Co-Chair, Roundtable on Climate and Environmental Justice

339 Giannini Hall
510.642.1640 (Office)
kammen@berkeley.edu
http://rael.berkeley.edu
Twitter: @dan_kammen

power back to the grid; and 8) the California Public Utilities Commission 2022 Net Metering decision (NEM 3.0) aimed to encourage battery storage installations, among others.

If unchanged, the rule will disrupt solar and storage installations and will threaten jobs. In fact, there are *more jobs* for Californians of all income levels if energy storage is fully supported to play the role it must if California is to reach its energy and social, racial, and justice goals. I speak from experience on these matters and would be happy to provide more details.

Demand for storage will continue to grow, including retrofits adding storage to existing residential systems. The 80 kWh limit is unjustified, and overly restrictive, and works against both business and justice goals already codified in State Law (SB32, SB100). Most alarming, it will harm lower income residents who can't afford solar and storage and who need shared, "community solar" projects, or solar and storage on multi-family housing developments.

We need as many experienced contractors as possible to install larger storage systems for grid stability. A large, experienced, and affordable pool of contractors and workers is essential to meeting both existing consumer demand, as well as the expected growth in demand, for storage projects. This is good business and climate policy. It will position California as a national and global leader in the coming clean energy economy. The state cannot meet its clean energy/climate goals and growing demand without a robust pool of experienced storage installers.

Prohibiting C-46 contractors who currently install and maintain battery energy storage systems from continuing to do the types of projects that they have already been doing in California will threaten jobs and slowing the pace that new storage projects will come online. Moreover, it won't be easy for solar contractors to get a C-10 electrical license and continue their business. And it won't be easy for solar workers to become certified electricians, or even possible for many.

I urge you to revise and reconsider this imperfect first step.

Sincerely,

Daniel M Kammen
James and Catherine Lau Distinguished Chair in Sustainability
Co-Chair, Roundtable on Climate and Environmental Justice
University of California, Berkeley
&
Advisor for Innovative Energy Solutions, US Agency for International Development (USAID)
Former Science Envoy, United States Department of State

Cc: Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

Berkeley
UNIVERSITY OF CALIFORNIA

Daniel Kammen
James and Katherine Lau Distinguished Chair in Sustainability
Professor, Energy and Resources Group
Professor, Goldman School of Public Policy
Professor in the Department of Nuclear Engineering
Director, Renewable and Appropriate Energy Laboratory
Co-Chair, Roundtable on Climate and Environmental Justice

339 Giannini Hall
510.642.1640 (Office)
kammen@berkeley.edu
http://rael.berkeley.edu
Twitter: @dan_kammen

1673459.3

Karin Poelstra Comment Letter

August 01, 2023

Via Electronic Mail Only

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

Re: Comments on the Contractors State License Board's Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines:

I am writing to provide comments on the Contractors State License Board's (Board) proposed rulemaking concerning Battery Energy Storage Systems (BESS). This rule, which would prevent solar contractors with a C-46 license from installing BESS over 80 kWh or retrofitting existing PV systems to add BESS, will have a devastating economic impact on C-46 license holders and small solar business owners like me.

CleanTech Energy Solutions, Inc. (CTES) was established in 2007. We are located in Oceanside, California, and our service area covers the entirety of San Diego County, as well as the southern parts of Orange and Riverside Counties. CTES is a small, family-style business. Claude A. Rowe III and I are 50/50 business partners and owners of the company. We have five employees, which consist of myself and my husband Keith, two more full time employees, and one part time employee. Currently, we do not have any certified electricians on staff and conduct our business under a C-46 solar contractor's license. We meet the California definition of "small business" as an independently owned and operated entity with annual gross receipts of less than $5M and fewer than 100 employees.

Increased Demand for Battery Storage

Over 50% of our existing solar system installation customers have expressed an interest in having BESS added to their PV systems at a future date. In the past, our solar customers did not feel much urgency about adding a battery component to their storage system unless they lived in an area where the utility regularly shut down the grid. Most customers eventually planned to add a battery, but first wanted to pursue the more immediate savings from a solar system installation. Numerous customers also expressed a hope that battery costs would go down over time or that more battery technology options would become available. We have now reached that inflection point.

With the reduction in export rates under the new Net Metering 3.0 solar billing update (NEM 3.0), our solar customers are now seeing much less overall savings and an increased payback period for home solar installations. This new policy was ostensibly designed, in part, to encourage homeowners to add battery storage to the solar panels and appears to have been successful in that aim. The current demand for batteries is now such that it is difficult to find a customer who will contract for a solar system *without* a battery. Customers are looking at a much longer Return on Investment (ROI) period under NEM 3.0 and are simply uninterested in installing solar without the battery component. Yet, the Board now seeks to prevent C-46 holders like me from providing our existing customers with those very battery installation services.

No Justification for the Proposed Rule

The Board's proposed rule is a "solution" in search of a problem. C-46 contractors have been installing solar systems with batteries since the early days of solar when most systems were off grid. The Board's rulemaking does not give any examples of C-46 contractors causing safety incidents when installing battery storage because those examples simply do not exist. If anything, modern batteries have become even safer to handle. For the most part, today's batteries are no longer lead-acid batteries, but generally self-contained units and many include built-in thermal runaway prevention. There is no justification for prohibiting C-46 contractors from installing BESS.

The Board's rulemaking packet points out that it would allow C-46 contractors to install BESS at the same time as a solar PV system, just not to do battery retrofits or maintenance on battery installations. But this distinction makes no sense. There is no meaningful difference in the way that a battery is installed simultaneously with solar panels versus later in time as a retrofit.

Making sure that the solar and battery are compatible and sized correctly is an important part of the solar & storage system design. C-46 contractors have intimate understanding of the solar system, and are perfectly positioned to pair that solar system with the appropriate battery. Most C-10 certified electricians do not have the same experience in interpreting a solar system and its sizing to understand what battery to use.

C-10s & certified electricians absolutely have exclusive expertise for certain tasks, solar battery installation is not one of them. Whether a certified electrician or a C-46 contractor installs the battery, both will have to go through the same manufacturer-based installation training and certification. Most battery manufacturers will not sell their product to an installer until this requirement is met.

Moreover, battery installation itself has become a streamlined process. There is no logical or demonstrated safety reason why installation of BESS should be separated out and withheld from C-46 contractors in this way.

Finally, requiring the use of C-10 certified electricians for BESS retrofits would be extremely costly. Certified electricians are customarily paid union wages. Union level wages cannot be supported by a residential project. It will make solar & storage installations too expensive for a majority of residential projects.

Proposed Rule's Devastating Effect

In removing many BESS installation opportunities from C-46 contractors at the very moment when demand for battery is at its highest, the proposed rule will have a devastating economic impact on small businesses like CTES. We would no longer have the opportunity to rely on income from retrofit installations of BESS for past customers. We estimate that we stand to lose over 90% of our retrofit jobs—a devastating number for a business of our size.

The proposed rule would also decimate our ability to obtain new solar work going forward. If we cannot offer battery installation with our solar systems, we will only be competitive for maybe 1 out of every 10 jobs. The demand for solar systems only is just not the same as it used to be before the NEM 3.0 changes.

The Board's claim that the rule would still allow C-46 contractors to install BESS at the same time as a solar system is misleading. The rule does *not* allow C-46 contractors to do any subsequent maintenance or repair work on a BESS installation, which would have a detrimental effect on our customer relations. Homeowners are very

discerning. At CTES, we sell quality and workmanship. We do not advertise and rely almost exclusively on customer referrals and word of mouth to obtain additional work. If we cannot offer our customers any kind of workmanship warranty or a promise to be on hand for maintenance or repairs, this will seriously undermine our professional reputation and customers' trust in us.

Every solar and battery system requires some degree of ongoing maintenance; indeed, software updates from manufacturers are standard procedure. Most inverters also require regular firmware updates. Manufacturers can push some of those updates from behind the scenes, but others require the installer to go and physically do the update. If the installer is barred from doing that maintenance work—as C-46 contractors would be under the Board's proposed rule—the manufacturer no longer has an entity they can alert to go out and fix things. It is unclear whether the manufacturer would have to scrounge up a certified electrician, or if it would fall to the customer to try and find an alternative repair person. Either scenario runs counter to the utilities' mandate that installers provide a 10 year warranty as part of California's interconnection program, and could lead to system failures or safety issues with unmaintained components.

Conclusion

In sum, this Board's proposed rule would significantly ruin every aspect of CTES's solar and storage installation business. Every single one of us has put blood, sweat and tears into this business, which is our sole source of income. The CSLB's rule could leave us without the ability to support ourselves or our employees. We are a small family business, based in San Diego County; our clients are within a 40 mile radius and we employ local technicians. This will have a tremendous, immediate, and personal impact on us, our employees, and our customers.

The rule will have a devastating impact on the solar and storage industry as a whole. **Like us, many C-46s have been in the solar and storage industry for decades. Driving C-46 contracting companies out of business deprives the California solar industry as a whole of valuable knowledge, know-how and experience.** Constructions trades are already suffering from experienced tradespeople retiring, with no one to take their place. And yet, the Board is proposing to take an entire segment of specialized contractors out of the equation – for no apparent reason!

We strongly urge the Board to withdraw this ill-considered rule and allow C-46 contractors to continue to safely install and maintain BESS as they have been doing for years. However, if the Board will not withdraw its rule, we recommend adoption of

the alternative proposed by the California Solar & Storage Association, which would avoid many of the proposed rule's more devastating economic impacts.

Sincerely,

CLEANTECH ENERGY SOLUTIONS, INC.

Karin Poelstra, VP/RMO (C-46)
NAPCEP-certified PV Technical Sales
Co-Owner and Co-Founder of this Minority and Female-Owned Small Business

CleanTech Energy Solutions Inc. is certified in the following storage solutions:
Enphase Energy
SolarEdge
Franklin WH
LG Chem / LG Energy Solutions
BYD

1672911.1

(M) 3784 Mission Avenue | Suite 148 #337 | Oceanside, CA 92058
(760) 744-1001 | 888-SOLAR-ON
www.go-cleantech.com | info@go-cleantech.com

Ron Prosser Comment Letter

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

Are you people crazy? Why would you even consider making this change to managing modifications and or repairs to Battery Energy Storage Systems? At a time when we desperately need to increase the number of energy storage systems on line, instead of making it easier and safer this proposed rulemaking makes it harder and adds risk. I am writing to express my strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. Who ever came up with this lame brained idea should be banned from proposing future rulemaking proposals in the future.

Our system has about 10 kw of solar and has a Tesla Power Wall. It's already saved us from over a dozen power outages hare in Huntington Harbor where electrical power outages are frequent though generally short.

I acknowledge that the CSLB does important work protecting us consumers and maintaining contractor standards. Unfortunately, this lousy proposal does more harm than help by far..

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. Adds cost, discourages adoption and risks voiding In our warranties.

I see no advantages, only higher costs and worse service.

Thank you for considering my views.

Sincerely,

Ron Prosser

Ron Prosser

3291 Falkland Circle

Huntington Beach, CA

Meghan Stimmler Comment Letter

August 2, 2023

Via Electronic Mail Only

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Re: Comments on the Contractors State License Board's Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines:

I am writing to provide comments on the Contractors State License Board's (Board) proposed rulemaking concerning Battery Energy Storage Systems (BESS). This rule—which would prevent solar contractors with only a C-46 license from installing BESS over 80 kWh, retrofitting existing PV systems to add BESS, or doing maintenance work on previously installed BESS—will have a harmful impact on C-46 only license holders and small solar businesses like ours, our customers, and the solar industry.

SolarHut, LLC is a comprehensive solar solutions provider catering to residential, commercial, and non-profit customers in Northern California. With our prominent position as a leading solar company in El Dorado County, we have been designing and constructing solar panel systems since 2008. Our unwavering commitment lies in ensuring complete customer satisfaction, which we achieve through the provision of top - notch products, professional installations, and remarkable value.

Our extensive range of services includes grid-tied solar energy systems and grid-tied energy storage systems. Headquartered in Diamond Springs, we serve El Dorado County and various other locations across California. At SolarHut, LLC, we hold a valid

California C-46 solar contractor license and are accredited members of the Better Business Bureau. As an Elite SunPower Dealer, we take pride in executing projects to perfection, prioritizing job site safety, and adhering to strict timelines. To maintain the highest standards, we never outsource our work; instead, we rely on certified professionals who specialize in solar installation, technical expertise, and analysis. We do not have an A, B, or C-10 license.

Demand for Retrofit Work

SolarHut, LLC is deeply concerned about the Board's proposed rule prohibiting C-46 license holder from retrofitting existing solar systems with BESS. The Board's Initial Statement of Reasons asserts that "C-46 contractors holding no other license classifications authorized to install BESS complete only a tiny fraction of the overall number of BESS projects" and therefore will have a "negligible effect" on current contractors. CSLB's Initial Statement of Reasons at 23-24. But this position ignores the rapidly growing demand for BESS retrofit work and the way this rule would bar C-46 contractors from participating in much of that growth. For instance, we have a total of 11 contracts scheduled for 2023 that include battery installation: two contracts include both solar panel and battery installations, while the remaining nine are solely for battery installation retrofits. Put another way, roughly 80% of our battery installation contracts this year are for retrofits, compared to the one or two battery installations we were doing four years ago. The demand for these retrofit installations is only expected to rise more over time.

Several factors contribute to the high and ever-growing demand for solar retrofits in California. First, California has set ambitious renewable energy goals to reduce greenhouse gas emissions and combat climate change, and has policies in place to encourage the adoption of solar energy systems. This demand for solar energy systems now includes a growing demand for batteries to allow for grid optimization. Under the state's Net Energy Metering 3.0 program, customers need batteries to be self-resilient due to the avoid cost calculator. With recent advancements in solar technology and decreasing costs of solar panels, retrofitting existing properties with solar energy systems has become more affordable and accessible.

Consider my personal house as an example: I have equipped it with 34 solar panels and 2 Franklin WH 13.6 kWh batteries. My household operates fully on electricity, and I drive a Tesla Y. With my roof fully utilized and the absence of my batteries, the majority of my power consumption would fall during Peak Demand, which costs around $0.54 kWh. However, with the installation of my batteries, I can achieve grid invisibility from approximately 9:00 am to 11:30 pm, effectively relying on only the

cheaper rate of $0.34 kWh. As more homeowners in California adopt fully electric homes with high electricity demands during peak hours, the importance of having a battery for grid optimization becomes evident. It is the most effective way to counteract the rising charges associated with peak demand periods.

Many customers who previously invested in solar system installations are now seeing the benefits of adding batteries, increasing the demand for retrofit work. Even for customers who know they want battery storage with their solar system, financing and other logistics may make it more practical to add the battery after the solar install. Just last week, we had a homeowner sign two separate contracts: one for solar and another for the batteries. Fortunately, the homeowner is eligible for SGIP Equity Resilience, an incentive program in PG&E, which can significantly benefit them. However, the approval process for this program might take up to six months. Understandably, the homeowner did not want to delay the entire installation process and opted to proceed with the solar installation without waiting for the battery incentive approval. If the Board's proposed rule went forward, SolarHut and other C-46 contractors would be entirely prohibited from working on this retrofit jobs or from providing customers the flexibility of timing needed to finance both solar and battery installations.

Indeed, SolarHut often has the opportunity to upsell additional products and services to existing customers. Without the ability to offer solar batteries and maintenance, these upselling opportunities will diminished, leading to a missed potential for increased revenue.

This Rule is Illogical and Harmful

The Board's proposed rule makes absolutely no sense in light of the realities of the solar industry and battery installation. First, the rule's distinction between allowing C-46 contractors to do contemporary battery installation but banning them from battery retrofit has no factual basis. Functionally, there is no difference in the mechanics, installation, or labor between installing a battery at the time of solar or as a retrofit. The battery technology is so advanced now that we can load control without extra devices.

When installing a battery system, SolarHut's team of professional installers come directly to the customer's home. They connect the battery to the customer's electrical system, including any existing solar panels and/or new solar systems, and ensure everything is wired correctly and safely. Once the battery is installed, it will undergo testing to ensure it is functioning properly and efficiently. The installers will also demonstrate how the system works and how to monitor its performance. Depending on local regulations, there might be safety inspections to ensure that the battery installation

complies with building and electrical codes. After installation, the battery system is configured to work seamlessly with the solar PV system and the electrical grid. Comprehensive testing ensures that the battery operates as intended and provides the desired backup power during grid outages. This integration allows the customer to store excess solar energy during the day for use at night or during power outages. This process occurs whether the battery is installed simultaneous to the solar system or sometime after.

The proposed rule would also undermine the ability of C-46 contractors to offer maintenance and repairs for previous battery installations. The utilities companies require the contractors to give a warranty on all equipment and its installation. If SolarHut has previously entered into long-term contracts with customers, the inability to provide comprehensive services could result in contractual disputes or early contract terminations. Yet, the Board's proposed rule would effectively bar C-46 contractors from doing the promised maintenance work on battery systems it installs. This inability to provide complete solar solutions that include battery under a workmanship warranty might negatively impact our company's reputation and brand image. Customers may perceive our company as incomplete or lacking expertise, thereby affecting their trust in our company's capabilities.

Not only would the proposed rule undermine SolarHut's ability to complete existing contracts, seek new jobs, and honor its warranty obligations, the rule would also require a detrimental change in SolarHut's workforce. Currently, we do not have a certified electrician on staff. We subcontract with two local electricians when we need a new main or subpanel on our installation, but we do all the battery wiring and actual solar/battery installation. It is difficult to find a licensed electrician to do battery installation because of the labor time involved; they are typically more interested in working on generators.

If the rule goes into effect, we would be forced to replace our entire installation team of four installers with electricians. This decision would also mean losing our highly experienced lead foreman, who has successfully completed thousands of installations and has over 13 years of experience in the industry. He is an invaluable asset, particularly when it comes to battery installation and possesses unmatched knowledge as a solar battery installer in our region. Consequently, the rule would render his role redundant, and we would have to depend on him to train an electrician to take over his role. The thought of this situation is incredibly upsetting. The Board is contemplating changes that have no justification in fact or reality, but that will ultimately cost people their livelihood.

Conclusion

In sum, the solar market is experiencing a shift in demand, with customers seeking solar providers capable of providing holistic solutions, including energy storage and maintenance. The Board's proposed rule would prevent C-46 contractors from doing just that. I strongly urge the Board to withdraw its ill-considered and harmful rule before the devastating effects described above can come to fruition.

Very truly yours,

SolarHut, LLC

Meghan Stimmler
Sales Executive

CC: Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

1671641.3

Exhibit C

SHUTE, MIHALY & WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

HEATHER M. MINNER
Attorney
Minner@smwlaw.com

November 3, 2022

Via Electronic Mail Only

David Fogt
Registrar of Contractors
Contractors State License Board
E-Mail: David.Fogt@cslb.ca.gov

Re: CEQA Review for Proposed Amendments to the C-46 Solar Contractor License Classification

Dear Registrar Fogt:

Shute, Mihaly & Weinberger, LLP represents the California Solar and Storage Association in matters related to proposed amendments to the C-46 Solar Contractor license classification. On June 16, 2022, the Contractors State License Board authorized initiating a rulemaking process on a proposed regulation that would (1) prohibit C-46 Solar Contractors from installing or repairing Battery Energy Storage Systems that exceed 80 kWh, and (2) prohibit C-46 Solar Contractors from installing batteries of any size to retrofit existing solar energy systems (the "proposed regulation"). In a June 15, 2022 letter objecting to this proposed regulation, CALSSA notified the CSLB that it must evaluate and consider the regulation's potential environmental impacts and environmentally superior alternatives in compliance with the California Environmental Quality Act before it adopts the regulation.

We understand that CSLB staff is now preparing the rulemaking package for the proposed regulation. We have not, however, seen a Notice of Preparation of an Environmental Impact Report for this project or an invitation to a scoping meeting to help identify potential environmental issues to be addressed in the EIR. *See* 14 Cal. Code Regs. §§ 15082, 15083. Accordingly, we are writing to reiterate that the CSLB must comply with CEQA before the Board adopts the proposed regulation.

This includes considering alternative regulatory language that would reduce or avoid the potentially significant impacts from increased air pollution and GHG emissions, among other impacts, that will occur from a reduction in the deployment of solar and

storage projects should the proposed rule be adopted. In particular, as CALSSA sated in its June 15 letter, the CSLB must consider a regulation that would allow C-46 solar contractors and their qualified workers to install batteries within the proposed threshold to retrofit existing solar energy systems. This Retrofit Alternative would go a long way towards easing the labor shortages and cost increases that would result from the proposed regulation, enabling more solar and storage projects to come on line.

A Retrofit Alternative would also allow consumers to maintain the warranties on their existing solar energy systems when they add battery storage. CALSSA will submit detailed comments regarding this alternative during the rulemaking comment period. At this point, we wanted to emphasize the need to conduct environmental review on the proposed regulation in the event it is the final regulation that the Board approves, as in our experience this can take a year or longer to complete.

I. The Board cannot adopt the proposed regulation without first conducting environmental review.

A. The proposed regulation is a project subject to CEQA.

CEQA defines a "project" subject to environmental review as including an activity undertaken by a public agency that has the potential to cause either a direct or a reasonably foreseeable indirect change in the physical environment. Pub. Resources Code § 21065; 14 Cal. Code Regs. § 15378(a)(1). "[A] proposed activity is a CEQA project if, by its general nature, the activity is *capable of causing* a direct or reasonably foreseeable indirect physical change in the environment. This determination is made without considering whether . . . these potential effects will actually occur." *Union of Medical Marijuana Patients, Inc. v. City of San Diego* (2019) 7 Cal.5th 1171, 1197 (emphasis added). A reasonably foreseeable indirect physical change is one that "the activity is capable, at least in theory, of causing." *Id.*

The proposed regulation is capable of causing a reasonably foreseeable indirect physical change in the environment, making it a "project" for purposes of CEQA. By limiting the types of contractors and workers who can install BESS exceeding 80 kWh, and who can install BESS of any size to retrofit an existing solar energy system, and by increasing the cost of battery installations, the proposed rule will severely curtail the installation of those systems, which represents a significant and growing portion of the overall BESS market.

This is not just an issue for contractors that hold only a C-46 license. It is also an issue for dual license holders. As we have stated before, limiting the scope of the C-46

license would require contractors with both a C-46 and C-10 classification to replace their qualified solar workers with certified electricians for solar and storage jobs outside of the C-46 scope. Or, more likely, they would need to cease taking these jobs, as hiring certified electricians during a recognized national shortage has proven to be difficult if not impossible for the solar industry. There are also significant barriers that prevent current solar workers, many of whom are from disadvantaged communities, from becoming certified electricians to fill this gap.

Without sufficient available contractors and workers, and with increased labor costs for installations, the proposed regulation will at best slow the deployment of these projects; at worse, it will halt them completely. As explained below, this will likely result in numerous environmental impacts, including energy and air quality impacts and increased greenhouse gas emissions. Accordingly, the proposed regulation is capable of causing a direct or a reasonably foreseeable indirect change in the physical environment and must undergo environmental review. *See Union of Medical Marijuana Patients*, 7 Cal.5th at 1197-98*; see also* Cal. Code Regs. § 15004(a) ("Before granting any approval of a project subject to CEQA, every lead agency … shall consider a … document authorized by these guidelines").

To assess the extent of these changes, the CSLB's environmental review must consider, among other issues:

- The projected demand for solar and storage systems over the near and long term, including the projected demand for storage retrofits and for systems exceeding 80 kWh.

- The availability of experienced contractors to install solar and storage systems over the near and long term.

- The availability of qualified solar workers and certified electricians to install solar and storage systems over the near and long term.

- The projected cost to install solar and storage systems over the near and long term, including the projected cost for storage retrofits and to install BESS exceeding 80 kWh.

- The extent to which the proposed regulation will impede and reduce demand for the installation of solar and storage systems, including storage retrofits and

BESS exceeding 80 kWh on commercial, grid-tied residential, and off-grid residential structures.

- Annually, the number of solar and storage systems that will not be installed as a result of the proposed regulation, over the near and long term.

Analysis of each of these data points is necessary to understand the extent of the proposed regulation's environmental impacts.

B. By reducing or halting the installation of battery storage systems, the proposed regulation is capable of causing multiple significant environmental impacts.

For each solar and storage system not installed as a result of the proposed regulation, the use of and reliance on carbon-based energy will increase, resulting in increased emissions of greenhouse gases ("GHG") and other pollutants. Similarly, lost solar storage capability will increase the use of dirty "peaker" plants and diesel backup generators during power shutoff events and other power outages, which have become increasingly common in recent years due to climate change and related wildfires. The impacts from this lost storage are especially great due to the Governor's recent emergency proclamation, which waives air pollution restrictions on natural gas plants and diesel generators during such emergency events.

Each of these effects could cause the following significant environmental impacts, among others, that the CSLB must study:

- **Energy Impacts**, including impacts on (1) local and regional energy supplies and on requirements for additional capacity, (2) peak and base period demands for electricity and other forms of energy, and (3) energy resources generally. CEQA Guidelines, append. F, § II (C) (Energy Conservation); *see also League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) 75 Cal.App.5th 63, 166-67. Because the proposed regulation will impede the installation of solar and BESS systems, it will increase demand for local and regional energy supplies and resources, and increase the use of carbon-based energy during peak periods.

- **Greenhouse Gas Emissions.** California faces mounting risks from climate change, including wildfire, higher temperatures, precipitation extremes, flooding, drought, decreased water supply, and worsening air quality. Lead

agencies must thoroughly evaluate a project's impacts on climate change, and identify and adopt feasible alternatives or mitigation measures to address project-specific or cumulative impacts. *See Communities for a Better Env't v. City of Richmond* (2010) 184 Cal.App.4th 70, 89-91; CEQA Guidelines § 15064.4; appen. G, § VIII(b). It has become clear from a scientific perspective that *any* additional GHG emissions will contribute to a serious and growing climate crisis. See e.g. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf . Recognizing this reality, in 2018 Governor Brown signed Executive Order 55-18 calling for the state to achieve carbon neutrality as soon as possible and no later than 2045. https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf . Given these facts on the ground, the CSLB should establish a net zero threshold for new emissions. See e.g., CARB 2017 Scoping Plan at 101 ("Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development.") https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf?utm_medium=email&utm_source=govdelivery .

The CSLB should also assess the extent to which the proposed regulation conflicts with plans, policies, or regulations "adopted for the purpose of reducing" GHG emissions. CEQA Guidelines append. G, § VIII(b); *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 503. In particular, the CSLB should consider the proposed regulation's inconsistency with the 2022 Building Energy Efficiency Standards, which require installation of solar panels and BESS on new commercial buildings and high-rise multifamily building beginning in 2023. The standards will also require new single-family homes to be "battery-ready," i.e., designed so that batteries may be easily installed and integrated with solar panels. The standards depend on—and presume—that there is sufficient, affordable labor available to meet the increased demand for the work necessary to comply with them. *See*, *e.g.*, Initial Statement of Reasons, Proposed Revisions to the California Building Energy Efficiency Standards, at 2 (new standards "ensure that California buildings are *as energy efficient as is found to be technically feasible and cost-effective*.") (emphasis added).

- **Air Quality Impacts**, including risks to human health that result from increased emissions. CEQA Guidelines appen. G, § III. Because California power plants are disproportionately located in low-income and minority

communities, air quality impacts of the proposed regulation will likely be primarily borne by communities that are already overburdened by pollution and resulting health impacts. Physicians, Scientists, and Engineers for Healthy Energy Research Brief, *Natural gas power plants in California's disadvantaged communities*, April 2017. This disproportionately adverse effect may also be an environmental impact under CEQA. *See* 14 Cal. Code Regs. § 15064(e) ("economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment").

- **Biological, agricultural, and aesthetic impacts**, among others, caused by utility-scale solar and storage projects constructed on open space lands. The need for these impactful projects will increase as distributed renewable energy generation and storage projects fail to come on line.

The proposed regulation is more than capable of causing these and other environmental impacts. The Board therefore may not adopt it before conducting environmental review. *See Union of Medical Marijuana Patients,* 7 Cal.5th at 1197-98; *see also* 14 Cal. Code Regs. § 15004

C. The Board must fully analyze the potential effects of the proposed regulation and consider reasonable alternatives.

CEQA was enacted to advance several related purposes, including "to: (1) inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities; (2) identify ways to reduce, or avoid, environmental damage; [and] (3) prevent environmental damage by requiring project changes via alternatives or mitigation measures when feasible." *California Building Industry Assn. v. Bay Area Qir Quality Management Dist.* (2015) 62 Cal.4th 369, 382; *see also* CEQA Guidelines, § 15002(a). The Board cannot satisfy these purposes without thoroughly considering each aspect and effect of the proposed regulation, and how they might potentially impact the environment.

Full analysis is likewise necessary to identify reasonable alternatives to the proposed regulation. 14 Cal. Code Regs. § 15126.6(a). At least one such alternative is easy to identify: allowing C-46 contractors to retrofit existing PV systems with BESS within the 80 kWh threshold. This Retrofit Alternative will substantially lessen or avoid the significant environmental impacts of the proposed regulation. Many customers have already installed solar panels and now desire to add energy storage systems or increase the capacity of their existing BESS. Lately, consumers have intended to install solar and storage at the same time, but battery supply chain delays have led them to contract to

install their solar panels ahead of their planned battery installations. Because the warranty on panels typically requires the installing contractor to maintain and/or complete additional work on the system, customers desiring a storage retrofit may decide not to proceed under the proposed regulation.

Example warranty provisions requiring modifications to be carried out by the same contractor are attached. (Attachment A). Similar requirements are common in other trades, as contractors cannot be expected to warrant the work of third parties. An similar HVAC warranty is attached. Legal counsel for CALSA discussed this warranty issue in detail in the attached Nov. 4, 2019 letter, pages 8-9. (Attachment B).

Labor shortages and certification requirements will also increase the costs of retrofits, further reducing demand. A Retrofit Alternative would thus result in more storage capacity, sooner. This in turn would reduce GHG and other emissions associated with the proposed regulation.

To allow for retrofits within the currently proposed threshold, the regulatory text presented at the June 16, 2022 Board meeting could be modified by adding the following language at the end of section 832.46, subdivision (c): "In addition, a licensee classified in this section may install a battery energy storage system to an existing photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 80 kWh. The licensee also may connect, modify, maintain and repair that battery energy storage system."

* * * *

Please provide us with a copy of any future Notice of Preparation prepared for the proposed regulation. We appreciate your time to consider this letter and CALSSA's comments on the forthcoming rulemaking package.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Heather M. Minner

cc: Bernadette Del Chiaro, Executive Director
CALSSA
John Cumming, Attorney
Legal Affairs Division Department of Consumer Affairs

1573555.2

Attachment A

Sample 1

Aztec's satisfaction. Aztec shall have no responsibility or liability in respect of hazardous material existing at the Property (other than any hazardous materials brought to the Property by or on behalf of Aztec). If Aztec and Customer do not agree on a schedule and terms for resumption of the Services within thirty (30) days following the discovery of such hazardous materials at the Property, then (a) Aztec shall have the right to terminate this Agreement and (b) Customer shall be obligated to reimburse Aztec for all costs incurred by Aztec through the termination date, including, but not limited to, any contractor or subcontractor costs.

10. **Subcontractors**. Aztec shall be permitted to use contractors and subcontractors to perform its obligations under this Agreement at its sole discretion.

11. **Changes**.

a. The Parties acknowledge and agree that the system size, as set forth on the cover page attached hereto, may be increased or decreased (i) by the mutual agreement of the Parties or (ii) by Aztec as a result of design constraints or applicable materials and product availability. In the event the system size is changed pursuant to this Section 11(a), the Parties shall agree in writing on an updated Purchase Price to reflect such change.
b. If any of the products or materials necessary to perform the Services become unavailable, Aztec shall provide notification of the change to Customer. Aztec shall have no responsibility for any delays in performance of the Services related to delays in availability of products or materials.
c. Aztec reserves the right, in its sole discretion, to use, modify, or substitute any equipment or material that is of equal or equivalent quality and efficiency when performing the Services.
d. Aztec and Customer acknowledge and agree that Purchase Price, system production calculations, and schedule as of the Effective Date may, due to unforeseen events or to factors unknown to Aztec as of the Effective Date, be subject to change. Such events that are subject to change shall include a greater than ten percent (10%) difference between the initial system production calculation and the production calculation that will be determined after the final design has been performed. If such an event occurs, the Parties shall negotiate in good faith and execute an amendment to this Agreement reflecting such changes. If a discrepancy of ten percent (10%) or more exists after the final design has been conducted by Aztec, a change order will be sent to Customer for approval. If the Parties are unable to negotiate an amendment to this Agreement within thirty (30) days, then either Party may terminate this Agreement and Customer shall pay Aztec for any Services performed as of such date of termination.

12. **Standard of Performance**. Aztec shall perform its obligations under this Agreement in accordance with (i) the terms of this Agreement, (ii) all applicable laws and (iii) such practices, methods, and acts engaged in or approved by a significant portion of the prudent operators of the solar power industry in the locality in which the Services will be performed, during the relevant time period, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition.

13. **Limited Warranty**.

a. Aztec warrants during the Workmanship Warranty Period (as defined herein) that the Services comprising the installation of the Solar System shall be free from defects in workmanship. The term "workmanship" shall mean that the installation is to be performed in a neat and workmanlike manner. As used in this Agreement, the term "Workmanship Warranty Period" shall mean ten (10) years from the System Completion date. Customer shall

notify Aztec in writing of any warranty claim and the totality of all warranty claims cannot exceed the Purchase Price as stated above. Any optional Services selected by Customer according to Exhibit B that don't directly pertain to the installation of the solar system and/or energy storage device(s) shall have a different workmanship warranty period. Such optional Services shall be covered by a one year workmanship warranty period beginning from when such work is completed and includes, but is not limited to, energy efficiency upgrades, roof replacement services, and tree work.

b. Aztec agrees to pass through, and to transfer to Customer any applicable manufacturers' warranties provided on the System, to the extent that such warranties are transferable. Standard service rates still apply.

c. EXCEPT FOR THE EXPRESS WARRANTIES PROVIDED IN THIS AGREEMENT, NO OTHER WARRANTY OR REMEDY, WHETHER STATUTORY, WRITTEN, ORAL, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE SHALL APPLY UNDER THIS AGREEMENT. The remedies set forth in this Agreement shall be Customer's sole and exclusive remedies for any claim or liability arising out of or in connection with this Agreement, whether arising in contract, tort (including negligence), strict liability or otherwise. Any damage caused by any animal or insect, including, but not limited to, squirrels, rodents, birds, bugs, or pests, whether wild or domesticated, are explicitly excluded from any and all warranties offered by Company and Company is not responsible for the cost of any repairs necessary in order to fix, replace, or otherwise remedy whatever damage was caused by such sources.

14. **Force Majeure**.

a. "Force Majeure" means any circumstance not within the reasonable control, directly or indirectly, of Aztec, but only if and to the extent that (a) such circumstance, despite the exercise of due diligence, cannot be or be caused to be prevented, avoided or removed by Aztec, (b) such event is not due to Aztec's negligence or intentional misconduct, (c) such event is not the result of any failure of Aztec to perform any of its obligations under this Agreement, (d) Aztec has taken all reasonable precautions, due care, and reasonable alternative measures to avoid the effect of such event and to mitigate the consequences thereof, and (e) Aztec has given Customer prompt notice describing such event, the effect thereof and the actions being taken to comply with this Agreement. Subject to the foregoing conditions, Force Majeure Events may include: strikes or other labor disputes; weather conditions and other acts of nature, including, but not limited to, damage caused by squirrels, rodents, birds, bugs, pests, or any other wild or domesticated animals; earthquakes; hurricanes; tornadoes; terrorist acts; and riot or civil unrest.

b. Aztec shall not be considered to be in default or breach in the performance of its obligations under this Agreement to the extent that performance of any such obligation is prevented or delayed by an event of Force Majeure.

c. If Aztec is prevented or delayed in the performance of any of its obligation hereunder by an event of Force Majeure, Aztec shall promptly provide written notice to Customer of the circumstances preventing or delaying performance and the expected duration thereof. Such notice shall be confirmed in writing as soon as reasonably practicable by Customer. Aztec shall use commercially reasonable efforts to remove or repair the cause of the event of Force Majeure and shall resume performance of its obligations as soon as reasonably practicable.

15. **Indemnification**. Each Party (the "Indemnifying Party") shall defend, indemnify and hold harmless the other Party and the directors, officers, shareholders, partners, members, agents and employees of such other Party, and the respective affiliates of each thereof (collectively, the "Indemnified Parties"), from and against all loss, damage, expense, liability and other claims, including court costs and reasonable attorneys' fees, incurred or asserted by third parties (collectively, "Liabilities") resulting from injury to or death of persons, and damage to or loss of property to the extent caused by or arising out of the negligent acts or omissions of, or the willful misconduct of, the Indemnifying Party (or its contractors, agents or employees) in connection with this

6. Maintenance and Service Rates

After System Completion, all maintenance of the System is the Customer's sole responsibility. Unless the services to be performed by Aztec are expressly the responsibility of Aztec's as outlined under the specific warranties contained in this Agreement, all maintenance, services, diagnoses or other work performed by Aztec after System Completion shall be charged to Customer at Aztec's standard service rates. Examples of issues that Aztec is not responsible for servicing or resolving include, but are not limited to, internet connectivity, cellular signal, or damages to the System by animals, squirrels, rodents, birds or pests.

_____

7. Installation Release

Customer expressly releases Aztec of any responsibility for any disputes that may arise due to housing or condominium association restrictions or rules, deed restriction, zoning ordinances, or the like, which may permissibly, or not permissibly, prevent, limit, or otherwise affect the retention or installation of the System.

_____

8. Payment Schedule

If Customer is not financing the purchase of his/her System through an approved and verifiable loan program, and is instead paying for his/her System directly to Aztec via cash, credit card, check, or some other mode of direct electronic payment, then Customer acknowledges and agrees to the payment schedule contained in Exhibit C.

_____

9. Exterior Conduit

Customer understands and agrees that conduit is a necessary component in connecting the solar array(s) to the home's existing electrical system, and there will likely be visible conduit run along the exterior of the home. Aztec's installation team will work to minimize the visibility of the conduit run as much as reasonably possible, but cannot guarantee conduit will not be visible on the home's exterior.

_____

11. System Warranty is VOID:

If damaged due to negligence, abuse, misuse, accident, modification, tampering, alteration, faulty installation and/or acts of God. Solar system cannot be modified or repaired by anyone other than Aztec Solar, Inc.

_____

Sample 2

The Inflation Reduction Act of 2022 provides for a 30% federal income tax credit for solar, solar paired battery energy storage systems and stand alone battery energy storage installations. The tax credit is governed by Section 25D or Section 48 of the Internal Revenue Code. Section 25D of the Internal Revenue Code currently provides a federal income tax credit for eligible individuals who install qualifying systems on a personal residence. Section 48 currently provides a federal income tax credit for project owners or investors who install and own qualifying systems. There are holding and recapture requirements under Section 48. Owner understands that Luminalt is not a tax adviser and cannot provide tax advice regarding eligibility for the credit or the amount of the credit Owner may be eligible for and advises Owner to consult with a tax adviser. Owner is responsible for filing for the credit.

Title and Risk of Loss

Title to the materials and equipment under this agreement will transfer to Owner upon delivery to project site. After that delivery, Owner will bear all risk of loss or damage from any type of physical harm, theft, or any other damage not resulting from Luminalt's actions.

Warranty for Installation of the Solar Energy System

Luminalt provides a warranty that its workmanship will be free from defects for a period commencing on the date the inspector signs off on the electrical permit for the solar energy system and ends ten years following that date (the "Warranty Period"). In addition, at no cost to Owner, during the Warranty Period Luminalt will provide the labor to repair or replace generating system components that are under the manufacturer's warranty. A copy of the manufacturer's warranties, which covers the solar energy system panels and inverters, is attached. Luminalt shall not be responsible for supplying the replacement equipment and reserves the right to pursue the manufacturer for compensation for its labor due to defective workmanship, system or component breakdown or degradation in electrical output of more than eight percent from the generation equipment's originally rated electrical output during the Warranty Period. Owner will notify Luminalt for any repair or equipment replacement within the Warranty Period. If Owner does not notify Luminalt or does not allow Luminalt the opportunity to make the repairs, Owner agrees that Luminalt will not be responsible for the warranty.

If Luminalt is flashing and sealing the roof penetrations, Luminalt will warrant its work to flash and seal the roof penetrations for a period of two years. If Owner engages a roofer, the materials and labor to flash and seal the roof penetrations for the solar mounting points and conduit are not included in the scope of this agreement and will be provided by the roofer engaged by Owner at Owner's cost. The roofer engaged by Owner is responsible for flashing and sealing the roof penetrations for the solar energy system and for the associated roof warranty, not Luminalt.

All other work, such as installing an electric vehicle receptacle or main service panel, shall have a limited one year workmanship warranty.

Where to File a Complaint

Contractors are required by law to be licensed and regulated by the Contractors State License Board, which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 years of the date of the alleged violation. Any questions concerning Luminalt may be referred to the Registrar, Contractors State License Board, Post Office Box 26000, Sacramento, California 95826.

Arbitration of Disputes

Luminalt and Owner enter into this Agreement in good faith and with full intention of meeting the obligations which each has agreed to under this Agreement. If any dispute arises between the parties about the subject of this Agreement or its terms, each Luminalt and Owner agree to work together in good faith towards a mutually acceptable resolution. If the parties are unable to come to a mutually acceptable resolution, Luminalt and Owner agree to arbitrate.

If there is a dispute over our work under this Agreement, Luminalt cannot be forced to continue work until payment is received. If Luminalt performs work under this Agreement and that work is approved by inspectors, Owner agrees not to withhold any payments or rebate approvals, if applicable. Owner agrees to allow inspectors access to the property for inspections.

Sample 3

23. **Performance Specifications.** It is expressly understood and agreed that CES shall be in no way held liable for any third party equipment performance specifications expressed or implied, unless incorporated into this agreement as an integral part. Such performance specifications will be subject to the respective manufacturer's warranty terms. CES may remotely administer the batteries, inverter and other controls in your system in conjunction with utility demand response and similar programs in order to maintain the reliability of the electrical grid.
24. **Rebates & Tax Credits**. Tax credits are based on current IRS policies as they apply to the Solar Investment Tax Credit. IRS Form 5695 is available from the IRS, and Owner is advised to consult with a tax professional to fill out this form. Rebates and referral fees paid by CES will be made via check or credit on account. Owner is advised to consult with a tax professional regarding any taxable effect these rebates, fees and credits may have.
25. **Electric Bill Analysis and Changes**. With the advent of Community Choice Aggregation utilities, time of use electric rates and frequent rate plan changes, electric bills are quite complicated. Your utility is available to explain your bill, and your monitoring system will indicate the amount of energy (measured in kwh) produced by your system. If you require assistance in interpreting or optimizing your bill, CES can provide this work as a service for $200 with a minimum charge of one hour.
26. **Force Majeure.** Except with respect to any payment obligations hereunder, both Parties shall be excused for delay in the performance of any obligations hereunder to the extent that such delay is the result of or attributed to a force majeure event ("Force Majeure Event"). For purposes of this Agreement, a Force Majeure Event means any cause beyond the affected Party's reasonable control including but not limited to acts of God such as storms, fires, floods, lightning and earthquakes, sabotage or destruction by a third party of a System, war, riot, acts of a public enemy or other civil disturbance, pandemics, medical emergencies that have resulted in a local, state or federal state of emergency, Coronavirus or similar viruses or illnesses requiring quarantine, strikes, walkout, lockout or other significant labor dispute, interruptions in delivery of supply of parts or raw materials, the issuance of any new utility requirements, trade association, or government Laws.
27. **Substitution of Like Product.** In the event that any specified material or equipment becomes unavailable either temporarily or permanently after the Agreement is executed, provided that such availability is a result of factors beyond Contractor's control, then in the event of temporary unavailability, the Agreement time shall be extended to reflect the duration of time that Contractor is delayed by the unavailability, and in the case of permanent unavailability, Contractor shall be excused from providing said material or equipment and allowed to provide an available substitute. To the extent an available substitute is provided by Contractor under this provision, any increase in the cost between the originally specified material and equipment and the substitute shall be paid by the Owner to Contractor.
28. **Fifteen (15) Year Limited Warranty.**
    1. **System Warranty – Repair or Replacement.** Contractor warrants the CES System (except battery storage components) against defective workmanship for a period of fifteen (15) years after Substantial Completion. This warranty covers the CES System as a whole only and provides for no-cost repair or replacement of the CES System in accordance with this warranty (except battery storage components). Battery storage components, including batteries, enclosures, control systems, transformers and monitoring devices are warranted by the manufacturers, and CES will provide warranty service based on current manufacturer policies. The separately included manufacturer warranties for the solar panels, inverters, monitoring, frames and battery storage components are in lieu of and not in addition to Contractor's warranty obligations. Typical manufacturer warranties are as follows: solar panels 25 years, microinverters and optimizers 25 years, SolarEdge inverters 12 years (with an option to extend for another 13 years), standard string inverters 10 years (with an option to extend for another 10 years), monitoring gateway equipment 2 years, and batteries for 10 years. If included, cellular modem monitoring is provided for an initial term of 5 years depending on system. Any claims for defect in workmanship or otherwise related to or arising from those materials are excluded from Contractor's warranty obligations, including loss of energy caused by delays by manufacturers. Contractor shall make available to Owner all warranty documents relative to the equipment and materials incorporated in the CES System as provided by the applicable manufacturers. Contractor will also be the warranty administrator for such manufacturer warranties and as such it will, on a reasonable basis, provide a first line of support on any manufacturer warranty claims. Repair or replacement as provided under this warranty is the exclusive remedy of Owner. The warranty period will not be extended, nor will a new warranty period begin, upon any repair or replacement conducted under this warranty. This limited warranty does not warrant a specific power output, which is exclusively covered under the module manufacturer warranty. Contractor does not make any promises or guarantees about any return-on-investment variables related to the CES System, including but not limited to, issues related to utility rate increases, home resale value, maintenance costs, performance degradation, home energy needs, and CES System output.

    28.1. Roof Penetration Warranty. Roof penetration warranty is fifteen (15) years after Substantial Completion or the remaining warranty on the roof as provided by the original roofer, whichever is less. Contractor guarantees that the roof penetrations made as part of the CES System will not leak into the underlying building space. If there is a leak, Contractor's sole obligation will be to repair the source of the leak and repair/replace any damage to sheetrock, insulation or paint in underlying building spaces. Claims for leaks must be made within seven (7) days of the start of leaks. In no event will Contractor be liable for remediation work due to mold, fungus or rotted structural members,

nor will Contractor be liable for leaks that are caused by debris or other items under the solar array that cause water to accumulate. Contractor shall not be responsible for roof leakage unrelated to areas that are not underneath the solar panels. Service calls for leaks that are proven to be unrelated to Contractor work will be billed to the Owner.

28.2. Assignability. The warranties included with this Contract are transferable to a secondary owner within ten (10) years of the installation. Such transfer must be initiated within sixty (60) days of ownership change.

28.3. Exclusions. This limited warranty excludes the following conditions: (i) failure to properly operate or maintain the CES System in accordance with online instructions provided on the CES and manufacturer's websites; (ii) any repair or replacement using a part or service not provided or specifically authorized in writing by Contractor; (iii) damages caused by, in Contractor's judgment, Owner or third party abuse, accident, alteration, improper maintenance or installation, pre-existing roof conditions, modification or removal by anyone other than Contractor or authorized Contractor representative, misuse, negligence or vandalism, riots, animal damage, or environmental pollution such as soot, salt damage, or acid rain, or earthquake, fire, flood, extreme weather conditions such as high wind or frozen water buildup, or other acts of God or other unforeseen conditions that are beyond Contractor's control; (iv) solar systems with the type or serial number(s) altered, removed, or illegible; (v) integration, stability and connections to networking equipment, local cellular infrastructure and related software, whether or not provided by CES; (vi) utility or electric service provider mandated operating changes; and (vii) cosmetic defects, such as discoloration or scratches, caused by normal wear and tear. All guarantees and warranties are contingent on Buyer (and subsequent owner) keeping all equipment in good operating condition. Customer's responsibilities to maintain the system in good operating condition include removing debris that may accumulate underneath or on solar panels, keeping panels clean (less than 4% soiling on average), pruning trees that may cause shade, keeping equipment heat sinks and vents clean, maintaining the internet connection and local monitoring gateway, keeping the inverter power circuit on without interruption (except for local power failures and maintenance), and keeping animals that may damage wiring away from areas underneath the solar panels.

29. **Limitation of Warranty.** THE WARRANTIES SET FORTH IN SECTION 28 ABOVE SHALL CONSTITUTE THE ONLY WARRANTIES APPLICABLE TO THIS CONTRACT, THE CES SYSTEM AND WORK PERFORMED HEREUNDER. CONTRACTOR HEREBY EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, USE OR APPLICATION, AND ALL OTHER OBLIGATIONS OR LIABILITIES. ENERGY STORAGE SYSTEMS SHOULD NOT BE RELIED ON AS A POWER SOURCE FOR CRITICAL MEDICAL DEVICES. IN NO EVENT SHALL CONTRACTOR BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, LOSS OF USE, LOSS OF PROFITS, LOSS OF PRODUCTION, OR LOSS OF REVENUES FOR ANY REASON WHATSOEVER.
30. **LIMITATION OF LIABILITY.** CONTRACTOR'S SOLE LIABILITY, AND OWNER'S SOLE REMEDY, WITH RESPECT TO ANY WORK AND MATERIALS WHICH BREACH CONTRACTOR'S OBLIGATIONS UNDER THIS CONTRACT SHALL BE FOR CONTRACTOR TO REPAIR, REPLACE OR RE-PERFORM THE DEFECTIVE OR NONCONFORMING WORK AND MATERIAL WITHIN FOURTEEN (14) BUSINESS DAYS OR SUCH PERIOD COMMERCIALLY REASONABLE ACCORDING TO INDUSTRY STANDARDS AFTER WRITTEN REQUEST BY OWNER.
31. **Warranty and Service Work**. No monitoring, repair, maintenance or warranty work will be performed if there are any outstanding amounts, including late payment and interest fees.
32. **Notice.** Any notice required or permitted under this Contract shall be deemed given, if in writing, on the fifth (5^{th}) day after deposit in the U.S. Mail, first-class postage prepaid, and addressed to the Party at the address shown in this Contract, although such address may be changed by written notice from one Party to the other as necessary.
33. **Assignment; Third-Party Beneficiaries.** Except with respect to the assignability of warranties in Section 25 above, Owner may not transfer or assign this Contract and its rights and obligations herein to a successor or purchaser of the Property or an interest therein. There are no third-party beneficiaries to this Contract. Nothing in this Contract shall create a contractual relationship with or a cause of action in favor of a third-party against either Party. Notwithstanding the above, (i) Contractor may assign this Contract without notice to or consent of Owner in the event of a merger, reorganization, consolidation or sale of all or substantially all of Contractor's assets, and (ii) if all or any of this Contract is to be financed through a financial institution, Owner may assign its rights hereunder to such institutions. Owner and Contractor will make, execute and deliver all forms reasonably required by a lender for such purposes.
34. **Statutorily Required Information About The Contractors State License Board ("CSLB"):** CSLB is the state consumer protection agency that licenses and regulates construction contractors. Contact CSLB for information about the licensed contractor you are considering, including information about disclosable complaints, disciplinary actions, and civil judgments that are reported to CSLB. Use only licensed contractors. If you file a complaint against a licensed contractor within the legal deadline (usually four years), CSLB has authority to investigate the complaint. If you use an unlicensed contractor, CSLB may not be able to help you resolve your complaint. Your only

Attachment B

WENDEL ROSEN
1111 Broadway, 24th Floor
Oakland, CA 94607-4036
T: 510.834.6600
F: 510.834.1928
www.wendel.com
dsimon@wendel.com

November 4, 2019

VIA HAND-DELIVERY AND E-MAIL

David Fogt (david.fogt@cslb.ca.gov)
Registrar of Contractors
California Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Re: CSLB's Determination that C-46 Cannot Add Storage to Existing Solar Systems

Dear Mr. Fogt:

During our one-on-one discussion at the October 1, 2019 energy storage stakeholders meeting that you hosted at CSLB's headquarters, we briefly discussed CSLB's current position that C-46 solar contractors are permitted to install an energy storage device only if solar photovoltaic modules are simultaneously installed. You invited me to send you this letter explaining why the California Solar and Storage Association ("CALSSA") feels strongly that CSLB's position is arbitrary and contrary to law.

Summary

During the past year, CSLB has asserted through e-mails and correspondence that C-46 solar contractors may install energy storage devices only at the same time they install solar photovoltaic modules under a single permit, but they are prohibited from adding the same devices later. When asked, CSLB indicated this timing distinction is necessary to avoid rendering meaningless the second sentence of the C-46 classification that says "*[a] licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.*"

CSLB's rationale is flawed because it wrongly assumes that storage devices are not included in the definition of solar energy systems that C-46 contractors have been permitted to install for 40 years. In fact, CSLB regulation and numerous legislative enactments have uniformly included storage devices in the C-46 classification. CSLB cannot change the law simply by issuing e-mails and letters stating its new interpretation, and any new regulation to this effect would exceed CSLB's statutory authority. Moreover, CSLB's rationale is inconsistent with its own interpretation because it would mean solar contractors are never permitted to install storage devices because they are never required in order to install a solar energy system.

The referenced sentence in the C-46 classification simply reiterates statutory and regulatory provisions that allow specialty contractors to perform work outside their trade when that work is "incidental and supplemental" to accomplish work within their classification, such as the necessity for solar contractors' to install and waterproof roof penetrations to support roof-mounted photovoltaic panels.

CSLB's unlawful and arbitrary restriction hurts consumers seeking to protect themselves against utility power shut-offs by adding storage devices to their solar energy systems, the overwhelming percentage of which were installed by C-46 solar contractors. Now they must hire a different contractor to modify their system by adding or expanding storage capacity, thus voiding the warranties they received from the C-46 and product manufacturers whose warranties exclude coverage for modifications made by others. No discernable benefit is produced by CSLB's arbitrary action that flies in the face of 40 years of industry practice and applicable law.

Analysis

1. CSLB's Current Position Regarding Who May Install Energy Storage

On December 19, 2018, CSLB sent an e-mail asserting that C-46 solar contractors can install energy storage only when they install a photovoltaic system at the same time and under a single permit.[1] CALSSA asked CSLB to clarify and justify its position. CSLB responded in a May 14, 2019 letter from Classification Deputy Hal Clay, attached as **Exhibit 2**. Mr. Clay contended that "*CSLB's established policy for many years*" has been that a C-10 is the only specialty classification permitted to modify an existing solar energy system by adding energy storage. As proof, he attached the December 2018 e-mail and three earlier letters.

The first letter was issued in 2005 in response to an inquiry from an electricians' union (IBEW). It does not mention energy storage and therefore is not relevant to this issue.

The second letter was written in 2016 in response to an inquiry from an electricians' union training organization (NECA). It states that "*[t]he C10 – Electrical classification is the most appropriate to install [energy storage systems] in existing structures.*" It does not mention solar energy systems or the C-46 solar contractor classification. Therefore, this second letter is similarly irrelevant because it does not address the issue of who may install energy storage when paired with solar.

CSLB finally touched on this issue in the third letter, dated July 18, 2017. There, CSLB asserted: "*The C46 – Solar classification may install energy storage systems as part of a solar system installation. The C10 – Electrical classification may install energy storage systems as part of a photovoltaic system installation as well as an independent project.*" This language does not support the distinction CSLB now claims, where a C-46 is not permitted to add storage to an

[1] *See* December 19, 2018 e-mail from CSLB Classification Deputy Hal Clay to Santa Barbara County building inspector Curtis Jensen, attached hereto as **Exhibit 1**.

existing photovoltaic system. Rather, it merely stated that a C-10 may install storage in both situations – where photovoltaics are present, as well as when they are not.

CSLB did not squarely address this issue until Mr. Clay's December 2018 e-mail to the Santa Barbara building inspector, described above. This was the first time CSLB asserted that a C-46 may not add storage to an existing photovoltaic system. Mr. Clay's May 14, 2019 assertion that this "*has been the CSLB's established policy for many years*" is unsupported by these earlier letters. More importantly, this new position is inconsistent with 40 years of CSLB regulations and Legislative enactments, all of which have uniformly included storage within the solar classification.

2. CSLB and the California Legislature Have Always Considered Energy Storage A Component of Solar Energy Systems that Solar Contractors Are Permitted to Install

(a) CSLB Regulations Have Consistently Included Energy Storage within the Solar Contractor Classification for More than 40 Years

CSLB outlined the history of its solar energy and storage licensing activities on pages 12-20 of its March 21, 2019 Energy Storage Systems Report (the "Report"). Storage systems were included in CSLB's earliest solar classification when it created the SC-44 Supplemental Solar Classification in 1978. "*Storage systems*" were expressly included in CSLB's regulatory definition of an "*active solar system*". Four years later, in 1982, CSLB amended the classification to clarify that these systems include the storage of electricity generated from photovoltaic solar energy systems. Those changes were retained when CSLB amended the classification again in 1983.

In 2009, CSLB amended the classification to its current form. It simplified the classification by replacing the term "*active solar energy system*" (and its associated definition that included "storage systems") with the undefined but – after 31 years – generally understood terms "*thermal or photovoltaic solar energy systems*." The Report quotes CSLB's statement of reasons for the 2009 amendments:

> The proposed amendment is being made in order to update the definition of a C-46 Solar Contractor by deleting text that refers to specific and in some cases outdated types of solar energy systems. Instead, the definition would simply refer to thermal and photovoltaic solar energy systems to allow for new innovations that would also meet this definition.[2]

Nothing in the statement of reasons indicates any intent or desire to remove storage or other aspects of "solar energy systems" definition from the scope of work solar contractors are permitted to perform.

[2] *See* Report at p. 20.

CSLB's regulatory history unequivocally proves that energy storage devices are a component of solar energy systems that C-46 contractors were expressly authorized to install whenever they are paired with photovoltaics. Nothing in CSLB's 40-year history of regulating solar contractors provides any basis or support CSLB's recent arbitrary position that allows a C-46 to include storage devices in the original installation but prohibits them from subsequently adding these devices to an existing system.

(b) The California Legislature has Likewise Understood and Defined Solar Energy Systems to Include Energy Storage

The California Legislature likewise considers storage devices a component of solar energy systems. For more than 40 years, and on 23 separate occasions, the California Legislature has defined "solar energy systems" to include storage.[3] In 1978 – the same year CSLB adopted the Supplemental Solar Classification – the Legislature adopted Civil Code § 801.5. This law creates a solar easement for sunlight across real property for any "*solar energy system*", which the Legislature defined as:

> Any solar collector or other solar energy device whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating.... [and a] structural design feature of a building, including ... [a]ny design feature whose primary purpose is to provide for the collection, storage, and distribution of solar energy for electricity generation, space heating or cooling, or for water heating.

The Legislature has amended § 801.5 three times since 1978 without removing the references to storage, thus reaffirming its initial determination that solar energy systems include storage.

That same year (1978), the Legislature adopted the Solar Rights Act at Civil Code § 714. This law voids deed and contract provisions that restrict the installation of "*solar energy systems*", which the Legislature defined by reference to the definition provided in § 801.5 (discussed above). The Legislature has amended the Solar Rights Act 12 times without modifying its determination that solar energy systems include storage devices.

In 1980, the Legislature adopted Revenue & Taxation Code § 73 to exempt "*active solar energy systems*" from property taxes, and once again the Legislature defined solar to include "storage":

> Active solar energy system" means a system that, upon completion of the construction of a system as part of a new property or the addition of a system to an existing property, uses solar devices, which are thermally isolated from living

[3] As explained below, the Legislature has passed three laws and amended them 20 times since 1978, and each time the Legislature affirmed that solar energy systems include storage.

> space or any other area where the energy is used, to provide for the collection, storage, or distribution of solar energy.[4] (Underlining added)
>
> ***
>
> An active solar energy system that uses solar energy in the production of electricity includes storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of those items.[5] (Underlining added)

The Legislature has amended § 73 five times without modifying its determination that solar energy systems include storage devices.

This overwhelming and incontrovertible evidence establishes that storage devices have always been considered a component of solar energy systems that solar contractors are permitted to install. CSLB established this fact in 1978 when it created the Supplemental Solar Classification, and the Legislature followed CSLB's lead by adopting three different statutes that define solar energy systems to include storage and amending those statutes 23 times without changing this critical fact. Nothing in CSLB's regulatory history or the Legislature's statutory enactments supports the arbitrary and groundless limitation CSLB now seeks to impose.

3. CSLB's Rationale for Prohibiting Solar Contractors from Adding Storage to an Existing Solar Energy System is Fatally Flawed

In light of this 40-year history, CALSSA was mystified by CSLB's reinterpretation of what constitutes a solar energy system and the work solar contractors are permitted to perform. So on May 20, 2019, CALSSA requested a meeting with CSLB to understand its legal justification for not allowing a C-46 solar contractor to modify existing solar energy systems by adding energy storage. CSLB responded in a May 28, 2019 letter from its Chief of Licensing, Justin Paddock, which is attached as **Exhibit 3**. Mr. Paddock referenced the second sentence of current solar contractor classification at 16 CCR 832.46 which states:

> A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to **install** a thermal or photovoltaic solar energy system. (Emphasis in original)

Mr. Paddock reasoned that this part of the regulation would be rendered meaningless if a C-46 is permitted to add energy storage to an existing solar energy system. He is incorrect.

Mr. Paddock's reasoning assumes that energy storage is not considered part of a solar energy system. But, as detailed above, CSLB and the Legislature have always defined solar energy systems to include storage devices. Moreover, the sentence he references has been part

[4] *See* Revenue & Taxation Code § 73(b)(1).

[5] *See* Revenue & Taxation Code § 73(d)(1)(B).

of the C-46 classification regulation since its creation in 1982, and until 2009, that regulation included a definition of "solar energy systems" that expressly included energy storage. Therefore, CSLB cannot now redefine that sentence to exclude energy storage. Finally, if Mr. Paddock's interpretation were correct, then a C-46 would never be permitted to install energy storage. That is because the referenced sentence only allows the C-46 to perform other construction trades when doing so is required to install solar energy system. Energy storage is never required to install a solar energy system, as evidenced by the fact that an overwhelming majority of existing systems do not include storage.

The sentence Mr. Paddock referenced in the C-46 classification at 16 CCR 832.46 exists to place sensible restrictions on a classification that necessarily involves multiple trades. As CSLB explained in its Energy Storage Systems Report, CSLB developed the C-46 classification in 1981 based on the fact that "*a new specialty class, rather than a supplemental license, would allow the Board to verify the practical skills of applicants to the class, including 'HVAC, electrical, plumbing, engineering, and other associated trades'.*"[6] The referenced sentence simply reiterates the statutory and regulatory provisions that allow specialty contractors (like the C-46) to perform work outside their trade that is "*incidental and supplemental*" to their classification. Specifically, Business and Professions Code § 7059(a) provides:

> Nothing contained in this section shall prohibit a specialty contractor from taking and executing a contract involving the use of two or more crafts or trades, if the performance of the work in the crafts or trades, other than in which he or she is licensed, is incidental and supplemental to the performance of the work in the craft for which the specialty contractor is licensed.

CSLB defined "incidental and supplemental" by regulation at 16 CCR 831:

> For purposes of Section 7059, work in other classifications is "incidental and supplemental" to the work for which a specialty contractor is licensed if that work is essential to accomplish the work in which the contractor is classified. A specialty contractor may use subcontractors to complete the incidental and supplemental work, or he may use his own employees to do so. (Emphasis added)

The restriction that permits solar contractors to perform other trades only when "*required*" to install a solar energy system under 16 CCR 832.46 follows the general restriction in Regulation 831 that allows a contractor to perform work in other classifications only when doing so is "*essential*" to accomplish work that is squarely within that contractor's classification.

Nothing in CSLB's regulations supports an arbitrary restriction on solar contractor's ability to add storage devices to an existing photovoltaic system because, as noted above, solar energy systems have always been defined to include storage. These retrofit projects are simply a

[6] *See* Report at p. 11.

modification, which solar contractors are permitted to make under the first sentence of 16 CCR 832.46 which states:

> A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. (Emphasis added)

Adding storage to an existing system is no different than adding an inverter to a system that was previously used for only for serving a property's direct current (DC) energy needs, or adding a telecommunication monitoring device to a system that previously had none.

4. CSLB Lacks Authority to Prohibit a C-46 from Adding Storage Devices to Existing Solar Energy Systems

CSLB's reinterpretation of the C-46 classification is inconsistent with text and regulatory history the C-46 classification at 16 CCR 832.46. CSLB cannot change that regulation simply by issuing letters and e-mails announcing a substantive change under the guise of CSLB's "interpretation". If CSLB wishes to change regulation, it must follow the rule-making process provided under the Administrative Procedures Act and associated regulations. However, CSLB does not have unlimited rulemaking authority. That authority is derived from Business and Professions Code § 7059(a), which allows CSLB to adopt contractor license classifications based on established practices in the construction industry:

> The board may adopt reasonably necessary rules and regulations to effect the classification of contractors in a manner consistent with established usage and procedure as found in the construction business, and may limit the field and scope of the operations of a licensed contractor to those in which he or she is classified and qualified to engage .... (Emphasis added)

CSLB knows and admits "*[t]he C-46 Solar Contractor has been installing some form of ESS in conjunction with a photovoltaic system for approximately 40 years.*"[7] Throughout this time, CSLB has ensured solar contractors' competency with energy storage devices. A review of CSLB's 2017 Occupational Analysis Report for the C-46 Solar Examination emphasizes competency in the installation, service, and repair of energy storage devices. Indeed, the C-46 Occupational Analysis Questionnaire contains no less than 31 different references to energy storage.[8]

Solar contractors' experience with energy storage began with off-grid solar energy systems because batteries were essential if the owner desired electricity at night. It continued with some grid-tied systems when solar customers wanted to store excess electricity production instead of simply feeding it into the utility grid without compensation. Storage became

---

[7] *See* Report at p. 70.

[8] *See* CSLB's Occupational Analysis Report, C-46 Solar Examination, August 2017, Appendix B – Occupational Analysis Questionnaire, Section III.

somewhat less attractive after 1996, because California adopted net metering rules that required utilities to provide solar customers a bill credit for excess electricity solar customers' systems exported to the grid.[9]

Batteries have become increasingly popular again in recent years for a few reasons. In 2016, the utilities convinced the California Public Utilities Commission ("CPUC") to change net metering by reducing the credit solar customers receive for electricity their systems export to the grid. The utilities also convinced the CPUC to adopt "time-of-use" rate structures that decrease the value of electricity generated during daylight hours, thereby further weakening the economic value of solar energy exported to the grid. These changes make it more attractive for solar customers to store excess electricity their systems produce instead of feeding it into the grid. At the same time, advances in battery technology have enabled battery manufacturers to provide modular, self-contained storage devices with integrated safety measures that are becoming increasingly common and affordable.

Solar contractors have been installing and servicing energy storage devices for more than 40 years. CSLB acknowledges this and has diligently tested their competency in this subject. CSLB cannot suddenly disavow these facts by reinterpreting existing regulation, or adopting new regulations, that fly in the face of this long-established usage in the construction industry.

5. CSLB's Unjustified Position Undermines Consumer Protection and Creates Unnecessary Complications in the Market

Consumer protection is a fundamental concern for CSLB and underlies many of its laudable programs and regulatory efforts. But its arbitrary restriction on solar contractors hurts consumers who, like so many in this era of utility shut-offs, want to add a storage device to their existing photovoltaic system. Adding storage requires significant system modifications. The wired connection between the photovoltaic modules and inverter are interrupted by the addition of the storage device. And unless the storage device has its own inverter, it will rely on the solar energy system's inverter to convert the stored DC electricity to AC before feeding into the property's electric service panel. Inverters are the most frequent cause of solar energy system failures.

According to CSLB's reinterpretation, a customer who hired a C-46 contractor to install their solar energy system would be forced to hire a different contractor to make these modifications. Contractor warranties exclude coverage for modifications made by others. If the malfunction subsequently occurs in the inverter or any other part of the original systems, the C-46 who installed it will reasonably suspect the problem was caused by the C-10's modifications and/or the energy storage device it supplied and installed. The C-10 will invariably blame the C-46. It is often difficult to establish the source and cause of electrical problems. The customer

[9] "Net-metering" is a program the State of California initially adopted in 1996 through Public Utilities Code § 2827 utilities to provide solar energy customers a credit for electricity their photovoltaic systems feed into the grid.

will be stuck in the middle because of CSLB's arbitrary action and lose the benefit of the warranties they purchased. This is significant because these warranties often run for 10-years.

The problem becomes worse when one considers the impact on warranties provided by the manufacturers of solar energy system components. California required manufacturers to provide long-term warranties as a condition to participate in the California's earliest solar rebate program, the California Solar Initiative. Those warranties became the norm with manufacturers routinely providing warranties of 20 years for photovoltaic panels and 5-10 years for inverters. Those warranties routinely exclude damage caused by modifications made by contractors they have not certified to work on their products. So the manufacturer could challenge any product warranty claim based on the subsequent addition of an energy storage device unless the installing C-10 happens to be one of their approved contractors.

CSLB's arbitrary restriction creates additional problems and complications. If a C-46 installed a storage device, are they prohibited from repairing or maintaining it? The cost of batteries will continue to fall in coming years. Because modern storage devices are modular and easily expanded, many storage customers will invariably choose to increase their energy storage capacity by adding additional devices as prices fall, especially as PG&E and other utilities expand their power shut-offs to mitigate wildfire risk. Under CSLB's arbitrary position, a customer who hired a C-46 to install their original system with storage will now have to hire a different (C-10) contractor to expand their storage capacity, resulting in two contractors having conflicting responsibility for the same component of the consumer's solar energy system.

This arbitrary decision by the CSLB staff has already caused disruption in the marketplace, including for some of California's most experienced contractors. In one example, a solar contractor intended to include a storage device in the initial solar energy system but was unable to do so because of manufacturer back-log. The contractor addressed the delay by first pulling a permit for the photovoltaic system and then pulling a subsequent permit to install the storage device once the product became available a few months later. This strategy is becoming increasingly common because federal tax credits on solar energy systems are steadily declining over the coming years and customers want to start their projects as soon as possible to lock-in savings at the higher tax credit. In other situations, certain building departments in California are requiring two separate permits be pulled, one for the solar photovoltaic system and one for the energy storage device.

The foregoing examples illustrate the untenable nature of CSLB's position. It harms consumers by undermining both their legal rights and the ability to protect themselves against an increasingly unreliable utility grid.

Conclusion

CSLB's position prohibiting solar contractors from adding energy storage to existing solar energy systems is inconsistent with more than 40 years of California law, CSLB regulation, and industry practice. It provides no discernable benefit to the public and, to the contrary, it undermines the warranty rights of California consumers that CSLB was created to advance. We

realize CSLB has not had sufficient opportunity to consider this issue because attention has focused on the broader rule-making process for energy storage overall. We hope this letter provides CSLB a more thorough examination of the issue and its ramifications, and we request a meeting to discuss this issue with you in person after you have had an opportunity to digest its contents.

Our goal and request is for CSLB to issue a letter retracting its recent guidance and affirming that the current C-46 classification allows solar contractors to install energy storage devices as part of a solar energy system, whether simultaneous to the installation of solar photovoltaic panels or as a modification to an existing photovoltaic system. We appreciate the opportunity to provide you our analysis of this issue and look forward to hearing from you to schedule a time so that we may discuss next steps.

Very truly yours,

WENDEL ROSEN LLP

Donald S. Simon

cc: Bernadette Del Chiaro, CALSSA

Exhibit 1

From: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> **On Behalf Of** CSLB Classifications Deputy@CSLB
Sent: Wednesday, December 19, 2018 12:24 PM
To: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Subject: RE: Another question regarding license classification

Good afternoon,

Your interpretation of when it is appropriate for a C46-Solar contractor to install an Energy Storage System (ESS) is correct. A C46 contractor can install an ESS at the time of installation of the PV solar system.

The most appropriate classification for the project described would be the C10-Electrical classification. C10 contractors can install ESS as stand-alone projects.

Hal Clay

Enforcement Representative II

Classification Deputy

From: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Sent: Wednesday, December 19, 2018 9:49 AM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Cc: Habich, Joseph <jhabich@co.santa-barbara.ca.us>; Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>
Subject: Another question regarding license classification

Mr. Clay,

I am sending this e-mail to you, because of your past assistance with other classification questions.

We have a client who holds a C-46 license. They have submitted for a permit "to retrofit solar electrical systems with AC Coupled home batteries" (Energy Storage System, ESS).

So the permit's scope of work would not include the installation of a Photovoltaic system or a Solar Heat Collector, but rather just the installation of ESS units to an existing electrical system that has a PV system.

I believe that the CSLB position is, if the contractor was installing a PV system and the ESS under the same permit, then this scope of work could be performed under the C-46 license.

Would this be a correct understanding of the Board's interpretation?

But what if there were no existing PV system, or as in this case an existing PV system, and the C-46 wants to install an ESS unit to an existing electrical system?

Would this be allowable, according to the CSLB interpretation of the C-46 license classification?

Exhibit 2

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800.321.CSLB (2752) | *www.cslb.ca.gov* | *CheckTheLicenseFirst.com*

STATE OF CALIFORNIA
Governor Gavin Newsom

May 14, 2019

Bernadette Del Chiaro
California Solar & Storage Association
1107 9th Street
Sacramento, CA 95814

Re: CSLB policy on C46-Solar classification and Energy Storage System (ESS) installation

Dear Ms. Del Chiaro:

This letter is in response to your request for clarification of the Contractors State License Board (CSLB) policy on when it is appropriate for a C46-Solar classification contractor to install an energy storage system. Your request has been sent to me for reply.

It has been the policy of the CSLB that it is appropriate for C46-Solar classification contractors to install energy storage systems only at the time they are installing a solar PV system.

Energy storage systems are electrical devices. As such, stand-alone energy storage system installations are performed by C10-Electrical classification contractors. The CSLB has maintained that contractors holding the A-General Engineering and B-General Building classifications may also install energy storage systems within the scope of work on projects they are properly licensed to perform.

The installation of energy storage systems to existing solar PV systems, regardless of the classification of the original installing contractor, are appropriately performed by C10-Electrical classification contractors. The foregoing has been the CSLB's established policy for many years.

CSLB employees continue to review any classification determination requests related to energy storage systems on a case by case basis with input from senior staff of the CSLB and work to provide consistent classification determinations on this topic.

As a point of reference, the CSLB Energy Storage Systems Report compiled prior to the March 21, 2019 meeting included a summary of four previous publicly issued determinations provided on this subject. Here is that summary:

1. For the purposes of PV systems on residential and commercial buildings and projects that "feed into the utility grid or otherwise offset the energy costs for structures they serve," the C-10 Electrical or C-46 Solar contractor licenses are the appropriate classifications. (July 5, 2005 Letter – former Registrar Stephen Sands)

2. The C-10 Electrical Contractor may install an energy storage system as part of a photovoltaic system installation or as an independent contract. (see October 28, 2016 Enforcement Committee packet and July 18, 2017 Classification Deputy determination).

3. The C-46 Solar Contractor classification may install an energy storage system as part of a solar system installation only and may not install a standalone energy storage

system. (see October 28, 2016 Enforcement Committee packet and July 18, 2017 Classification Deputy determination)

4. The A-General Engineering Contractor classification may install an energy storage system if the work includes a plant or facility to house the system. (November 15, 2016 Letter - former Registrar Cindi Christenson).

Since the March 21, 2019 meeting, the CSLB has received only one additional ESS classification determination request. A determination, consistent with all previous determinations, was provided to the inquiring party on April 3, 2019 after consulting with the Registrar, Chief Deputy Registrar, Chief of Licensing & Examination and the Chief of Legislation.

Thank you for contacting the Contractors Board and allowing us to address your concerns.

Sincerely,

Hal Clay
Classification Deputy
Licensing Division

Enc 1: Copies of previous determinations referenced in ESS report
Enc 2: Copy of April 3, 2019 determination

EXHIBIT ONE

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800-321-CSLB (2752)
www.cslb.ca.gov

STATE OF CALIFORNIA
ARNOLD SCHWARZENEGGER, Governor

July 5, 2005

John J. O'Rourke
International Brotherhood of Electrical Workers
Local Union 6
55 Fillmore Street
San Francisco, CA 94117

Subject: Photovoltaic Systems

Dear Mr. O'Rourke:

This letter is in response to your request for a licensing determination concerning the installation of photovoltaic systems.

Specifically, you have asked that we list the license classifications that are appropriate for photovoltaic systems that, for residential and commercial building projects, are installed for the purpose of feeding into the utility grid or otherwise offsetting the energy used for the structures they serve. Under existing laws and regulations, contractors holding either one of the following two (2) license classifications can install any photovoltaic system without limitations:

C-10 (Electrical)
C-46 (Solar)

In addition, contractors holding the General Engineering (A) license classification or the General Building (B) classification may contract for the installation of these systems as outlined below:

1. In order for the General Engineering (A) classification to be appropriate, the systems must be installed on the types of projects specified under the provisions of Business and Professions Code Section 7056 (copy enclosed).

2. In order for the General Building (B) classification to be appropriate, the prime contract must involve two or more unrelated trades, or be contracted to an appropriately licensed subcontractor as specified in Business and Professions Code Section 7057 (copy enclosed).

I trust that the foregoing information has been responsive to your request. If further clarification or additional information is needed, please do not hesitate to call my office at (916) 255-4800.

Sincerely,

Stephen P. Sands
Registrar of Contractors

EXHIBIT TWO

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, California 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800-321-CSLB (2752)
www.cslb.ca.gov • CheckTheLicenseFirst.com

STATE OF CALIFORNIA
Governor Edmund G. Brown Jr.

November 15, 2016

Eddie Bernacchi
NECA Legislative and Regulatory Advocate
1127 11th Street, Suite 747
Sacramento, CA 95814-3811

Dear Mr. Bernacchi:

I am writing in response to your request for clarification from the Contractors State License Board (CSLB) on which specialty license classification should be obtained to place, install and connect an electrical energy storage system.

Energy Storage Systems (ESS) store electricity obtained when power is not being used, or "off-peak times". These stations consist of: foundations, battery containers that are set on helical piers- usually galvanized steel piers driven into the ground to a designed depth with a piece of machinery, and transformers set on concrete pads.

A microgrid is any small-scale localized station with its own power resources, generations and loads, and definable boundaries.

There are two classifications that can install microgrids or an ESS. The C10 – Electrical classification is most appropriate to install the ESS systems in existing structures. The A – General Engineering classification would be appropriate if the work also included a plant or facility to house the ESS system.

I hope this information is helpful.

Sincerely,

Cindi Christenson
Registrar

EXHIBIT THREE

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, California 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800-321-CSLB (2752)
www.cslb.ca.gov • CheckTheLicenseFirst.com

STATE OF CALIFORNIA
Governor Edmund G. Brown Jr.

July 18, 2017

Jonathan Hart
Center for Sustainable Energy
9325 Sky Park Court, STE 100
San Diego, CA 92123

Mr. Jonathan Hart,

This letter is to follow up the email you sent requesting verification of the appropriate classifications to perform installation of an energy storage system as part of a solar installation.

The C46 – Solar classification may install energy storage systems as part of a solar system installation. The C10 – Electrical classification may install energy storage systems as part of a photovoltaic system installation as well as an independent project.

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

Andrea Sisto
Classification Deputy
classifications@cslb.ca.gov

Clay, Hal@CSLB

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Wednesday, April 3, 2019 3:30 PM
To: CSLB Classifications Deputy@CSLB; Bernadette Del Chiaro; Brad Heavner
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

I'm sorry, I can't except the explanation.

At this time, I am requesting the support of our industry group CALSSA regarding your determination of this prior to this being formally approved based on the recent meeting that occurred.

Kindly,

Shawn

On Wed, Apr 3, 2019 at 12:24 PM CSLB Classifications Deputy@CSLB <Classifications@cslb.ca.gov> wrote:

Good afternoon,

Are you asking for contact information of another person at CSLB? Or would you accept my explanation that I met with the Registrar, Chief Deputy Registrar, Chief of Licensing & Examination and Chief of Legislation this morning to discuss your email and then sent you the reply.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6333 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Wednesday, April 3, 2019 3:04 PM
To: CSLB Classifications Deputy@CSLB <Classifications@cslb.ca.gov>; Brad Heavner <brad@calssa.org>; Bernadette Del Chiaro <bernadette@calssa.org>; Simon Wooley <swooley@swellenergy.com>
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

Mr. Clay,

Per my previous email to SB County which I'll respond to to keep all in the chain, the CSLB hasn't formally made this decision and the C46 industry ia currently working with the policymakers on this determination. As such, I don't believe your interpretation is correct based on the current classification language and would ask that you please provide me with a second opinion on this from a colleague or supervisor at CSLB. I have also included CALSSA here on this email and they will also escalate this to CSLB.

Regarding our license. Our contracting business, Swell Services Inc., is currently a B and we also have additional classifications submitted as C10 or C46. We currently subcontract to both C10 and 46 statewide and need absolute clarity on this so we can stay in compliance and cease subcontracting to C46 if there is a from all determination.

Regards,

Shawn

On Wed, Apr 3, 2019, 10:14 AM CSLB Classifications Deputy@CSLB <Classifications@cslb.ca.gov> wrote:

Good afternoon,

After further discussions regarding the project described, it would not be appropriate for a C46-Solar classification contractor to install the battery system (ESS) described. It was not installed at the time of installation of the solar PV system and, therefore, is not appropriate for a C46 contractor to perform. The most appropriate classification is the C10-Electrcial classification.

A bigger question did arise out of our meeting though. Does Swell Energy require a contractors license? If Swell Energy is contracting directly with property owners for the installation of the battery (ESS) system, even through the use of licensed subcontractors, they meet the definition of a contractor in Business and Professions Code section 7026 and are required to hold a contractors license. Is Swell Energy contracting for the installation of these systems? Would you be able to provide a copy of your contract for one of these projects?

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6333 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Tuesday, March 26, 2019 2:27 PM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>; Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>; Mason, Steve <Mason@co.santa-barbara.ca.us>; Matson, Mark <mmatson@co.santa-barbara.ca.us>; Greene, Kevin <Kvgreen@co.santa-barbara.ca.us>
Cc: Bernadette Del Chiaro <bernadette@calssa.org>; Brad Heavner <brad@calssa.org>
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

Dear Mr. Clay, Mr. Curtis and Santa Barbara County Building and Safety Officials,

As you may know, the most recent CSLB board meeting had on their agenda a discussion regarding the C46 classification installing energy storage both during the solar install as well as a retrofit/modification to existing solar. Here is the information from this meeting:

Agenda: http://www.cslb.ca.gov/Media_Room/Board_And_Committee_Meetings/2019/Energy_Storage_Systems.aspx

Meeting packet: http://www.cslb.ca.gov/Resources/BoardPackets/BoardMeetingPacket20190321.pdf

Energy Storage report: http://www.cslb.ca.gov/Media_Room/Board_And_Committee_Meetings/2019/Energy_Storage_Systems.aspx

The CSLB voted to begin making possible changes to CSLB regulations defining which classifications can perform work on energy storage systems, including those paired with solar. The vote to authorize the opening of a rule-making at the CSLB does not mean, however, that California has made any change in the current licensing classifications. With this ruling, there is no change to licensing eligibility until after public proceeding results in a vote of the board on a specific regulatory change.

As such, please approve our partner who is a C-46 contractor to install energy storage systems on existing solar as this is clearly listed as a function of their qualifications with the CA Code of Regulations Title 16, Division 8, Article 3.

"A C46 a solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system."

In order to install an AC coupled home battery in combination with solar, such as the Tesla Powerwall 2 AC system, modifications must be made to the existing solar system as follows:

- The value and operations of the solar energy storage system must be clearly conveyed to the homeowner regarding how their solar energy will charge the battery and discharge to serve on-site load during TOU peak periods.
- The solar AC point of interconnection must be relocated to the backup loads center or combined generation/AC battery combiner panel.
- A revised interconnection diagram and net metering agreement must be submitted to the utility for their approval showing the connection between the storage and solar and showing the system as a combined NEM paired system.
- Current Transmitters must be installed on the solar properly and connected to the battery energy management system in order for the system to properly work.
- During the commissioning process, the details of the solar system must be correctly inputted into the battery energy management system to ensure correct operations.
- If the solar AC system is too large to "AC Couple" to the battery we have to modify the solar to either curtail the production during an outage with a DC relay.
- The home battery provides backup during an outage with solar serving as the energy source to charge the batteries and the solar is managed through the home battery energy system.

Here is a snapshot showing how the systems operate to modify the solar energy to charge the battery directly during the off-peak hours and serve on-site loads during peak utility time periods. The solar energy flow of electrons in this case is substantially modified with the introduction of the advanced solar energy storage system.

Please let me know if you have any additional questions and if we may have our partner proceed with permitting and installations of Energy Storage systems in Santa Barbara County?

Thank you,

Shawn

On Thu, Jan 31, 2019 at 1:31 PM Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> wrote:

Good afternoon,

As of today, there are no formal determinations/documentation as the final decision on the appropriate trade to install/upgrade ESS systems, as stand-alone projects, has not been made. As of today, the CSLB is allowing C46-Solar classification contractors to install an ESS system only at the time of installation of a solar PV system. A C10-Electrical classification is required for any other ESS system installations or upgrades.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6332 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Thursday, January 31, 2019 12:42 PM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

Hellow Mr. Clay,

I am following up on this email sent on January 3rd. Do you have any documentation showing this formal CSLB determination regarding the C-46?

Thanks,

Shawn

On Thu, Jan 3, 2019 at 8:35 AM Shawn Jacobson <shawn@swellenergy.com> wrote:

Good Morning Clay,

Thank you for your response. Can you please reference a document that shows this formal decision from the CSLB?

I found this document from utilities and other industry advocates that requested this formal decision but cannot find anything showing what the determination is from the committee.

http://www.cslb.ca.gov/Resources/BoardPackets/2-23-18_licensing_committee_mtg_handouts.pdf

Regards,

Shawn

On Thu, Jan 3, 2019 at 8:30 AM Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> wrote:

Good morning,

As of now, a C46-Solar classification contractor can only install an Energy Storage System (ESS) at the time of installation of a solar system. Any upgrades or stand-alone ESS projects are performed by C10-Electrcial contractors. That is not just my opinion, it is the CSLB position on the matter.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6332 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Thursday, January 3, 2019 8:26 AM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Subject: (Second Request) - Re: FW: Another question regarding license classification

Dear Mr. Clay,

I hope you had a great holiday and new year. Would you be able to kindly review and respond to my message below on behalf of CSLB?

Thanks,

Shawn

---------- Forwarded message ---------
From: **Shawn Jacobson** <shawn@swellenergy.com>
Date: Wed, Dec 19, 2018 at 2:06 PM
Subject: Fwd: FW: Another question regarding license classification
To: <Hal.Clay@cslb.ca.gov>

Dear Mr. Clay,

Per the message below between you (CSLB) and The County of Santa Barbara, I am hoping you can provide additional information and documentation regarding your decision for the C46 License classification to be ineligible for retrofitting energy storage systems on existing residential solar PV.

Here is the original message that I sent to SB County outlining the initial request for clarification from them and these points may be useful to you in further review of this matter. I look forward to hearing from you.

//

Swell Energy develops home energy storage and solar solutions throughout CA and it was recently brought to my attention that our local installer (sub-contractor) is unable to permit projects to retrofit solar electrical systems with AC Coupled home batteries with their C46 solar license in Santa Barbara County. I am unsure of the rationale behind your interpretation of the C46 classification and would you be able to provide me with a response and formal stance on this in writing?

In reviewing this on behalf of your department and Santa Barbara County, I would like to provide the following information for your reference.

1. Per CSLB and the CA Code of Regulations Title 16, Division 8, Article 3 a C46 **a solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems.** A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

2. Per the C46 study guide and testing process, there is substantial content specific to the installation of energy storage systems, unlike any other trade examination.

3. The SGIP rebate program, administered by the CPUC, provides funding for home batteries to support a more resilient and renewable energy grid. Per their handbook, attached, they specifically made a ruling that C46 license holders are eligible to install these projects when energy storage systems are connected with solar.

4. In a recent IRS ruling, a residential AC Coupled energy storage systems tied to existing solar are eligible for the "Solar" tax credit. https://www.irs.gov/pub/irs-wd/201809003.pdf ***"We conclude that this Battery meets the definition of a "qualified solar electric property expenditure" under § 25D(d)(2) of the Code, and therefore, you may claim a tax credit on this Battery. The Battery is considered to be property which uses solar energy to generate electricity for use in your dwelling unit located in the United States and used as a residence by you.***

5. Per item 1 above, in order to install an AC coupled home battery with solar, such as the Tesla Powerwall 2 AC system, modifications must be made to the existing solar system as follows.

- The solar AC point of interconnection must be relocated to the backup loads center or combined generation/AC battery combiner panel.

- A revised interconnection diagram and net metering agreement must be submitted to the utility for their approval showing the connection between the storage and solar.

- Current Transmitters must be installed on the solar and connected to the battery energy management system in order for the system to properly work.

- During the commissioning process, the details of the solar system must be correctly inputted into the battery energy management system to ensure correct operations.

- If the solar AC system is too large to "AC Couple" to the battery we have to modify the solar to either curtail the production during an outage with a DC relay.

- The home battery provides backup during an outage with solar serving as the energy source to charge the batteries and the solar is managed through the home battery energy system.

- Home batteries also help to alleviate the very real energy infrastructure problem known as the "Duck Curve" whereby there is an enormous peak demand now on the grid in the afternoon/evening and peaker generation facilities have a difficult time solving for. Energy storage systems store the energy from the solar in the morning and then use that solar energy in the home during peak hours. Here is a screenshot of one of our systems which shows the home/grid energy, solar energy, and charge/discharge of the battery to use the solar energy during peak hours.

Thank you in advance for any clarity and guidance you can provide here for this issue and please let me know if you have any additional questions.

Sincerely,

---------- Forwarded message ---------
From: **Jensen, Curtis** <cujensen@co.santa-barbara.ca.us>
Date: Wed, Dec 19, 2018 at 1:45 PM
Subject: FW: Another question regarding license classification
To: shawn@swellenergy.com <shawn@swellenergy.com>
Cc: Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>, Mason, Steve <Mason@co.santa-barbara.ca.us>, Matson, Mark <mmatson@co.santa-barbara.ca.us>, Greene, Kevin <Kvgreen@co.santa-barbara.ca.us>

Mr. Jacobson,

Please see below the CSLB e-mail response received today from a Classifications Deputy, regarding the required contractor's license classification for the installation of an ESS unit only.

Relying upon this and previous information provided by the CSLB, the refusal to issue a permit to a C-46 license holder for the installation of only an ESS unit, without a concurrent installation of a photovoltaic system, is in accordance with the CSLB's classification for this license.

If I have misunderstood your actual circumstances, or I have misinterpreted your original query; please inform me via return e-mail for further discussion.

Respectfully,

Curtis Jensen

Building Inspector

(805) 884-6842 Santa Barbara Office

(805) 934-6585 Santa Maria Office

County of Santa Barbara

Division of Building and Safety

123 E. Anapamu Street

Santa Barbara, CA 93101

Effective 10.26.18, our new inspection request cutoff time will be 5PM. Any requests received after that time will be performed the day after (e.g. for requests received after 5PM on Monday, the inspection will be performed on Wednesday; if requested after 5PM on Friday, the inspection will be performed on Tuesday).

2018 – 2019 Santa Barbara County Holiday Closures (No permitting or inspection services will be available during this time): December 25th – January 1st (County Winter Holiday Closure), January 21st (Dr. Martin Luther King Day)

From: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> **On Behalf Of** CSLB Classifications Deputy@CSLB
Sent: Wednesday, December 19, 2018 12:24 PM
To: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Subject: RE: Another question regarding license classification

Good afternoon,

Your interpretation of when it is appropriate for a C46-Solar contractor to install an Energy Storage System (ESS) is correct. A C46 contractor can install an ESS at the time of installation of the PV solar system.

The most appropriate classification for the project described would be the C10-Electrical classification. C10 contractors can install ESS as stand-alone projects.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6332 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Sent: Wednesday, December 19, 2018 9:49 AM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Cc: Habich, Joseph <jhabich@co.santa-barbara.ca.us>; Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>
Subject: Another question regarding license classification

Mr. Clay,

I am sending this e-mail to you, because of your past assistance with other classification questions.

We have a client who holds a C-46 license. They have submitted for a permit "to retrofit solar electrical systems with AC Coupled home batteries" (Energy Storage System, ESS).

So the permit's scope of work would not include the installation of a Photovoltaic system or a Solar Heat Collector, but rather just the installation of ESS units to an existing electrical system that has a PV system.

I believe that the CSLB position is, if the contractor was installing a PV system and the ESS under the same permit, then this scope of work could be performed under the C-46 license.

Would this be a correct understanding of the Board's interpretation?

But what if there were no existing PV system, or as in this case an existing PV system, and the C-46 wants to install an ESS unit to an existing electrical system?

Would this be allowable, according to the CSLB interpretation of the C-46 license classification?

Respectfully,

Curtis Jensen

Building Inspector

(805) 884-6842 Santa Barbara Office

(805) 934-6585 Santa Maria Office

County of Santa Barbara

Division of Building and Safety

123 E. Anapamu Street

Santa Barbara, CA 93101

Effective 10.26.18, our new inspection request cutoff time will be 5PM. Any requests received after that time will be performed the day after (e.g. for requests received after 5PM on Monday, the inspection will be performed on Wednesday; if requested after 5PM on Friday, the inspection will be performed on Tuesday).

2018 – 2019 Santa Barbara County Holiday Closures (No permitting or inspection services will be available during this time): December 25th – January 1st (County Winter Holiday Closure), January 21st (Dr. Martin Luther King Day)

--

Shawn Jacobson
Sr. Director of Operations | Swell Energy
P: 805.804.7965
E: shawn@swellenergy.com **W:** SwellEnergy.com

For customer or partner support:
P: 310-340-0493
E: support@swellenergy.com
For Additional information and FAQ's, please click here

--

Shawn Jacobson

Sr. Director of Operations | Swell Energy
P: 805.804.7965
E: shawn@swellenergy.com **W:** SwellEnergy.com

For customer or partner support:
P: 310-340-0493
E: support@swellenergy.com
For Additional information and FAQ's, please click here

Exhibit 3

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800.321.CSLB (2752) | www.cslb.ca.gov | CheckTheLicenseFirst.com

STATE OF CALIFORNIA
Governor Gavin Newsom

May 28, 2019

Bernadette Del Chiaro
California Solar & Storage Association
1107 9th Street
Sacramento, CA 95814

Re: Your May 20, 2019 Request for a Meeting

Dear Ms. Del Chiaro:

April 29, 2019, you sent an email that included the following request:

> *When the CSLB board voted in March to open up a rule making on the issue of storage licensing classifications, a question was asked of CSLB legal counsel immediately before the vote that "no changes" would be made to eligibility of licenses prior to the rule making process and that any changes to eligibility would come before the board before being made final. Revoking the eligibility of a C46 contractor to modify an existing PV system with a battery is clearly a change in eligibility and a departure from current practices. Could you please have the CSLB clarify that no changes should be made prior to a full rule making process concludes and the board has had a chance to vote on any changes.*

The Contractors State License Board (CSLB) is not "revoking" the eligibility of a C-46 contractor to contract for the installation of an energy storage system (ESS) when a preexisting photovoltaic system was already installed. CSLB never authorized this practice. On May 14, 2019, CSLB provided you a letter from its Classification Deputy, Hal Clay, (dated May 10, 2019) confirming he found no evidence the Board ever authorized this practice.

Please know that CSLB staff was instructed not to make any ESS determinations that are contrary to current practice until the regulatory process concludes. Mr. Clay's letter confirmed what the current practice is by including four related classification opinions dating from July 5, 2005 to April 3, 2019. The classification opinions confirmed CSLB has only authorized a C46 solar contractor to install an ESS at the time of the photovoltaic installation. CSLB's policy has not changed in this regard.

On May 20, 2019, you sent an email in response to Mr. Clay's letter that included the following request:

> *The legal and policy rationale for CSLB's apparent decision to restrict the C46 classification from modifying an existing solar PV system by adding battery storage remains an unanswered question and major issue for the California Solar & Storage Association and one we would like to better understand. This decision is already causing financial harm to our companies and market disruption. We respectfully request an In-person meeting with you and any other CSLB personnel you believe appropriate at your earliest convenience.*

As referenced in Mr. Clay's May 14, 2019 letter and as articulated in the Energy Storage Systems Report, this policy determination is based upon the CSLB's regulatory text and the historical interpretation of that regulation. Specifically, Title 16, California Code of Regulations section 832.46 states, in pertinent part, that a "licensee classified in this section shall not undertake or perform building or construction trades, crafts or skills, except when required to **install** a thermal or photovoltaic system (emphasis added)." The CSLB has interpreted this language to mean that if the construction contract calls for ESS installation alone ("stand-alone contract"), and not as part of a thermal or photovoltaic solar energy system installation (PVI), the C-46 solar contractor would be working out of class to perform such stand-alone contract work. To interpret the regulation to allow a C-46 solar contractor to install an electric device such as an ESS independent of a PVI would, in the CSLB's view, render this last sentence of the regulation meaningless.

On March 21, 2019, the board unanimously adopted a motion that requires staff to, in part, draft a proposed regulatory package for board consideration that would prohibit or restrict certain contractor classifications from performing the installation of an ESS. At that time, the board confirmed that changes would not be made to established ESS classification determinations outside of the regulatory process. Staff are currently following that direction.

Thank you for your request for a meeting. Due to current workload priorities and the upcoming board meeting, a meeting to discuss C-46 scope and practice is not currently possible. Please provide anticipated availability beginning the last two weeks of June if you would like to participate in a meeting with stakeholders on this issue. We will of course keep you informed regarding the regulatory hearing process, during which there will be opportunity to voice your concerns/suggestions regarding C-46 scope and practice as well.

Sincerely,

Justin Paddock

Justin Paddock
Chief of Licensing and Examinations

CALIFORNIA SOLAR + STORAGE ASSOCIATION
smart local energy

June 15, 2022

Via electronic mail.

Contractors State License Board
David.Fogt@cslb.ca.gov

Re: C-46 Solar Contractors and Battery Energy Storage Systems (Agenda Item H)

Dear Chair Granzella and Honorable Members of the Board,

The latest proposed regulation, to preclude C-46 solar contractors from installing Battery Energy Storage Systems exceeding 80 kWh, continues to be a solution in search of a problem. Nothing in the June 3 BESS report justifies this proposed restriction. Our members have appeared before the Board numerous times over the past five years, urging the Board to consider the practical impacts of artificially low limits on BESS installations. During that time, hypothesized safety incidents have not materialized. Instead, the demand for solar and storage projects continues to grow, both in terms of the number of projects and in the size of the systems installed. Solar contractors have built their businesses to meet this demand and their qualified workers are the most experienced to perform this work. We urge you to allow them to continue to do so.

The proposed 80 kWh threshold would cut off a significant and growing portion of C-46 solar contractors' work.

Consider the following: A single Tesla Powerpack for small businesses and off-grid homes has a 232 kWh capacity. Powerpack installations are typical for solar contractors who perform commercial work as a part of their business. This is most common for small solar contractor businesses and those operating in rural areas. The demand for commercial solar and storage projects, and associated Powerpack installations, will steadily increase as new development is required to comply with the California Energy Commissions' new Building Energy Efficiency Standards.

Even today, on a capacity basis (considering the total kWhs installed), commercial projects represent more than a third of the total solar and storage market, based on California Distributed Generation Statistics data. And over half (52%) of those commercial projects are installed by contractors holding a C-46 classification, according to the UC Berkely Labor Center report.

The proposed rule would cut solar contractors out from this significant, and growing market. According to the interconnection database, 381 BESS exceeding 80 kWh were installed between 2016 and August 2021 on commercial, grid-tied projects. This means an 80 kWh threshold would cut off over half of the recent commercial market in terms of

number of projects, and it would cut off *96 percent* of the commercial market based on capacity installed from 2020 to August 2021. For solar contractors, installed capacity drives business health.

This is not just an issue for commercial projects, however. Powerpacks have also been installed by solar contractors for off-grid homes, such as one recently featured in the New York Times. *Citing more blackouts, wildfires and higher electricity rates, a growing number of homeowners are choosing to build homes that run entirely on solar panels and batteries.* (March 13, 2022), available at https://www.nytimes.com/2022/03/13/business/energy-environment/california-off-grid.html. Even grid-tied homes can have storage demands that exceed 80 kWh, and solar contractors have been installing these larger residential solar and storage systems. According to the interconnection database, there are over 663 grid-tied residential energy storage systems above 80 kWh. A review of the data shows that 36 separate companies installed these systems between 2016 and August, 2021 and over 50 percent of them (20 companies) held a C-46 license classification. Demand for these larger systems will continue to grow as Californians electrify their HVAC, water heating, kitchen equipment, and transportation.

Considering commercial and residential projects together, from 2016 through 2021, there were 768 grid-tied solar and storage projects with battery systems *exceeding* 80 kWh. Of the 573 systems between 80 and 280 kWh, 67 percent of them were installed by contractors holding a C-46 solar license classification.

The proposed 80 kWh threshold would thus cut off a significant, and growing portion of solar contractors' work and would limit the number of qualified contractors *and workers* available to install Powerpacks and other energy storage products.

This is not just an issue for contractors that hold only a C-46 license. It is also an issue for dual license holders. As we have stated before, limiting the scope of the C-46 license would require contractors with both a C-46 and C-10 classification replace their qualified solar workers with certified electricians for solar and storage jobs outside of the C-46 scope. Or, more likely, they would need to cease taking these jobs, as hiring certified electricians during a recognized national shortage has proven to be difficult if not impossible for the solar industry. There are also significant barriers that prevent current solar workers, many of whom are from disadvantaged communities, from becoming certified electricians to fill this gap.

Solar contractors routinely tie into three-phase electrical systems safely and a rule based on the June report's rationale would be arbitrary.

There is no safety justification for such a harmful 80 kWh limit that would prohibit solar contractors from installing batteries such as the Tesla Powerpack. Indeed, in a November 30, 2021 letter to the Board, the Chair of the California Energy Commission stated that "C-46 solar contracts have consistently delivered safe installations" and urged the Board to consider that implementing new solar and storage building standards "will be dependent on

well-trained and skilled contractors with *demonstrated experience* in installing these combined systems." Tesla likewise previously wrote to the Board stating, "As you know, C-46 license holders can and have installed solar and energy storage systems for decades. As a manufacturer and installer that is active in California, our company has worked with C-46 contractors for years and found no lack of knowledge, skill or training needed to properly install our energy products."

The June 3, 2022 Battery Energy Storge System Report concludes that "within an 80 kWh threshold, the available evidence does not demonstrate increased incidents of consumer harm based on the classification type of the installer." But the same can be said for a 1 mWh, 600 kWh, or 280 kWh threshold based on the evidence reviewed in the report.

The June BESS Report attempts to justify an 80 kWh threshold by claiming that these larger batteries would more typically tie into a "three-phase" electrical system. In the view of the consultants, connecting to a three-phase system "would fall outside of the C-46 classification because it involves knowledge and skill of a more complex electrical system" and would "typically exceed the knowledge and skill of a C-46 contractor." In reality, C-46 solar contractors have experience safely interconnecting BESS to three-phase systems. C-46 contractors also have experience connecting PV solar panels to three-phase systems, the knowledge of which carries over to BESS.

Even the Report's consultants contradict themselves on this point. The Report earlier notes that the consultants agreed with CALSSA's statement that batteries do not present higher risk of main service panel overloads than solar systems alone and that "[t]he formulas for wire sizing and breaker sizing are the same." The consultants agreed that "the electrical theory does not change" depending on what is connecting to the panels. Report, p. 8. Not only have solar contractors been connecting batteries to three-phase systems without incidents as discussed above, they connect PV solar systems alone to three-phase systems on a daily basis—all without incident. It would thus be arbitrary to prohibit solar contractors from tying batteries to three-phase systems when solar contractors routinely and safely tie solar panels to these same three-phase systems.

C-46 solar contractors routinely install PV solar panels on commercial, multi-family, and large residential buildings with three-phase electrical systems and they apply this same knowledge and skill when installing BESS. The C-46 License Exam Study Guide thus includes the following electrical resources in their entirety (in addition to references specific to solar and storage installations):

- California Electrical Code
- California Building Code
- NEC Analysis of Changes
- Ugly's Electrical References
- State of California General Industry and Electrical Safety Orders
- State of California Construction and Electrical Safety Orders

The June BESS Report acknowledged that C-46 contractors are required to know the portions of the California Electrical Code that relate to solar PV systems and the devices that connect to them, including BESS. Both the California Building Code and the California Electrical Code include three-phase requirements. If solar contractors know these electrical requirements for PV systems that tie into three-phase systems, they know them for BESS as well.

Additionally, the report states that "the C-10 license examination contains extensive questions on the tools, methods, and procedures to test for voltage, current, resistance, phase rotation, and polarity, the methods for calculating electrical loads, voltages, and currents (e.g., Ohm's Law), protection devices (e.g., overcurrent, overload, fault current, GFCI, GFEP, and shunt-trip devices) for circuits," implying that these topics are the exclusive expertise of C-10 license holders. In reality, C-46 license holders have knowledge of the topics in the list as well because that knowledge is needed regardless of whether the system is single-phase or three-phase. These topics are all covered with the study guide resources for the C-46 examination. See "Contractor's State License Board License Examination Study Guide (Solar C-46)," available at https://www.cslb.ca.gov/Resources/StudyGuides/C46StudyGuide.pdf.

Lastly, 80 kWh is not a proxy for three-phase systems and the threshold is thus irrational on that basis alone. Many single-phase systems are larger than 80 kWh and many three-phase systems are smaller than 80 kWh. There is no building code or standard that dictates that a commercial site has to utilize a three-phase service. Residential and commercial have no bearing on utility service size or type aside from a minimum power capacity.

Any BESS regulation must allow C-46 solar contractors to install batteries within the threshold <u>to existing solar panels</u> and to repair batteries that they have already installed.

Under a CSLB misinterpretation of current regulations, solar contractors are prohibited from adding a battery to existing PV solar panels. There is no justification for allowing the installation of batteries at the same time as the solar panels, but prohibiting that same battery installation if it occurs later in time under a separate contract. CSLB's misinterpretation is simply based on semantics and there is a chance to correct this pointless anomaly during rulemaking.

Doing so will also remove the catch 22 that many solar customers wishing to add a storage component to their solar energy systems now face: if they want to maintain the warranty on their solar panels, they must hire the same contractor to install and connect the batteries, but they cannot hire that contractor because CSLB's misinterpretation prevents the contractor from doing the work.

Any draft regulation that the Board authorizes for rulemaking must clarify that solar contractors may install batteries within the C-46 threshold to existing solar panels. It must also grandfather in maintenance work on batteries that solar contractors previously

installed. These clarifications would allow contractors to fulfill their contractual obligations and allow customers to maintain the warranty on their systems. They would also remove a current roadblock to help address the state's shortage of energy storage capacity, a shortage that led the Governor to proclaim a state of emergency in 2021.

The Board must consider alternative thresholds that would have fewer economic and environmental impacts.

CALSSA stands firm behind the long track record of safe battery installations performed by C-46 solar contractors. We have noted a number of times that C-46 contractors have been installing BESS safely for decades and that neither CSLB nor the U.C. Berkeley Labor Center, nor the consultants most recently met with, were able to identify a single incident involving BESS that could have been prevented by regulating the customer-side installations performed by solar contractors in California. Existing laws extensively regulate the batteries that solar contractors install, as well as installation procedures, and that these regulations have been working well to protect workers and the public.

Nonetheless, we recognize that utility and utility-scale battery installations pose unique challenges and may require installations by a separate contractor class. Accordingly, in November of last year we proposed an alternative rule that would prohibit C-46 contractors from installing BESS unless the system had an energy capacity of less than 1 megawatt-hour (1,000 kWh). This is the common threshold for utility and utility-scale systems. See, for example, U.S. Energy Information Administration, (July 2019), *U.S. utility-scale battery storage capacity to grow substantially by 2023* ("Utility-scale battery storage units (units of one megawatt (MW) or greater power capacity) are a newer electric power resource, and their use has been growing in recent years.").

We have also noted that if the CSLB wishes to tie battery capacity limits to the California Fire Code, the more appropriate table would be Table 1206.5, which sets maximum allowable quantities (meaning storage capacities) above which stricter fire-safety standards apply. For instance, BESS in rooms can exceed limits in Table 1206.5 by following additional safety precautions determined by hazard mitigation analyses CFC § 1206.5.2. In other words, the experts drafting the Fire Code felt comfortable that installations of BESS at or below the limits in Table 1206.5 do not require an extensive safety analysis. The limit for lithium-ion and flow batteries under Table 1206.5 is 600 kWh.

Even if the Board wishes to tie the BESS regulation to the thresholds in California Fire Code section 1206.11 and California Residential Code Section R327.5, which is where the proposed 80 kWh threshold derives from, the more appropriate number from those tables would be the total maximum threshold of 280 kWh for a single residence. The Office of the State Fire Marshal recently issued a code interpretation confirming that "[t]he maximum energy rating permitted by this section is 280 kWh if all four location types are utilized." Code Interpretation 21-011 (March 30, 2022).

All of these alternative thresholds would have fewer economic impacts on solar contractors and their qualified workers, while also avoiding many of the significant environmental impacts that will occur from an 80 kWh threshold that will slow down the deployment of desperately needed solar and storage projects. The Board must consider them closely.

Indeed, as we previously advised the Board in a November 23, 2021 letter from Shute, Mihaly & Weinberger, LLP, because the proposed regulation is capable of causing a reasonably foreseeable indirect physical change in the environment (for the reasons stated in the letter, which hold true for a 80 kWh threshold), the Board must study the potential environmental impacts under the California Environmental Quality Act before it authorizes adoption of the regulation. 14 Cal. Code Regs. § 15063.

At the very least, the Board should refer the proposed regulation to its Legislative Committee. This is the first time the Board and the public have seen the draft regulatory text and the threshold is apparently based on a rationale not raised before in these proceedings. The Legislative Committee is the appropriate forum to provide a focused review of any draft CSLB regulation. This would also allow for a more in-depth review of the June BESS Report.

Sincerely,

Bernadette Del Chiaro

Executive Director, CALSSA

March 29, 2022

Via electronic mail

David Fogt, Registrar of Contractors
Contractors State License Board
David.Fogt@cslb.ca.gov

Re: Battery Energy Storage Systems: Agenda Item 3(c)

Dear Chair Granzella and Honorable Members of the Board,

After considering submitted evidence and public testimony at its November 29, 2021 meeting, the Board declined to move forward with the proposed rule that would have entirely prohibited C-46 solar contractors from installing Battery Energy Storage Systems. Board members expressed the following concerns regarding this sweeping proposal:

- the magnitude of the decision on the industry;
- impacts to hundreds of small contractors, especially women and minority owned contractors;
- businesses closing and solar installers being put out of work;
- impacts to formerly incarcerated employees;
- barriers to becoming a certified electrician;
- impacts to state goals for alternative energy;
- the fact that installations have been occurring without errors; and
- a contested and lengthy rulemaking process with potential litigation.

These concerns remain today. We urge the Board not to sink more time and money into a rule that is unjustified, unnecessary, and incredibly damaging to the solar industry and its workers. I am resending our November 24, 2021 letter to the Board regarding the proposed rule. It includes 1) CALSSA's response to the U.C. Berkeley Labor Center Report, including factual errors contained in that report, and the Report's unsupported recommendation; 2) declaration of Jeanine Cotter, owner of Luminalt; 3) declaration of Luke Miller, owner of SolarHut; 4) declaration of Scott Ryan, owner of SunPower by Sun Solar; 4) CALSSA's letter objecting to the Labor Center selection; and 5) a letter from Shute, Mihaly & Weinger, LLP explaining that adopting the proposed rule would be unlawful in a number of respects.

I. CALSSA Has Offered Two Compromise Proposals with Reasonable 1 MWh and 600 kWh Thresholds.

To be clear, we stand firm behind the long track record of safe battery installations performed by C-46 solar contractors. We have noted a number of times that C-46 contractors have been installing BESS safely for decades and that neither CSLB nor the U.C. Berkeley Labor Center were able to identify a single incident involving BESS that could have been prevented by regulating the customer-side installations performed by solar contractors in California. This said, our November letter did include an alternative proposed rule. We recognized that although the Labor Center Report did not identify any incidents involving residential or commercial installations for customers in California, it did identify incidents in other states that could support additional regulations for utility-scale installations. Accordingly, we proposed an alternative rule that would prohibit C-46 contractors from installing BESS unless the system had an energy capacity of less than 1 megawatt-hour (1,000 kWh). This is the common threshold for utility and utility-scale systems. See, for example, U.S. Energy Information Administration, (July 2019), *U.S. utility-scale battery storage capacity to grow substantially by 2023* ("Utility-scale battery storage units (units of one megawatt (MW) or greater power capacity) are a newer electric power resource, and their use has been growing in recent years."). CALSSA still believes that this is the most appropriate threshold for any regulation to set, and we urge the Board to consider it.

At its November meeting last year, the Board also directed staff to develop alternative regulatory language that may be acceptable to the stakeholders. In January, staff presented a proposed rule based on building occupancies to CALSSA and IBEW/NECA and scheduled a Legislative Committee meeting to consider that proposed rule. Because IBEW/NECA and CALSSA objected to the proposed language, there was not agreed upon language for the Legislative Committee to consider. Staff decided to provide an update to the Committee and return to the Committee if the parties could later negotiate a mutually acceptable rule.

IBEW/NECA reintroduced a proposal it had previously made, that would prohibit solar contractors from installing BESS with a storage capacity of 20 kWh (for lithium and flow batteries) or more, along with other limits. CALSSA could not agree to these dramatic and unjustified restrictions. Our letter, linked on page 2 of your staff report, explains in detail how IBEW's threshold, referencing Fire Code Table 1206.1, is not justified and how it would severely limit solar and storage installations commonly performed by solar contractors and their qualified workers—at a time when the need for solar and storage projects is spiking.

The record demonstrates that existing laws set by expert state agencies and commissions extensively regulate the batteries that solar contractors install as well as installation standards and procedures (including verifications by building officials) and that these regulations have been working very well to protect both workers and residential and commercial customers in California. Nonetheless, in an effort to reach an agreed upon threshold, CALSSA further reduced its proposed threshold to below utility-scale installations.

We noted that if the CSLB wishes to tie battery capacity limits to the California Fire Code, the more appropriate table would be Table 1206.5, which sets maximum allowable quantities (meaning storage capacities) above which stricter fire-safety standards apply. For

instance, BESS in rooms can exceed limits in Table 1206.5 by following additional safety precautions determined by hazard mitigation analyses CFC § 1206.5.2. In other words, the experts drafting the Fire Code felt comfortable that installations of BESS at or below the limits in Table 1206.5 do not require an extensive safety analysis. The limit for lithium-ion and flow batteries under Table 1206.5 is 600 kWh.

II. The 50 kWh threshold in the Fire Code Simply Regulates the Spacing of Batteries and Thus Provides No Reason to Require Certified Electricians for Work Above those Thresholds.

Staff now proposes to explore an alternative threshold and they suggest a 50 kWh range. This number comes from the California Fire Code section 1206.5.1 discussed on the bottom of page 9 of the staff report. That section regulates the physical "separation" of electrochemical storage systems, such as batteries, and provides that BESS "shall be segregated into groups not exceeding 50 kWh. Each group shall be separated a minimum 3 feet from other groups and from walls in the storage room or area." Energy storage devices, like the Tesla Powerwall, can be stacked together, several deep up against a wall, for example. When placing individual BESS units the contractor must not group units together in excess of 50 kWh. If a larger battery system is installed for the customer, the remaining batteries must be placed at least three feet from the other group of batteries. You do not need to be a certified electrician to figure out how to comply with this standard for spacing battery systems exceeding an aggregate 50 kWh. This regulation would be a completely arbitrary basis for limiting the scope of a C-46 license.

To be clear, section 1206.5.1 does not limit the size of BESS that can be installed without performing large-scale fire testing. That threshold is contained in Table 1206.5—which forms the basis for a 600 kWh threshold.

Additionally, the 50 kWh grouping threshold is found only in the Fire Code and therefore pertains only to commercial systems. Contractors are allowed to group BESS units together so that the capacity exceeds 50 kWh for one- and two-family homes following the Residential Code.

III. A 50 kWh Threshold Is Not Consistent with Established Usage in the Solar Industry, Would Harm Solar Contractors and Their Workers, and Would Impede State Renewable Energy Goals.

The staff report states that somewhere between 97 and 99 percent of residential BESS installations are between 30 or 50 kWh in capacity. This is factually incorrect as well as a very misleading statement and CALSSA does not agree with it.

To begin with, by staff's own admission, CSLB's regulation of the scope of trade for specialty contractors must be done in a manner consistent with established usage and procedures in the construction business. It is well established that C-46 contractors install BESS in grid-tied residential, off-grid residential, and commercial solar energy systems. Staff's statement does not capture all of these established usages.

For the commercial market, 2.6% of BESS installed between 2016 and August 2021 were at or below 50 kWh. This means a 50 kWh threshold would cut off more than 97 percent of the current commercial market. More than half of this energy storage capacity was installed by contractors holding a C-46 license.

Even installation of a Tesla Powerpack would be prohibited by a 50 kWh threshold. Powerpacks are fully integrated, AC-connected energy storage system that dramatically simplify installation, integration, and support. Tesla is the dominant market for storage in the state of California and Powerpacks will serve much of the commercial solar and storage projects required by the CEC's new building standards.

A single Tesla Powerpack for small businesses and off-grid homes has a 232 kWh capacity. These batteries are typical for solar contractors who do not exclusively work in the grid-tied residential space but rather offer their services to homes and businesses in their region. This is most common in rural areas and for small businesses. Tesla previously wrote to the Board on this very topic stating, "As you know, C-46 license holders can and have installed solar and energy storage systems for decades. As a manufacturer and installer that is active in California, our company has worked with C-46 contractors for years and found no lack of knowledge, skill or training needed to properly install our energy products." A threshold below 230 kWh would thus cut off a significant, and growing portion of these contractors' work and would limit the number of qualified contractors available to install Tesla and other energy storage products.

For the grid-tied residential market, there are over 12,000 residential energy storage systems above 50 kWh according to the interconnection database, and the clear trend in the market is toward larger batteries in grid-tied homes.

Finally, staff's figures ignore the off-grid residential solar and storage systems, a market that has been dominated by C-46 solar contractors since the license was created over four decades ago. This, truly, is their specialty. Off-grid systems necessarily include batteries, and the storage demands for a residential home start at 50 kWh and go way beyond that to be able to provide power during the evening hours.

A recent New Your Times article highlighted the growing demand for these residential off-grid systems, driven in part by increasingly prevalent and prolonged utility power shutdowns. The article is attached at the end of this letter. Projects featured in this article include storage capacity over 50 kWh installed by C-46 contractors.

Businesses are building and hiring workers now to address spiking demand for battery and storage projects in California. Much of that demand will be filled by much larger BESS than are prevalent in today's market. Trends show that battery unit size and system size are growing. At the same time, they are being designed to meet even stricter product safety standards.

Given that the CSLB has failed to identify any real (as opposed to hypothetical) safety issues with the work of C-46 solar contractors, and given that, in contrast, CSLB has been given ample data showing that C-46 contractors are safely installing solar and energy storage systems by the thousands every month, it would be irresponsible to upend licensing regulations now

when hundreds of contractors have relied on this classification to build their businesses and support their trained and qualified workforce.

IV. The Staff Report Fails to Mention the 280 Aggregate Threshold in the Residential and Fire Codes

Finally, we would like to clarify staff's summary of the California Residential Code, Section R327.5, which sets maximum kWh thresholds for BESS installed in various locations throughout a residence (for example, utility closets, garages, on exterior walls, and outdoors on the ground). When considered together, these regulations create a total maximum threshold of 280 kWh for a single residence. If this threshold of 280 kWh, or any threshold for a particular location, is exceeded, the Fire Code regulations for BESS would apply to those systems. This standard is repeated in section 1206.11.4 of the California Fire Code. This 280 kWh threshold should be included in the list of thresholds being considered by the Board.

In conclusion, CALSSA urges the CSLB to provide solar contractors a reasonable level of flexibility to meet current and future market demands paired with the ability to connect these batteries to existing solar panels and to maintain existing batteries—it may do so while also providing additional licensing requirements for larger systems.

We look forward to discussing these issues further.

Sincerely,

Bernadette Del Chiaro, Executive Director
California Solar and Storage Association

ATTACHED:
CALSSA November 24, 2021 letter to the Board
New York Times article

February 23, 2022

David Fogt, Registrar of Contractors
Contractors State License Board
David.Fogt@cslb.ca.gov

Dear Registrar Fogt,

CALSSA appreciates that the Contractors State License Board is working to develop a reasonable alternative to the devastating and unjustified proposal to entirely prohibit solar contractors from installing Battery Energy Storage Systems with their qualified workforce—work that they have been safely performing under the C-46 license classification for over 40 years.

It was unfortunate that when you invited CALSSA, IBEW, and NECA to discuss staff's proposed alternative regulation, IBEW and NECA responded by submitting a 25-page letter written by their attorneys. That is not a very productive beginning to assist CSLB in developing a regulation that could be supported by all parties, as the Board requested. Nevertheless, we agree with IBEW on several points and remain hopeful that if the parties focus on a common-sense regulation, we can come to agreement on proposed language.

Given that the IBEW has rejected staff's proposed alternative, this letter focuses on responding to IBEW's proposal. We have had numerous conversations with solar representatives and other stakeholders over the past few weeks to discuss IBEW's proposed rule and how to build upon it. CALSSA's proposed rule, building on the IBEW proposal, is included in Attachment 1 to this letter. CALSSA would welcome a meeting with representatives of the stakeholders and CSLB to help move discussions along in a productive and expedited manner.

<u>CALSSA agrees with IBEW that building occupancies should not be the basis for a regulatory limit, and that the definition of BESS should be modified.</u>

We agree with IBEW that the CSLB should not base a regulatory threshold for BESS on a building's occupancy. The occupancy and building thresholds proposed by staff would create confusion, for instance in mixed-use buildings, and would prohibit much of the residential and commercial work that solar contractors commonly perform without a basis for making these distinctions. We also agree with IBEW that a regulatory threshold, if any, should be based on the size of the BESS.

To be clear, we stand firm behind the long track record of safe battery installations performed by C-46 solar contractors. We have noted a number of times that C-46 contractors have been installing BESS safely for decades and that neither CSLB nor the U.C. Berkeley Labor Center

were able to identify a single incident involving BESS that could have been prevented by regulating the customer-side installations performed by solar contractors in California. The

BESS reports also fail to recognize that existing laws extensively regulate the batteries that solar contractors install, as well as installation procedures, and that these regulations have been working well to protect workers and the public. Our November 24, 2021 letter to CSLB discusses these protections and the deficiencies in the Labor Center report in detail. I am also attaching a November 30, 2021 letter from the Chair of the California Energy Commission stating that "C-46 solar contracts have consistently delivered safe installations" and discussing the stringent safety standards for batteries. See Attachment 2.

Nonetheless, CALSSA would not oppose reasonable and practical limits on C-46 contractors with respect to the size of the battery. We recognize that utility and utility-scale battery installations pose unique challenges and may require installations by a separate contractor class. Accordingly, in November of last year, CALSSA proposed to the Board an alternative that would have prohibited C-46 solar contractors from installing BESS unless the system had an energy capacity of less than 1 megawatt-hour (1,000 kWh), the common threshold for utility and utility-scale systems. The incidents identified by the Labor Center report could support such an approach. In an effort to reach agreement, however, we consider and propose other alternatives as discussed below.

CALSSA also agrees with IBEW that staff's proposed definition of BESS should be modified. We do not object to referring to "associated components" instead of "associated electrical equipment." However, contrary to IBEW's claims, many associated components do include electrical writing and equipment. Of course, the solar panels and equipment associated with the panels are still a part of the solar energy system independent of the battery. We added language to the end of paragraph (c) to clarify this. We also deleted reference to BESS providing power to "a building," as solar and storage projects may power other structures as well, such as well pumps, pool pumps, EV chargers, and air conditioners mounted outside a building. We similarly deleted the incomplete list of uses for the electrical power. Finally, we replaced "dispatch" electrical power with "discharge" electrical power because sometimes the power is dispatched external to the battery. We agree with IBEW's other edits to the BESS definition.

<u>IBEW's proposed thresholds are not justified.</u>

IBEW proposes prohibiting solar contractors from installing battery systems 50 to 100 times smaller than that the reasonable utility-scale threshold previously proposed by CALSSA. Under the IBEW's proposal, solar contractors would be prohibited from installing any single battery with a power capacity (maximum output) of 20 kW or greater. They would also be prohibited from installing any system with a single or aggregate storage capacity of 20 kWh (for lithium and flow batteries). IBEW alternatively suggests a 10 kWh aggregate threshold for any battery type.

CALSSA cannot agree with these dramatic restrictions. To begin with, they are not justified. IBEW again raises hypothetical risks that fail to recognize existing product and regulatory

protections, installer trainings, and the proven effectiveness of those protections, as well as the extensive and safe track record in jobs performed by solar contractors.

Further, IBEW does not reference a regulatory or other basis for its proposed 20 kW power capacity threshold. The threshold is arbitrary and should thus be dismissed out of hand.

IBEW bases its battery storage capacity limit on California Fire Code Table 1206.1, which sets energy storage capacity thresholds above which minimum Fire Code requirements apply. (Note that the California Building Standards Commission issued a July 1, 2021 supplement to the 2019 Fire Code that completely replaced section 1206 regarding energy storage systems. Most of IBEW's code references are thus out of date, including its reference to Table 1206.2, which is now Table 1206.1). These kWh thresholds are likewise unjustified.

Certified electrician training is not required to comply with the minimum standards in the Fire Code. For instance, these standards require contractors to submit construction documents and plans for commissioning, provide operations manuals to the owners, and follow requirements for signage, clearance, fire-resistant separations, and security.

Moreover, the requirements that the IBEW highlight demonstrate that these regulations already protect against the very risks they claim need to be addressed. For instance, the Code's "thermal runaway" requirement provides that "batteries and other ESS shall be provided with a listed device or other approved method to prevent, detect and minimize the impact of thermal runaway." CFC § 1206.6.5. In other words, this is a standard that the product to be installed must meet, not a standard on how the installation is performed.

If the CSLB wishes to tie battery capacity limits to the California Fire Code, the more appropriate table would be Table 1206.5, which sets maximum allowable quantities (meaning storage capacities) above which stricter fire-safety standards apply. For instance, to exceed limits in Table 1206.5, a hazard mitigation analysis and large scale fire test must be provided. CFC § 1206.5.2. In other words, the experts drafting the Fire Code felt comfortable that installations of BESS at or below the limits in Table 1206.5 do not require an extensive safety analysis. The limit for lithium-ion and flow batteries under Table 1206.5 is 600 kWh as shown below.

TABLE 1206.5
Maximum Allowable Quantities of Electrochemical ESS

Technology	Maximum Allowable Quantities
Storage Batteries	
Lead-acid, all types	Unlimited
Nickel-cadmium (Ni-Cd)	Unlimited
Nickel-metal hydride (Ni-MH)	Unlimited
Lithium-ion	600 kWh
Flow batteries	600 kWh
Other battery technologies	200 kWh

CALSSA's attached proposed rule deletes reference to the baseless 20 kWh power capacity limit and replaces the reference to the outdated minimum threshold in Table 1206.2 with the 600 kWh limit in Table 1206.5. Note that the battery technologies with unlimited thresholds in Table1206.5 are older technologies. The vast majority of battery installations today and in the foreseeable future will be lithium-ion batteries and flow batteries. Accordingly, it is reasonable to apply the 600 kWh limit to all battery technologies.

IBEW's proposed thresholds would severely limit solar and storage installations commonly performed by solar contractors and their qualified workers—at a time when the need for solar and storage projects is spiking.

In addition to lacking a justification, IBEW's 20 kW/20 kWh thresholds would have severe economic consequences for many solar contractors and their qualified workers. For example, commercial solar and storage projects are often 600 kWh or less. Similarly, a single Tesla Powerpack for small businesses and off-grid homes has a 232 kWh capacity. These batteries are often strung together and are typical for solar contractors who do not exclusively work in the residential space but rather offer their services to homes and businesses in their region. This is most common in rural areas and for small businesses.

For solar contractors who do specialize in residential projects, the IBEW proposal would restrict a significant portion of that work. For example, a Tesla Powerwall has 13.5 kWh capacity, and many homes require at least two Powerwalls, if not more, particularly for whole home backup.

IBEW's proposed limits would particularly harm small-businesses and workers from disadvantaged communities. For example, our November 2021 letter to the Board included a declaration from Jeanine Cotter, co-founder and CEO of Luminalt, a majority women-owned construction company dedicated to a diverse workforce. In 2008, Luminalt was San Francisco's first GoSolarSF workforce development certified company. Since then, Luminalt has hired and trained individuals with barriers to employment to work exclusively on solar and solar paired storage projects. Luminalt is a Tesla Powerwall certified installer and a significant portion of its installations involve two or more Powerwalls. IBEW's proposed threshold would therefore severely limit Luminalt's work, as only one of its 51 employees is a certified electrician. This also means that the company is limited to one electrical trainee under 1:1 supervision requirements. If the IBEW's proposed rule were adopted, it would prohibit Luminalt from being able to use its trained diverse workforce on precisely the type of projects it has successfully been building as a core part of its business.

The impact to Luminalt is not unique. Our November 2021 letter also included a declaration from Luke Miller, owner of SolarHut, LLC, a family-owned company with four installer employees. On average in the last two years, over a third of SolarHut's solar and storage projects exceeded 20 kWh. And over the last six months, the company has installed a significantly higher amount of projects with batteries.

Contrary to IBEW's claims, its proposed rule would dramatically restrict the contractors available to install solar and storage projects increasingly demanded by Californians. IBEW relies on the Self Generation Incentive Program (SGIP) database to argue that 80 percent of residential BESS projects have a storage capacity under 20 kWh. But even based on this data, that means that solar contactors would have been prohibited from installing 2,787 residential solar and storage projects between 2017 and August 2019. And those are only the projects that received a rebate. Many did not.

Not only has residential demand for solar and storage continued to grow since 2019, the SGIP database captures only those projects that received an incentive under the program, which is

limited. The more complete database to review is the interconnection database, which captures roughly 80 percent of the grid-tied solar and storage projects in California.

CALSSA reviewed interconnection data for solar and storage projects completed between January 2020 and August 2021. As shown in the below table, we found that under IBEW's proposed 20 kWh limit, solar contractors would have been precluded from installing 13,388 residential projects—representing over *one third* of all residential projects. And they would have been precluded from installing *over 70 percent* of commercial projects.

Energy Storage System Capacity (kWh)				
Project Type/Size	**2020 tally**	**2021 tally**	**2020 + 2021**	**% of market**
Residential				
# ≤ 20 kWh	11,181	12,219	23,400	63.6%
# ≤ 20 kWh	5,557	7,831	13,388	36.4%
Total	16,738	20,050	36,788	100%
Commercial				
# ≤ 20 kWh	28	94	122	28.4%
# ≤ 20 kWh	183	125	308	71.6%
Total	211	219	430	100%

Given these restrictions, IBEW's proposal would severely hamper implementation of State programs that aim to dramatically increase the deployment of battery storage in California. For example, the California Energy Commission's updated Building Energy Efficiency Standards require solar panels and battery storage on new commercial buildings beginning in 2023. The BESS required for this construction would often exceed the limits proposed by the IBEW.

Thus, solar contractors, who currently perform over 80 percent of battery installations, would need to obtain a C-10 classification if they don't already have one *and* find certified electricians to supplement or replace their existing qualified solar workers. Even if solar contractors could subcontract with C-10 contractors, this still does not address the critical shortage of certified electricians to perform the work.

Further, solar contractors and their qualified workforce have extensive experience and safety and installation trainings specific to battery storage for solar projects. As the California Energy

Commission's letter urges, "Delivery of battery systems in compliance with the CEC's Building Energy Efficiency Standards will be dependent on well-trained and skilled contractors with *demonstrated experience* in installing these combined systems."

IBEW claims that its proposal would only impact contractors who have a C-46 license with no other classification and that those contractors install less than 3 percent of all solar and storage projects. IBEW's perspective is from a fantasy world. As CALSSA explained in our November 24, 2021 letter to the Board, while many C-46 solar contractors also have a C-10 electrical classification, they install the vast majority of solar and storge projects under their C-46 license. One only need pull the building permits to confirm this. As a result, any restriction on battery installations would actually impact C-46 contractors who currently perform over *80 percent* of solar and storage projects (contractors holding a C-46 license plus those that hold a C-46 and C-10 classification, based on the Labor Center's evaluation of the Interconnection Dataset).

<u>Rulemaking must clarify that solar contractors may install qualifying batteries to existing photovoltaic (PV) solar panels and maintain the batteries they have already installed.</u>

Under a CSLB misinterpretation of current regulations, solar contractors are prohibited from adding a battery to existing PV solar panels. There is no justification for allowing the installation of batteries at the same time as the solar panels, but prohibiting that same battery installation if it occurs later in time under a separate contract. CSLB's misinterpretation is simply based on semantics and there is a chance to correct this pointless anomaly during the current rulemaking.

Doing so will also remove the catch 22 that many solar customers wishing to add a storage component to their solar energy systems now face: if they want to maintain the warranty on their solar panels, they must hire the same contractor to install and connect the batteries, but they cannot hire that contractor because CSLB's misinterpretation prevents the contractor from doing the work.

By expressly stating that allowed BESS are one component of a solar energy system (which has always been the case), solar contractors could again add storage batteries to existing solar panels that they previously installed. This would allow customers to maintain the warranty on those systems. It would also remove a current roadblock to help address the state's shortage of energy storage capacity, a shortage that led the Governor to proclaim a state of emergency in 2021.

CALSSA's modification to IBEW's proposed rule thus clarifies that installing and maintaining BESS below the size limits in the C-46 classification is a part of the authorized work for solar contractors, and not simply incidental and supplemental to it. This should be obvious as staff's and IBEW's proposed regulations amend the classification to *expressly* allow for the installation of qualify BESS. (They similarly amend the C-10 classification to expressly allow for the installation of BESS). Given statements in IBEW's letter, however, we felt the regulation deserved further clarification to avoid any disputes down the road about the ability of solar contractors to connect allowed batteries to existing solar panels.

We also added a grandfather clause to allow solar contractors to maintain or repair any BESS that the contractor installed prior to the new regulations. This would allow contractors to fulfill their contractual obligations and allow the customers to maintain the warranty on those systems.

We look forward to discussing these modifications with other stakeholders and CSLB.

Sincerely,

Bernadette Del Chiaro, Executive Director
California Solar and Storage Association

ATTACHED:
Modified language redlined
Modified language clean version
November 30, 2021 letter from the Chair of the California Energy Commission

EXHIBIT A

CALSSA MODIFICATIONS TO IBEW NECA LMCC ALTERNATE PROPOSED C-46 CONTRACTOR CLASSIFICATION AMENDMENT RE BATTERY ENERGY STORAGE (REDLINE TO IBEW NECA LMCC ALTERNATIVE TO CSLB PROPOSAL)

§ 810. Definitions

(a) For purposes of this division, "battery energy storage system" means a rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, and associated components designed to absorb, store and ~~dispatch~~ *discharge* electrical power ~~to a building for the purpose of providing standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities to a building~~.

(b) For the purposes of this ~~chapter~~ division, "Board" means the Contractors State License Board and "Code," unless otherwise defined, means the Business and Professions Code.

Note: Authority cited: Section 7008, Business and Professions Code. Reference: Section 7008, Business and Professions Code.

§ 832.10, Class C-10 - Electrical Contractor

An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, battery energy storage systems, solar photovoltaic cells or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

§ 832.46. Class C-46 - Solar Contractor

(a) A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems.

(b) A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

(c) For the purposes of this section, a battery energy storage system, as defined in section 810, shall ~~not~~ be considered part of~~, required in, or incidental and supplemental to the installation of,~~ a photovoltaic solar energy system ~~unless~~ *if* it has a ~~power capacity below 20kW and a~~ storage capacity *at or* below ~~the storage system threshold quantity set forth in Table 1206.2 of the 2019 California Fire Code~~ *600 kWh*. A battery

energy storage system that ~~meets or~~ exceeds ~~*either of these*~~ *this* threshold~~s~~ shall be considered a separate system and shall not be considered incidental and supplemental to the installation of a photovoltaic solar energy system. A solar contractor may subcontract installation of a battery energystorage system of any size with an appropriately licensed contractor. *When subcontracting for the installation of a battery energy storage system of any size, a solar contractor may install all components of a photovoltaic solar energy system up to the device that stores the electrical power. Nothing in this paragraph is intended to prohibit a solar contractor from installing solar energy system components other than the battery energy storage system.*

(d) A solar contractor may modify an existing solar energy system by adding a battery energy storage system that meets the requirements of paragraph (c). A solar contractor may maintain or repair a battery energy storage system of any size that the solar contractor installed prior to the effective date of this amended section.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

§ 831. Incidental and Supplemental Defined.

(a) For purposes of Section 7059, work in other classifications is "incidental and supplemental" to the work for which a specialty contractor is licensed if that work is essential to accomplish the work in which the contractor is classified. A specialty contractor may use subcontractors to complete the incidental and supplemental work, or he may use his own employees to do so.

(b) For purposes of Section 7059 of the Code and this division, installation, connection, modification, maintenance, or repair of a battery energy storage system, as defined in section 810, is not "incidental and supplemental" to the work performed by a licensee classified as a C-46 Solar Contractor pursuant to section 832.46*, provided that installation, connection,modification, maintenance, and repair of a battery energy storage system~~, except~~ is work for which a Solar Contractor is licensed* in the circumstances described in paragraph (c) of section 832.46 *as approved by the Board on [date].*

(c) *Notwithstanding* any provision of this Section or Division*, a solar contractor may subcontract installation of a battery energy storage system of any size with an appropriately licensed contractor.*

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

EXHIBIT B

CALSSA MODIFICATIONS TO IBEW NECA LMCC ALTERNATE PROPOSED C-46 CONTRACTOR CLASSIFICATION AMENDMENT RE BATTERY ENERGY STORAGE

§ 810. Definitions

(c) For purposes of this division, "battery energy storage system" means a rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, and associated components designed to absorb, store and discharge electrical power.

(d) For the purposes of this ~~chapter~~ division, "Board" means the Contractors State License Board and "Code," unless otherwise defined, means the Business and Professions Code.

Note: Authority cited: Section 7008, Business and Professions Code. Reference: Section 7008, Business and Professions Code.

§ 832.10, Class C-10 - Electrical Contractor

An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, battery energy storage systems, solar photovoltaic cells or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

§ 832.46. Class C-46 - Solar Contractor

(c) A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems.

(d) A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

(c) For the purposes of this section, a battery energy storage system, as defined in section 810, shall be considered part of a photovoltaic solar energy system if it has a storage capacity at or below 600 kWh. A battery energy storage system that exceeds this threshold shall be considered a separate system and shall not be considered incidental and supplemental to the installation of a photovoltaic solar energy system. A

solar contractor may subcontract installation of a battery energystorage system of any size with an appropriately licensed contractor. When subcontracting for the installation of a battery energy storage system of any size, a solar contractor may install all components of a photovoltaic solar energy system up to the device that stores the electrical power. Nothing in this paragraph is intended to prohibit a solar contractor from installing solar energy system components other than the battery energy storage system.

(d) A solar contractor may modify an existing solar energy system by adding a battery energy storage system that meets the requirements of paragraph (c). A solar contractor may maintain or repair a battery energy storage system of any size that the solar contractor installed prior to the effective date of this amended section.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

§ 831. Incidental and Supplemental Defined.

(d) For purposes of Section 7059, work in other classifications is “incidental and supplemental” to the work for which a specialty contractor is licensed if that work is essential to accomplish the work in which the contractor is classified. A specialty contractor may use subcontractors to complete the incidental and supplemental work, or he may use his own employees to do so.

(e) For purposes of Section 7059 of the Code and this division, installation, connection, modification, maintenance, or repair of a battery energy storage system, as defined in section 810, is not “incidental and supplemental” to the work performed by a licensee classified as a C-46 Solar Contractor pursuant to section 832.46, provided that installation, connection,modification, maintenance, and repair of a battery energy storage system~~,~~ is work for which a Solar Contractor is licensed in the circumstances described in paragraph (c) of section 832.46 as approved by the Board on [date].

(f) Notwithstanding any provision of this Section or Division, a solar contractor may subcontract installation of a battery energy storage system of any size with an appropriately licensed contractor.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

EXHIBIT C

November 30, 2021 letter from the Chair of the California Energy Commission

November 30, 2021

Susan Granzella, Chair
Contractors State License Board

Re: November 29, 2021 Board Meeting Agenda Item D.1. Initiate Rulemaking Process to Amend CCR, Title 16 regarding C-10 Electrical Contractor and C-46 Solar Contractor

Dear Chair Granzella,

Thank you for the opportunity to provide relevant context for this item. As Governor Newsom has often said, we are in a climate emergency, creating a call to action for all state agencies. To meet our climate goals, rapid scale-up of renewable energy generation and battery storage is needed, from small residential systems to the largest utility scale installations.

On August 11, 2021, the California Energy Commission (CEC) adopted new Building Energy Efficiency Standards that dramatically decarbonize our buildings and reduce greenhouse gas (GHG) emissions. A major feature of those Standards was the requirement for the first time of photovoltaic (PV) systems coupled with battery storage for multi-family buildings and many nonresidential building types.

Delivery of battery systems in compliance with the CEC's Building Energy Efficiency Standards will be dependent on well-trained and skilled contractors with demonstrated experience in installing these combined systems. To the best of the CEC's knowledge, to date, both C-10 electrical contractors and C-46 solar contractors have consistently delivered safe installations. Indeed, training curricula for both licenses covers batteries and related topics. For example, the CSLB's 2017 Occupational Analysis Report for the C-46 Solar Examination shows that installation of battery storage is interwoven with the everyday duties of solar contractors.

The CEC supports battery safety by maintaining lists of equipment certified to meet required safety standards for both PV and battery systems. To qualify for compliance with the CEC's Building Energy Efficiency Standards and participate in utility programs, battery storage systems must meet these equipment safety standards. The CEC's eligible equipment lists are widely relied upon to identify equipment that have been certified to meet these safety standards. Additionally,

the CEC's R&D investments are helping strengthen the safety of the next generation of batteries by reducing the degradation of components. For example, with CEC funding, Coreshell Technologies developed new safety-enhancing electrode coatings in lithium-ion batteries and Sepion Technologies is now developing more robust membranes for lithium batteries.

To meet the needs of a growing market for renewables generally and for storage specifically, California needs a well-trained, capable, and growing workforce. I appreciate all you do in support of that end.

Please let me know any questions you may have.

Thank you for your consideration,

David Hochschild
Chair

cc: David Fogt, CSLB Registrar

November 24, 2011

Via electronic mail.

Contractors State License Board
David.Fogt@cslb.ca.gov

Re: Possible Action to Initiate Rulemaking to Preclude C-46 Solar Contractors from Installing Battery Energy Storage Systems (November 29, 2021 Board Meeting agenda Item D-1)

Dear Chair Granzella and Honorable Members of the Board,

California Solar and Storage Association appreciates that the Board has stayed enforcement of its July 27, 2021 decision to preclude C-46 solar contractors from installing Battery Energy Storage Systems (ESS). We also agree, as Agenda Item D-1 recognizes, that any such decision must be informed by the Administrative Procedures Act's notice and comment rulemaking procedures. The proposed rule, however, is not necessary to protect consumers or public safety. As discussed in the attached memo, the Labor Center's report on ESS fails to identify a single incident that could have been prevented by regulating customer-side installers. It also fails to recognize that existing laws extensively regulate the batteries that solar contractors install, as well as installation procedures, and that these regulations have been working well to protect workers and the public.

Not only is the proposed rule unjustified, it would have devesting impacts on solar contractors and their workers. The Labor Center's conclusion that the rule would have "no adverse economic impact" falsely assumes that nearly all C-46 contractors installing batteries today already employ certified electricians. Moreover, the report ignores the fact that there is a critical shortage of certified electricians to satisfy the state's existing construction demands. Requiring batteries to be installed by certified electricians would thus slam the breaks on solar and storage projects moving forward at a time when demand is surging given new state building mandates and widespread power shutdowns. This shortage of certified electricians will not be resolved anytime soon. In fact, it is expected to become more acute in light of state efforts to accelerate housing production and electrification. The proposed rule would thus increase costs and installation times for consumers, as the shortage of certified electricians and demand for batteries intensify.

Moreover, the requirements to become a certified electrician are onerous, and the proposed rule would create significant barriers for women and individuals from disadvantaged communities seeking to enter the solar workforce. The attached declaration by Jeanine Cotter, owner of Luminalt, describes her company's workforce development program, how difficult it

would be for her workers to become certified electricians, and the barriers such requirements pose for disadvantaged youth and mothers.

CALSSA is not opposed to any regulation of C-46 contractors. We recognize that utility and utility-scale battery installations pose unique challenges and may require installations by a separate contractor class. The incidents identified by the Labor Center report could support such an approach. Accordingly, CALSSA recommends that the Board consider a proposed regulation that would amend Title 16 of the California Code of Regulations. Our alternative proposed language is attached to this letter.

Not only would this alternative provide a reasonable regulation of battery installations, it would also avoid three legal infirmities posed by the staff recommendation as discussed in the attached letter from Shute, Mihaly & Weinberger, LLP. First, the recommended action would authorize the Registrar of Contractors to adopt the proposed regulation in certain circumstances. Yet, the proposed regulation could have a significant adverse effect on the environment by thwarting the efforts to build clean solar and storage projects, thereby prolonging the state's reliance on polluting power supplies. Accordingly, the CSLB must conduct an environmental review under the California Environmental Quality Act before it may authorize adoption of the regulation.

Second, the draft rule exceeds the Board's regulatory authority in a number of respects. For instance, while Business and Professions Code section 7059 requires license classifications to be consistent with established usage and procedure as found in the construction business, the proposed rule would entirely prohibit solar contractors from installations that they have been performing for over 40 years. Further, the Legislature established the CSLB as a consumer protection agency that regulates contractors: other state agencies are charged with regulating worker safety. The proposed rule's backdoor attempt to regulate the workers installing ESS thus violates section 7059's mandate that classifications reflect the contractor's qualifications, which in this instance have not been questioned. The proposed regulation's narrow definition of solar energy systems also conflicts with state statutes that define these systems to include batteries. In addition, the CSLB does not have the authority to rule that battery installations are never incidental and supplemental to a solar contractor's work; section 7059 expressly allows specialty contractors do perform incidental and supplemental work, and the scope of such work is a question of fact, determined on a case by case basis.

Finally, the proposed rule would unconstitutionally impair existing contracts of C-46 contractors by prohibiting them from performing service and maintenance warranties on batteries that they have already installed. Indeed, most of the these warranties were *required* by the California Public Utility Commission as a condition of participating in the state's Self Generation Incentive Program, for example. The proposed rule would directly conflict with this mandate and prevent contractors from honoring a material clause of their contracts with solar customers.

CALSSA hopes that the CSLB will take this opportunity to critically re-examine the proposal to preclude C-46 contractors from installing ESS in all circumstances. A reasonable

alternative would be to limit C-46 contractors to non-utility-scale installations, which are already well regulated and being performed safely by C-46 solar contractors.

Sincerely,

Bernadette Del Chiaro, Executive Director
California Solar and Storage Association

CC: Heather Young via email at Heather.Young@cslb.ca.gov
Michael Jamnetski via email at michael.jamnetski@cslb.ca.gov

Attachments:

A - CALSSA Response to U.C. Berkeley Labor Center Report and its Unsupported Recommendation to Preclude C-46 License Holders from Installing Energy Storage Systems

B - Declaration of Jeanine Cotter, owner of Luminalt

C- Declaration of Luke Miller, owner of SolarHut

D – Declaration of Scott Ryan, owner of SunPower by Sun Solar

E – CALSSA's letter objecting to the Labor Center selection

F – Letter from Shute, Mihaly & Weinberger, LLP to CALSSA Regarding CSLB Proposal to Initiate Rulemaking to Preclude C-46 Solar Contractors from Installing Battery Energy Storage Systems

G – CALSSA's proposed alternative regulatory language

MEMORANDUM

Date: November 24, 2021
To: Contractors State License Board
From: California Solar and Storage Association
Re: CALSSA Response to Labor Center Report and Its Unsupported Recommendation to Preclude C-46 License Holders from Installing Energy Storage Systems

In 2018, the CSLB began a process to determine if the C-46 Solar classification "should be precluded from installing an energy storage system (ESS)"[1] after a well-established practice of allowing it.[2] In 2020, the Board hired the UC Berkeley Labor Center ("the Labor Center") to answer the following question: "Considering BESS risk, hazard, size and complexity considerations, is there an existing or prospective harm to public safety, and if so, what is the likelihood of the existing or prospective harm occurring and/or will that harm be fixed by enacting a regulation?"[3]

The Labor Center released their report on July 9th, 2021. It recommended the Board restrict C-46 contractors from installing ESS without any allowances based on risk, hazard, size or complexity. The Labor Center presented their findings to the Board on July 27th and shortly after the presentation, the Board voted to strip the C-46 from the ability to install ESS. After a lawsuit by CALSSA, the Board issued a stay on their decision on October 4, 2021. The Board is now considering a formal rulemaking process to implement the Labor Center's recommendation in full.

Given the significance of the Labor Center's report to the Board's July 27th decision and the pending rulemaking process, it is imperative for the Board to be aware of the significant deficiencies in the Labor Center's report. CALSSA previously objected to the Labor Center conducting any assessment of this issue for the CSLB, given their lack of subject matter expertise and extensive affiliation with the IBEW, which has been lobbying the Board to prohibit solar contractors from installing batteries. Our letter documenting the Labor Center's bias is attached. Unfortunately, their report appears to be results-driven as we feared. With this memo, we will lay out how the Labor Center's assessment fell far short of what was required of them by the Board and why it would be wholly inappropriate to base any regulatory change on this deeply flawed and poorly researched report.

With this written critique, the California Solar and Storage Association, the country's oldest and largest industry association dedicated to distributed solar energy and energy storage technologies, refutes the Labor Center's arguments and clarifies the report's deficiencies in the order in which they are presented in the report.

A summary of our critique is as follows:

- The Labor Center's recommendation will impact the vast majority of contractors installing solar and ESS. The report's conclusion that only a small share of

[1] CSLB Enforcement and Licensing Committee Meetings, February 23, 2018
[2] Quote from ESS report and Wendy Balvanz testimony
[3] RFP No. CSLB-20-01

contractors will be impacted is based on an incorrect assumption that those who hold both a C-10 and a C-46 license are already required to hire certified electricians for battery installations.

- The Labor Center can document no safety incidents in ESS installed by a C-46 contractor. The incidents they point to did not involve customer-sited ESS that were designed to be only charged by solar. Instead, they were overwhelmingly utility projects or occurred at testing or manufacturing sites. While the report claims incidents in South Korea were the result of faulty installations (the only example they could find of installation error causing an incident), more recent investigations concluded these incidents were in fact the result of defective battery cells. Moreover, all of the incidents cited by the report occurred outside of California, which has extensive safety regulations that protect against the purely theoretical risks advanced by the report.
- The Labor Center's recommendation massively underestimates the widespread industry impacts, including the cost to contractors and consumers, to comply with their recommendation based on a sloppy and incomplete analysis. Their recommendation would grind the deployment of solar paired ESS to a halt, requiring a wholesale shift in the solar workforce without a readily available replacement. There is already a shortage of certified electricians, the barriers to becoming certified are significant, and demand in other sectors will continue to rise and challenge the solar industry's ability to attract and retain enough workers to meet growing need for solar and energy storage technologies. The Center also ignores consumer protection stemming from the null and voided warranties on tens of thousands of installations.

In 2019, CALSSA submitted to the CSLB an assessment of wholesale restrictions on the C-46 license's ability to install ESS when paired with solar photovoltaic panels with facts that the Labor Center's report has failed to refute, or even address in most instances. Our 2019 assessment is attached and the conclusions are summarized as follows:

Unjustified Restriction of Trade

• California's C-46 contractors have installed more than 80% of the solar and storage systems to date. The C-46 license exam covers the topic more extensively than does the C-10 exam. The C-46 contractors have an exceptional track record with investigations unable to identify a single accident or evidence of safety risk to workers or the public.

• C-46 contractors are permitted to install solar systems within the limits of the National Electrical Code. This allows contractors to work with voltages up to 600 volts for residential systems and 1000 volts for commercial systems.

• It is patently false to claim that energy storage systems represent a unique risk of panel overloads and arc flash. The formulas for wire sizing and breaker sizing are the same for solar systems alone as for those paired with ESS.

Harming California's Solar Homes Mandate

• The California Energy Commission is opposed to restricting the C-46 contractor as it is unnecessary and would increase the cost of meeting new requirements such as the solar

home mandates for single and multi-family residences and the storage mandate for commercial buildings.

Bad for Business

- There are 50,000 C-10 eligible electrical workers in California. These workers are in high demand and are not likely to switch to working in the solar field from their current work in the building trades.
- In comparison, California's solar industry employed 48,295 installation workers. If the restrictions on C-46 contractors are adopted, contractors would be hard-pressed to find enough workers to meet growing demand for solar and storage technologies. 82% of solar businesses already report having difficulty finding qualified workers.
- Restrictions will have the greatest effect on small and rural businesses in California. Certified electricians are hard to find everywhere in the state but especially in rural areas.

Bad for Consumers

- Restricting C-46 contractors would add an estimated $93 million to solar and storage installations in 2020 and $2.6 billion to the aggregate cost of building out distributed solar and storage solutions through 2030. For the commercial sector, the impact would be $16 million in 2020 and $361 million through 2030.
- The proposed regulatory change would add an estimated $2,322 to the cost of a residential solar plus storage installation, $4,867 to the cost of a small commercial solar plus storage installation, $18,298 to the cost of a medium commercial solar plus storage installation, and $26,162 to the cost of a large commercial solar plus storage installation.
- Restricting C-46 contractors from installing energy storage would render null and void the warranties for previously built solar energy systems for the million solar customers in California today who may want to add a battery. Further, the tens of thousands of consumers who already have a battery paired with solar photovoltaic panels installed by a C-46 contractor will lose their service and repairs warranty.

Equipment Safety Standards

- All energy storage systems must meet strict product safety standards for design and manufacturing. If devices do not pass tests for these standards, they cannot be used in California. Product standards are developed with extensive participation from fire protection authorities, and certification to those standards demonstrates sufficient protection for fire officials.
- These very strict standards protect against explosive releases of power within energy storage devices. It is a function of product design, not electrical connections. Lithium batteries, for example, must have battery management systems (BMS) that control operation at the cell level. If the BMS does not detect a proper electrical connection the battery will not discharge.

The Wrong Solution at the Wrong Time

- C-46 contractors provide cost-effective and reliable customer-sited energy solutions that

could keep the lights on for millions of Californians during power shutoff events while also playing a critical role in meeting the state's clean energy goals. California should not unnecessarily restrict the growth of or increase the cost of this important technology.
• It is important to note that C-46 contractors and the job as a solar installer also provide a pathway to entry for minorities commonly left out of the construction trades both as workers and as business owners.

These points remain true today and an update of the 2019 information would further amplify them. The Labor Center's conclusions that preventing solar contractors from installing ESS is necessary and would have minimal impacts are unsupported as discussed below.

The Labor Center's Unsupported Conclusion #1: The proposed restrictions will only impact a handful of contractors.

The Labor Center argues that precluding a C-46 contractor from installing an ESS when paired with PV will have a "negligible" impact on businesses across the state that install battery energy storage systems. They note, based on an analysis of two datasets for solar and storage installations, that only a small percentage of solar and battery installs are done by those that hold only a C-46 classification without a C-10, a General "A" or a "B" license. Rather, the contractor class responsible for the majority of those installations hold both a C-46 and a C-10 license. According to the Labor Center's reasoning, removing batteries from the C-46 classification will have no impact on these dual license holders, because they can continue to install batteries under their C-10 license.

This conclusion, however, ignores the critical difference between work that is done within the scope of a C-46 license, for which most solar contractors do not use certified electricians, and work that is done outside of the scope of the C-46 license under the C-10 classification, for which Labor Code sections 108 and 108.2 require workers to be certified electricians when engaging in the connection of electrical devices.

As CALSSA explained to the Labor Center, many C-46 contractors also hold a C-10 classification to allow them to do work outside of the C-46 license at times and for that limited work they rely on the qualifying person for the license, use certified electricians, or subcontract to another C-10. Some solar contractors have recently added a C-10 simply because for a short period of time the CPUC's Self-Generation Incentive Program (SGIP) guidebook contained errors that were later corrected. Solar, however, is a multi-craft trade, including electrical work, and it requires knowledge specific to solar and battery installations. Solar workers, therefore, are well qualified to install solar and storage systems. Moreover, there is a shortage of certified electricians in California to meet growing demand within the construction industry and solar contractors have had difficulty hiring certified electricians because they often do not have the experience, knowledge, or desire to learn about and install solar panels and battery energy storage systems. Accordingly, C-46 contractors commonly use trained solar installers to install battery energy storage systems, as batteries when paired with solar are currently within the scope of the C-46 license.

Removing batteries from the C-46 scope of work, and requiring dual license holders to rely on their C-10 classification for this work, would thus require solar contractors to replace their qualified workers with certified electricians for solar and storage jobs—or cease taking

these jobs if they cannot find or afford certified electricians. The population of contractors impacted by the recommended rule is thus much greater than the Labor Center suggests. Using the Interconnection Dataset, the percentage of installation jobs between 2015 and 2020 that would have been impacted by the Labor Center's recommendation is not, in fact, the roughly 5% of storage jobs (those done by contractors holding only a C-46) that the Labor Center reported, but a full 80% (those done by contractors that hold a C-46 plus those that hold a C-46 and a C-10)[4], an increase of 1600 percent over the Labor Center's assertions. This makes the claim by the Labor Center that "precluding or restricting C-46 (no C-10, A, or B) contractors will have a negligible effect on the current pool of contractors"[5] completely incorrect.

The Labor Center ignored CALSSA's expert testimony regarding the composition of solar contractors' labor force. Instead they assumed, without any ground truthing, that dual license holders must already employ certified electricians because, under one theory, Labor Code sections 108 and 108.2 require contractors holding both C-46 and C-10 licenses "to use certified electricians for all electrical work, including the specific electrical tasks associated with solar PV and BESS."[6]

This theory is incorrect. The IBEW has argued that the Legislature must have intended the certified electrician requirement to apply to all of the electrical work for multi-craft licenses when a contractor also holds a C-10 because two license classifications, C-7 low voltage systems and C-45 electric signs, are expressly exempted from the worker certification requirement of section 108.2. On its face, however, section 108.2 applies only to persons performing work for a contractor licensed as a class C-10 electrical contractor, not to the scope of work done for a contractor licensed as a C-46 solar contractor (or a C-20 license for that matter), which is all that is required on job cards for solar and storage projects. Moreover, the legislative history for section 108.2 demonstrates that the Legislature did not intend the rule to apply to dual license holders when it added the two exemptions.[7] In short, the Labor Center's statement that its recommended rule will impact only "a very small share of the current pool of contractors that carry out BESS installations" is an unverified assumption drawn from a contested interpretation of the Labor Code. It ignores CALSSA's expert testimony that dual license holders commonly use qualified solar installers, not certified electricians, to install batteries. The recommended rule will in fact impact the great majority of contractors installing solar-paired batteries today, to say nothing of the scores of solar companies that will enter this market as new state mandates for batteries come on line and consumer demand continues to grow.

The Labor Center also tries to minimize the impacts to the solar contractors that do not hold another license classification that would allow them to install batteries. They suggest that such C-46 license holders could simply obtain a C-10 license. But again, this ignores the fact that those license holders would then be required to employ certified electricians, which has proven to be difficult, if not impossible for the solar industry. For examples, see the declaration of Jeanine Cotter, and the attached declarations of Luke Miller, and Scott Ryan.

---

[4] Report, p. 25

[5] Report, p. 37

[6] Report, p. 93

[7] Registrar of Contractors David Fogt similarly stated in a September 17, 2021 webinar that electrical work performed within the scope of a C-46 license need not use certified electricians, even if the solar contractor also happens to hold a C-10 license.

The Labor Center's Unsupported Conclusion #2: There are inherent risks and hazards allowing C-46 to continue installing BESS

The Labor Center argues there is potential harm to public safety if C-46 contractors are allowed to continue installing BESS when paired with PV. As evidence of high risks, they point to eight different BESS incidents:

1. A 2019 explosion at the Arizona Public Service (APS) grid-utility ESS facility in Surprise, AZ.
2. A 2012 fire at an APS 4 MWh ESS facility near the McMicken substation, Arizona.
3. A 2013 fire at a battery room connected to wind and solar arrays at the Landing Mall in Port Angeles, WA
4. A 2016 fire at a manufacturing plant in Franklin, WI
5. A 2017 fire at a 6 MW utility-grid ESS test facility in Belgium.
6. A series of 29 Lithium-ion fires between 2017 and 2019 in South Korea
7. A 2020 Lithium-Ion fire at a grid-utility project in Liverpool, UK
8. A 2020 Lithium-Ion fire at an electric substation in Ariege, France

However, not one of these incidents could have been prevented by more strictly regulating customer-side installers as the Labor Center recommends for several reasons. First, incidents at substations, utility facilities, or test facilities are not comparable with regard to type, risk, hazard, size and complexity of BESS that would be installed by a solar contractor on a home or business today. Indeed, these incidents undermine the Labor Center's own justification for the proposed regulation, as the systems referenced were almost certainly installed by what would have been considered "certified electricians."

Second, the Labor Center glosses over the fact that the overwhelming majority of these incidents had nothing to do with faulty installations, but rather with manufacturing defects. They write of the event in Surprise, AZ, "A report from DNV-GL for APS concluded that the thermal runaway initiated from an internal defect in a lithium-ion battery NMC cell."[8] The Wisconsin incident occurred at an ESS *manufacturing* facility and they write, "The fire was initiated when a technician was constructing the system."[9] The Labor Center fails to put these critical facts into context for the Board.

As evidence that installers require stricter regulating to prevent BESS incidents, the Labor Center points to 29 incidents in South Korea, claiming that "One of four cited causes of the 29 Korean BESS fire incidents was faulty installation."[10] However, the Labor Center appears to have overlooked further investigations of these incidents that refute that claim. One of their own sources is a report commissioned by the Arizona Public Service. This report said the following about the South Korean incidents:

> "The report first concluded that the errors were caused by inappropriate electrical protections (ground faults, electrical shorts), inappropriate operational environments, negligent installation, and inappropriate integration of the multiple protection layers of the BMS to the

[8] Report, p. 49.
[9] Report, p. 51.
[10] Report, p. 73.

inverter and control system. **Then, in 2020, more information revealed that many of the fires were caused by battery cells with defects.**"[11]

Similarly, a story in Business Korea headlined, **"Second Probe Blames Faulty Batteries for ESS Fire"** states that "The Korean government has concluded that **faulty batteries were the main culprit** behind the recent spate of energy storage system (ESS) fires…. **The conclusion is opposite to the one announced after the first round of investigation in 2017.** At the time, the team put the blame on the poor operation of ESS facilities."[12] While the Labor Center fans the flames of fear, they do not identify incidents could have been prevented by better installations.

Third, the energy storage systems described by these incidents are fundamentally different products than the customer-sited batteries that a C-46 would install. These large utility-scale ESS are often assembled on-site, not at the manufacturing facility. It is simply not comparing like with like to list incidents with these utility ESS as a justification to preclude a C-46 contractor from installing any ESS. Rather, the ESS that C-46 contractors install have safeguards that prevent incidents like these from occurring. They must meet safety and testing standards such as UL9540, UL9540a, and NFPA 855 that ensure if the ESS fails, they do so safely. The Labor Center fails to adequately explain the importance of these standards in protecting public safety and they fail to acknowledge that none of these case incidents they reference were subject to these standards.

Furthermore, ESS manufacturers require solar contractors and workers to undergo trainings on how to install their products. Such information was missing from the Labor Center's report. Local building officials must approve plans as being code compliant before a battery is installed, and must confirm compliance after the work is complete. In other words, there are extensive safeguards already in place even after the ESS is manufactured to insure they are safely installed.

The Labor Center's investigations did not reveal any evidence that these existing protections are insufficient. Instead, the Labor Center is asking the CSLB to make a rather drastic regulatory change on an argument that some incidents may not have been reported. Not only is there no data that C-46 installed ESS are subject to a greater incident rate compared to C-10 installed ESS, there are no incidents of a faulty C-46 installation they can find. The Labor Center says, "Available data indicate that BESS incidents are low frequency, **with no identified incidents in California**."[13] This seems as conclusive a statement as any that C-46 contractors and their installers are indeed sufficiently trained and that the applicable codes and standards are doing what they were intended to do. The Labor Center is unable to present a factually verifiable argument that a safety hazard exists which would be mitigated by the proposed regulatory change.

Finally, while the Labor Center insists that only certified electricians have sufficient training to install ESS, they fail to acknowledge that C-46 contractors and their installers have greater experience installing ESS and a longer track-record of doing so safely. Battery storage systems from the 1980s through the 2000s were installed almost exclusively by C-46 solar contractors. These early systems were for "off-grid" homes, which needed an ESS to power their homes in the evening. This is in part why the C-46 exam features numerous questions on

[11] https://liiontamer.com/wp-content/uploads/APS-DNV-GL-Report.pdf. P. 20
[12] http://www.businesskorea.co.kr/news/articleView.html?idxno=41012
[13] Report, p. 7.

energy storage while the C-10 exam had zero questions on ESS until the past two years. Moreover, *"CSLB Licensing Committee meeting notes"* from February 23, 2018 state,

> The exams for both the C-10 (Electrical) and C-46 (Solar) include questions on energy storage systems. The C-46 exam covers the topic more extensively than does the C-10 exam, and every version of the C-46 exam contains questions on the topic, though not every version of the C-10 exam does.[14]

CSLB's Occupational Analysis reports for the C-46 and C-10 licenses also demonstrate the superior experience of C-46 contractors. According to the CSLB, the purpose of the Occupational Analysis is to "define the scope of work" of C-46 and C-10 contractors "with an emphasis on public protection. The scope is defined in terms of the actual tasks and knowledge/abilities required to perform safe and competent work. The results of this occupational analysis are summarized in a detailed examination outline that will be used to develop licensing examinations and to clarify trade classification issues." **Energy storage appears over 120 times in the C-46 analysis and fewer than 15 times in the C-10 analysis.** Energy storage receives the highest "Critical Task Importance (CTI)" rating (20.66) in the C-46 analysis, in contrast to a CTI score for storage of 6.32 in the C-10 analysis.[15]

We are unclear as to why the Labor Center did not address these CSLB findings in their report, but the fact remains that, unambiguously, C-46 contractors have always had more testing related to ESS on their exams than a C-10. It is also noteworthy that every major battery manufacturer spoke out in opposition to the Labor Center's recommendation to the CSLB. None of them could point to a significant incident involving a C-46 or any material difference in quality of workmanship between a C-10 and a C-46 installation.

The Labor Center's Unsupported Conclusion #3: The economic impacts of restricting the C-46 from installing ESS + solar will be minimal

The final argument of the Labor Center's report is that not only is there sufficient workforce for their recommendation to go into effect, it would be a virtual rounding error on cost. They point to the fact that there were 36,550 certified electricians, and 11,423 electrical trainees as of March 24, 2021.[16] They also note there are 25,298 actively licensed C-10s while there are 793 C-46 contractors who do not also hold a C-10.[17] Their estimates on the number of non-electrician solar installers working for a C-46 are 4,970 from the Employment Development Department and they erroneously site the number 6,317 from the Solar Jobs Census which cites a much higher figure. They claim, "There is no evidence to suggest that workforce availability will limit the growth of BESS installations were the CSLB to restrict or exclude soler license C-46 contractors since C-10 vastly outnumber C-46 contractors both in general and specifically in their participation in BESS projects." [18]

On the matter of cost, the Labor Center points to NREL data on the cost of an installation for "Residential Storage" only, where the Labor Costs consistently range from 4.6% to 9.7% of the total cost. They assume half of this work is electrical in nature, then put a premium of 27% for a California electrical wage and 35% for a laborer. They then assume that if the work was

[14] CALSSA October 14, 2019 Letter
[15] Ibid
[16] Report, p. 9.
[17] Ibid
[18] Report, p. 81.

done entirely by certified electricians with this premium, the resulting price increase of this regulation is only 1% to 2.1%. They also compare the cost of a PV plus storage install in the SGIP database by contractor type and see virtually no difference in cost between contractors with a C-46 and those that hold both a C-10 and C-46.

The first problem with the Labor Center's financial assessment is that once again, they are adhering to an incorrect interpretation of Labor Code 108.2 that was referenced earlier, meaning they are underestimating by several magnitudes the numbers of contractors impacted by their analysis. This means, using their own figures as referenced earlier, any cost imposed by hiring certified electricians is not limited to roughly 5% of the market that are a C-46 contractor without also holding a C-10 but to 80% of the market (those that hold only a C-46 plus those that hold a C-46 and a C-10) meaning any of their assumed costs would need to be, at a minimum, multiplied by a factor of 16.

This not only means increased labor costs for every solar contracting company as a consequence of certified electricians commanding a higher premium, it also means higher turnover costs as contractors will have to spend more money on recruiting and training electricians. Simply put, 80% of the solar and storage market would have to lay off a sizable segment of their trained workforce and recruit certified electricians in their place. Practically speaking, installations would grind to a halt and when they resumed, the installation costs would balloon. Of course, CEs are not in abundance in California. Anecdotal evidence from our members indicates it is virtually impossible to find office assistants right now let alone a certified electrician. The U.S. Bureau of Labor Statistics also reinforces this point as California ranks in nearly the bottom quarter for states in the number of electricians per 1,000 jobs in the country, with anywhere between 27% less to 58% less compared to states in the top decile.[19]

It should also be noted that the Labor Center's estimates of the current number of jobs that would be impacted by their proposal being only 6,300 from the Solar Jobs census is a sloppy reading of the data with questionable methodology to support their small estimates of solar workers impacted by their proposed regulations. A simple logic can apply. There were over 143,000 customer-sited solar projects installed in California in 2020.[20] With an installation crew size of 4-5 individuals, the industry required at least 35,000 installers. No matter how you slice and dice it, building rooftop solar and garage batteries requires a lot of workers. It is, in fact, one of this technology's many positive attributes from a societal benefits point of view.

As to the Labor Center's use of past pricing and cost for ESS installed by various contractor classifications, it is critically important to recognize that this data tells us virtually nothing about the size of the addressable ESS market in the years to come. The Labor Center never seriously considers how many certified electricians, C-10s and certified apprentices would be needed to meet their proposal now or in the future. The Labor Center never disputes our own data submitted to the CSLB showing anticipated growth in ESS adoption from 2020 to 2030 of over 300% for large commercial projects, nearly 500% for medium and small commercial projects, and almost 950% for residential customers, so we are unclear whether or not they agree with us.[21] Interestingly, they do cite a Solar Power World article that says, "[T]he residential storage market has been growing steadily every quarter since early 2019. Wood Mackenzie is

[19] https://www.bls.gov/oes/current/oes472111.htm#(1)
[20] https://www.californiadgstats.ca.gov/charts/
[21] CALSSA October 14, 2019 Letter

predicting that the sector will **expand by six-times through 2025**."[22] This bolsters our concerns there are not enough certified electricians to meet the growth of the rapidly growing solar and storage demand.

The Labor Center gives no insight into the percentage of certified electricians that are needed for other electrical work or to what extent the current workforce is even sufficient. They simply argue that the electrical workforce fluctuates with the market as does the apprenticeship program.[23] Yet the experience and capacity in the solar industry does not support this conclusion. For just a few examples, see the attached declarations. Moreover, one of the authors of the Labor Center study, Betony Jones, has written elsewhere that building decarbonization efforts alone in California will require anywhere between 59,200 and 100,200 new jobs, with much of that work needing to be done by C-10s using Certified Electrians.[24] The state's push for massive deployment of EV and the requisite charging infrastructure that will be required will need to be built by C-10 contractors and CEs. In other words, the demands are escalating, the constraints on becoming an apprentice and certified are real, and given that the certified electrician workforce has not been able to keep pace to date, it is wishful thinking that it will be able to do so in the future.

Meanwhile, ESS costs are already too high for most consumers and any increased cost that will inevitably result from the Labor Center's proposal will all be passed on to consumers. However, the Labor Center is cavalier as to the ability of regular consumers to pay a premium for ESS, drawing on NREL findings that many customers are willing to pay extra for resiliency. This is undoubtedly true, but fails to appreciate that most storage customers now are early adopters. As it was in the past with PV, for the vast majority of potential consumers, the price premium is now and will remain a barrier. Costs will need to come down dramatically for mass adoption of ESS. This is fundamentally at odds with a replacement of the solar workforce as it is known now to a much higher-paid one combined with the added strain of competition for the same labor pool for the myriad other clean energy initiatives in the state.

We continue to assert, as we did in our October 14, 2019 letter to the CSLB that the labor costs to the solar industry will be over two billion dollars[25] and the Labor Center never rebutted our findings despite a responsibility in the RFP that "…the consultant would review BESS information the Contractors State License Board (CSLB) has received to date[.]"[26]

Conclusion

The CSLB as a state entity needs to use independent, measured and careful analysis to inform its decision making. It is imperative and indeed legally required for the CSLB to always be a neutral body that is not placing its thumb on the scale for any interest above the public's. CALSSA firmly believes we have the facts on our side and would have welcomed an independent auditor to challenge our findings and those of the IBEW because we are confident in the strength of our arguments. Unfortunately, the Labor Center is not an impartial observer and,

[22] https://www.solarpowerworldonline.com/2021/01/the-energy-storage-market-is-blowing-up-in-the-united-states/.
[23] Report, p. 82.
[24] Jones, Karpman, Chlebnikow and Goggans. (2019). California Building Decarbonization Report: Workforce Needs and Recommendations. ES-VI.
[25] CALSSA October 14, 2019 Letter
[26] RFP No. CSLB-20-01, p 2.

while we had hoped they would have shed this bias when taking on this project, we expected no less. When you understand the inherent biases of the Labor Center, the shortcomings of this report are no surprise. It is why, despite a phone call with both CALSSA staff and a panel of some of the foremost experts in the country on BESS, you will find no reference to the majority of the points we raised. It is why our entire written record, including our data analysis on this matter, is all but absent from their report. Instead, the Labor Center chose to rely on other sources without doing an exhaustive analysis of any of our references.

Unfortunately, what the Labor Center has presented to the CSLB is a factually challenged, biased assessment that must not be the basis for a serious regulatory change.

1440597.1

MATTHEW D. ZINN (State Bar No. 214587)
HEATHER M. MINNER (State Bar No. 252676)
EDWARD T. SCHEXNAYDER (State Bar No. 284494)
TORI GIBBONS (State Bar No. 286112)
SHUTE, MIHALY & WEINBERGER LLP
396 Hayes Street
San Francisco, California 94102
Telephone: (415) 552-7272
Facsimile: (415) 552-5816
Zinn@smwlaw.com
Minner@smwlaw.com
Schexnayder@smwlaw.com
Gibbons@smwlaw.com

Attorneys for Petitioner and Plaintiff
CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION, INC. dba CALIFORNIA SOLAR and STORAGE ASSOCIATION

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION, INC. dba CALIFORNIA SOLAR and STORAGE ASSOCIATION,

Petitioner and Plaintiff,

v.

CONTRACTORS STATE LICENSE BOARD; DAVID FOGT, in his official capacity as Registrar of Contractors; and DOES 1-20, inclusive,

Respondents and Defendants.

Case No. CGC-21-594911

DECLARATION OF JEANINE COTTER IN SUPPORT OF PETITIONER'S MOTION FOR PRELIMINARY INJUNCTION

Code of Civil Procedure § 1085; Administrative Procedures Act, Government Code § 11340 et seq.

DECLARATION OF JEANINE COTTER

I, Jeanine Cotter, declare as follows:

1. I am the majority shareholder, co-founder and CEO of Luminalt, a member of the California Storage and Solar Association (CALSSA), the petitioner in this action. I make this declaration in support of CALSSA's motion for a preliminary injunction. I have personal knowledge of the facts set forth herein, except as to those stated on information and belief, and as to those, I am informed and believe them to be true. If called as a witness, I could and would competently testify to the matters stated herein.

2. My husband, Edward "Noel" Cotter, and I founded Luminalt in 2004. In May 2011, I became the C-46 license qualifier for the company. Noel, who is Luminalt's Chief Technology Officer, is qualifier for Luminalt's C-10 electrical license and general contractor's B license. Luminalt is a majority women-owned solar and battery energy storage system specialty design-build construction company based in San Francisco, California. We design and build rooftop solar and solar-paired battery energy storage systems for single and multi-family residences, local businesses, and nonprofit organizations throughout the Bay Area. Luminalt has an installation team of nearly 25 individuals and has a four-person service department dedicated to performing inspections and service and warranty work for our previously installed systems. We are contractually bound to perform under these warranties. These warranties were or are required by: (1) the California Solar Incentive, a solar incentive program under SB1 signed into law by Governor Schwarzennegger in 2006; (2) the New Solar Homes Partnership; (3) GoSolarSF, a San Francisco based solar and workforce development incentive program launched in 2007 and 2008, respectively; (4) CPUC and investor owned utility requirements to interconnect solar systems to the electrical grid; and (5) the Self Generation Incentive Program for battery energy storage systems. Luminalt is an Elite SunPower dealer and a certified Tesla Powerwall installation partner.

3. All of the company's solar and solar-paired battery energy storage system installation, repair, maintenance and warranty work has been performed under Luminalt's C-46 license. Luminalt's use of its C-10 license has been limited to a few discrete projects over the years which could only be done under the C-10 license, such as a main service panel upgrade for a homeowner that did not install a solar system. Luminalt has used its B license to install vertical access wind turbines at Crissy Field in San Francisco and to subcontract for certain trenching, scaffolding, and roofing.

4. A C-46 solar contractor's license has historically been based on the understanding that solar installation is a multi-craft practice. A solar contractor performs numerous types of work, including but not limited to, roofing, carpentry, metal work, trenching, and electrical work. Solar installers have special expertise around fall protection and fall arrest systems, Direct Current (DC) power systems, batteries, and interconnecting back-feeding power systems to the electrical grid. Solar panels create Direct Current, and solar installers must understand how to string the panels, wire the array, wire up the inverter, and connect to the main service distribution panel. Solar installers or their design colleagues must make a number of highly specialized decisions and calculations, including what breakers can be adapted to the existing service panel because the solar-paired battery generation system is backfeeding into an electrical panel. General and residential certified electricians typically do not have experience with DC systems unless they have worked on elevators, trains, or submarines, some of which also rely on DC systems. Furthermore, electricians often do not have specific training on installing equipment that can backfeed to the grid. Battery energy storage installations have become significantly less complicated and safer since my husband Noel installed his first grid-tied solar-paired lead acid battery energy storage system in Ireland in 1981. Battery technology for grid-tied solar systems has now shifted from lead acid batteries to UL listed rapid cycle lithium ion batteries with control systems that are easier and safer to install. The UL listed systems consist of manufactured components that are integrated into the battery pack before the battery is shipped to installers like Luminalt. This is unlike the earlier lead acid battery-based systems, which required an installer to string individual batteries together in a box with high current DC wiring, wire to a charge control, wire to an inverter, move select customer electrical circuits to a back-up loads panel, and connect to the customer's distribution panel. Today, the solar installer connects an integrated UL listed battery system to the customer's distribution panel for a whole house or partial backup of the customer's electrical loads.

5. Luminalt has installed thousands of rooftop solar systems and hundreds of solar-paired battery energy storage systems under Luminalt's C-46 license. Off-grid solar systems require a battery to function, and grid-tied solar systems require a battery to function when the electrical grid is down. The C-46 license permits work that is required for the installation of a solar system. For any solar system to function when there is no grid or the grid is down, it must be paired to a battery.

6. Licensed construction contractors in the State of California, like Luminalt, have a legal and moral obligation as well as a business imperative to train their employees to safely do their work. Luminalt takes this obligation seriously. When a new hire joins Luminalt, before the employee is allowed to work in the field she must go through fall protection and other safety training. The first workday of each week, Luminalt holds a mandatory safety and training meeting for all solar installation and service personnel. Moreover, SunPower and Tesla require their certified installers to send employees to design and installation training. Luminalt includes outside training, such as Occupational Safety and Health Administration (OSHA) 10 and North American Board of Certified Energy Practitioners (NABCEP) PV Installation Professional Board Certifications, in its career progression milestones for solar installers and service team members. The safety of our employees during the build and the safety of our systems is critical. We have a proven track record of designing and installing safe installations. The argument that we are not qualified to do the work we do every day is not grounded in fact. None of our solar-paired battery energy storage systems have caused an electrical fire or other life safety problem.

7. Before Luminalt builds a solar or a solar-paired battery energy storage system, the system design plans are submitted to an Authority Having Jurisdiction's (AHJs) building, electrical and fire departments for a permit. These permit documents and plan sets include structural and electrical drawings and complex calculations. The installers build the systems using the plan set for which the permit has been issued. Once the system is built, the AHJ sends out a building, electrical, or fire inspector to inspect the system for code compliance and safety. It is routine for the inspector to ask questions and test various aspects of the system for manufacturer, code, and other safety compliance requirements before the inspector signs off on the permit.

8. In 2008, Luminalt became the first GoSolarSF workforce development certified solar installation company in San Francisco. The City's GoSolarSF began under then Mayor Gavin Newsom's administration. GoSolarSF mandated that participating companies hire individuals through community based non-profits that served individuals who had barriers to employment, as defined by the program, with the goal of training a skilled workforce. Federal, State, and San Francisco governments have invested in training for solar workforce development to help remove barriers to entry and create upward mobility for these individuals. In later years, California launched incentive programs like the Multifamily

Affordable Housing (MASH) Program and the Solar on Multifamily Affordable Housing (SOMAH) program which require hiring a certain number of eligible job trainees for each project for a certain number of hours based on the size of the solar system.

9. Luminalt has participated in these solar incentive workforce training programs for over a decade. My workforce training development efforts at Luminalt have earned me recognition from the California Legislative Assembly, including the 2015 Woman of the Year award for District 19, the San Francisco Board of Supervisors, and several nonprofits, including Asian Neighborhood Design's 40th Anniversary Community Appreciation Award "In recognition and appreciation of your deep commitment to greening and empowering underserved individuals and communities." In 2015, I was invited to the White House along with Grid Alternatives and others to speak to the Obama Administration about solar energy for federally-funded low-income housing. I have been a mayoral appointee to San Francisco's Workforce Investment Board for multiple terms. Beginning in January 2011, I was on the San Francisco Mayor's Renewable Energy Task Force and participated in the drafting of the Recommendations Report issued September 2021.

10. In December 2010, the CSLB sent out a memo entitled "Zero Tolerance for Uncertified Electricians" to all contractors that held a C-10 license. The memo, which Luminalt received, stated "The Contractors State License Board (CSLB) has established a zero tolerance enforcement policy and will issue legal action against any C-10 Electrical contractor who willfully employs an uncertified electrician to perform work as an electrician." The memo ended by stating that "Questions regarding this CSLB enforcement policy should be directed to Brian Gedney (916) 255-4435." Concerned that this may impact Luminalt's ability to continue to participate in the GoSolarSF workforce development program and retain its existing workforce, I called Mr. Gedney, who confirmed that Luminalt could continue to do work permitted under its C-46 solar contractors' license, even if that work could otherwise be done under the C-10. Luminalt, however, could not do work that could be done solely under the C-10, unless it complied with the C-10 requirements prohibiting employment of an uncertified electrician to perform work as an electrician. Following this call, I wrote a memo to an individual that worked on the GoSolarSF workforce program, confirming that "It is Luminalt's C46 license that enables us to hire individuals through GoSolarSF who are not state certified electricians through the D[ivision of] A[pprenticeship] S[tandards

(DAS)] or enrolled in a DAS certified electrical apprentice program to work on solar electric or solar thermal installations."

11. According to the CSLB's August 12, 2021 bulletin (#21-14), once the July 27, 2021 Board's ruling goes into effect on November 1, 2021, employees at Luminalt will no longer be able to build rooftop solar PV installations with battery storage under my C-46 license. Luminalt will instead need to operate under my husband Noel's B license or C-10 license to do our work. Luminalt has been a certified Women Business Enterprise (WBE) in San Francisco for a number of years. Luminalt has been San Francisco's only WBE solar contractor. That has been possible because a female, myself, has been the qualifier for Luminalt's C-46 solar specialty license. As the CSLB's ruling no longer allows the C-46 license to do solar-paired battery energy storage systems, I did not submit for recertification. The CSLB's July 27, 2021 ruling concludes that I am no longer qualified to oversee the work I've managed successfully for over a decade for the company I co-founded in 2004. Only two of Luminalt's 50 employees are permitted to engage in the connection of electrical devices under my husband's C-10. The remaining employees that perform Luminalt's solar and battery energy storage installations and service and warranty work are not certified electricians (CEs) or electrical trainees (ETs). Based on the CSLB's FAQs, effective November 1, 2021, these employees are no longer qualified to engage in the connection of electrical devices for Luminalt. Solar panels, inverters, and batteries are all electrical devices.

12. Luminalt has one CE and one ET on staff, both female. The ET is a relatively new hire, Aoife Murphy. An ET is enrolled in a California-approved electrician trade school or community college program who is actively working toward CE status. An ET must work under the supervision of a CE at a 1:1 ratio to obtain her hours under a C-10. We recruited Pamela Quan, who later became a CE, as a GoSolarSF workforce trainee following her graduation from Asian Neighborhood Design. She learned her craft on the job at Luminalt, attending City College for National Electrical Code and other coursework before sitting for and passing her CE exam.

13. Based on my understanding of the CSLB's September 2, 2021 Bulletin (#21-15), effective November 1, 2021, if a company holds a C-10 along with other licenses, a CE is the only person eligible to engage in the connection of electrical devices, even when doing work that would otherwise be permitted under a C-46 license. Luminalt has over 230 yet-to-build contracts for over 400 Tesla Powerwalls and

thousands of solar systems and hundreds of solar-paired battery energy solar systems under warranty. Under CSLB's July 27, 2021 ruling, Luminalt's work will be severely limited by the number of jobs one CE can do with the assistance of one ET. We would not be able to fulfill obligations for the work for which we are currently under contract or under warranty obligation. Luminalt would not be able to bring in sufficient revenue to sustain its current workforce of 50 employees. In short, under the CSLB's ruling, Luminalt is no longer a viable business.

14. It will be extremely difficult for our existing workforce to become CEs or ETs because we only have one CE and training supervision must occur on a 1:1 basis. Not only the employees will suffer, but Luminalt as their employer, our clients, and California will lose a highly trained and qualified solar and battery energy storage workforce. In place of my existing, qualified workforce, individuals who hold ET cards and CEs who may never have worked on a solar-paired battery energy storage system will be required to do the work that my employees have done safely and successfully for years.

15. Based on my knowledge and observation from years of workforce training and running a solar and battery energy storage specialty design build construction company, I believe the CE and ET process discourages and creates a barrier for women and men who do not have the type of family structure or financial stability to enroll in a multi-year after-hours training program and work full-time. As a mother of three, I understand through lived experience the difficulty and expense of securing quality affordable childcare so that I could work and attend classes. The pandemic has made this more acute. A significant portion of the female population are mothers. The CSLB's ruling specifically impedes our ability to attract women who are mothers or who have other commitments outside of work to work on solar-paired battery installations, as those women would need to maintain uninterrupted enrollment in ET courses to be able to engage in the connection of electrical devices at a 1:1 ratio under direct CE supervision.

16. Based on my experience, there is a state and local shortage of CEs and other skilled tradespeople. Luminalt has tried to hire additional CEs in the past without success. I have approached CEs personally about job opportunities with my company without success. We are presently in negotiations to subcontract with a former employee who recently received his C-10 electrical contractors license and is a CE. Like my colleague Pamela Quan, this former employee joined Luminalt as a GoSolarSF workforce development trainee. I am dedicated to providing my colleagues with pathways to upward mobility, by

meeting them where they are and investing in their training and development. Luminalt already has a difficult time finding people with drivers' licenses or driving records acceptable to our commercial auto carrier with minimal or no construction experience who want to work in solar, let alone trained solar installers or CEs. I believe this is because of national labor shortages impacting the construction and other industries. Now that a vast number of solar contractors will be looking to hire CEs in the face of the CSLB's July 27, 2021 change, I believe finding a CE to hire will become even more difficult.

17. The CSLB's ruling will have the practical effect of rendering a skilled, highly specialized solar and solar-paired battery installation workforce suddenly unqualified for the installation work they have done for years. Many of these employees have worked during the pandemic as essential workers. The requirement to use CEs who may have no solar-paired battery energy storage experience for work that these highly skilled solar installers already know how to do will leave a large number of my solar workforce— some of whom have been trained through taxpayer dollars— restricted to lower paying support positions within the installation crew or without work.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed September 24, 2021 at San Francisco, California.

Jeanine Cotter (Sep 24, 2021 16:58 PDT)

Jeanine Cotter

Declaration of Jeanine Cotter

Final Audit Report 2021-09-24

Created:	2021-09-24
By:	Dolores Abrams (abrams@smwlaw.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAnCrY8JCdKE52rKzhJlAyaoRTVSXNFf1r

"Declaration of Jeanine Cotter" History

Document created by Dolores Abrams (abrams@smwlaw.com)
2021-09-24 - 11:38:29 PM GMT

Document emailed to Jeanine Cotter (jeanine@luminalt.com) for signature
2021-09-24 - 11:39:18 PM GMT

Email viewed by Jeanine Cotter (jeanine@luminalt.com)
2021-09-24 - 11:45:10 PM GMT

Document e-signed by Jeanine Cotter (jeanine@luminalt.com)
Signature Date: 2021-09-24 - 11:58:43 PM GMT - Time Source: server

Agreement completed.
2021-09-24 - 11:58:43 PM GMT

MATTHEW D. ZINN (State Bar No. 214587)
HEATHER M. MINNER (State Bar No. 252676)
EDWARD T. SCHEXNAYDER (State Bar No. 284494)
TORI GIBBONS (State Bar No. 286112)
SHUTE, MIHALY & WEINBERGER LLP
396 Hayes Street
San Francisco, California 94102
Telephone: (415) 552-7272
Facsimile: (415) 552-5816
Zinn@smwlaw.com
Minner@smwlaw.com
Schexnayder@smwlaw.com
Gibbons@smwlaw.com

Attorneys for Petitioner and Plaintiff
CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION, INC. dba CALIFORNIA SOLAR and STORAGE ASSOCIATION

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION, INC. dba CALIFORNIA SOLAR and STORAGE ASSOCIATION,

Petitioner and Plaintiff,

v.

CONTRACTORS STATE LICENSE BOARD; DAVID FOGT, in his official capacity as Registrar of Contractors; and DOES 1-20, inclusive,

Respondents and Defendants.

Case No. CGC-21-594911

DECLARATION OF LUKE MILLER IN SUPPORT OF PETITIONER'S MOTION FOR PRELIMINARY INJUNCTION

Code of Civil Procedure § 1085; Administrative Procedures Act, Government Code § 11340 et seq.

DECLARATION OF LUKE MILLER

I, Luke Miller, declare as follows:

1. I am the owner of SolarHut, LLC (SolarHut), a member of the California Storage and Solar Association (CALSSA), the petitioner in this action. I make this declaration in support of CALSSA's motion for a preliminary injunction. I have personal knowledge of the facts set forth herein, except as to those stated on information and belief, and as to those, I am informed and believe them to be true. If called as a witness, I could and would competently testify to the matters stated herein.

2. I have been the owner and President of SolarHut since 2009, when I founded the company. Prior to founding SolarHut, I worked for Akeena Solar, purchased by Westinghouse, one of Northern California's most successful solar companies, for about a year and a half. I also worked for Carnahan Electric, Ltd., which operates a subsidiary solar contractor business, Alternative Electrical Systems, for 1.5 years. In total, I have worked in the solar industry for 14 years.

3. I hold a C-46 solar contractor's license on behalf of SolarHut. I have held this C-46 license for the company since March 2012.

4. SolarHut is a family-owned and -run company doing grid-tied solar installations and grid-tied solar battery work throughout El Dorado County. Our corporate offices are based in Diamond Springs, California, and we serve businesses and residents in and around northern California. We work primarily in El Dorado County, but have done jobs in Napa County, Santa Cruz County, Santa Barbara County, and other Northern California locations. The company began as a two-man crew, but has grown to eight employees—including four installers and three part-time salespeople. Some of my solar installers have been working with me at SolarHut for over nine years.

5. Both SolarHut's supervising installer and foreman installer are North American Board of Certified Energy Practitioners (NABCEP) certified. NABCEP is a nonprofit professional certification and accreditation organization. The NABCEP PV installation certification process includes 58 hours of advanced PV training, as well as a minimum of 10 hours of the Occupational Safety and Health Administration (OSHA) Outreach Training Program for the Construction Industry, or a regional equivalent. Each of these NABCEP-certified installers has over 10 years of experience doing full time rooftop and ground mount solar installations, a number of which incorporated battery storage.

6. SolarHut divides its rooftop with battery storage installation work between two teams. The first team does the work related to the rooftop installation and connects the solar arrays so that the wiring can be brought down to the ground level. Once the rooftop wiring is complete and ready to be brought down to the ground level, the second team handles the installation of the wiring at the meter panel and the battery energy storage system. They know the various code requirements for this work and ensure that the project is in compliance. Larger batteries have to be mounted on an exterior wall of the residence because they cannot be put in a garage. There are environmental restrictions about where the battery goes along the wall, and the location has to be approved through design permitting and, depending on the local jurisdiction, a professional licensed electrical engineer or structural engineer (or both) must wet-seal the plans. My second team lays everything out and installs an interface backboard where the wiring from the meter panel, rooftop, and battery are all going to be housed. The backboard handles the relationship between the three input sources and allows the homeowner to backload energy to the utility grid. There are numerous code restrictions governing the location of the interface backboard so that it can be readily accessed. There are also restrictions on where the batteries can be placed, based on direct impacts from automotive barriers, natural gas manifolds, etc. Installing a battery storage system is more work than rooftop installation because the installers must figure out where all the moving parts must be located.

7. SolarHut is a licensed LG Chem Battery installer, the only one in El Dorado County. SolarHut had to undergo significant training to become a distributer and installer for LG Chem's new RESU batteries, which offer an alternative to the Tesla Powerwall. SolarHut is also an authorized dealer for SunPower and Enphase Energy batteries. SunPower Elite dealership status is only available to solar installers who have demonstrated significant experience and proficiency. For instance, a solar installer must have completed 25 solar installation with battery jobs just to apply to become a SunPower dealer.

8. SolarHut has contracted a total of 37 solar installation jobs so far this year. Of those 37 solar installation contracts, 11 include a battery storage component. In other words, solar installation with battery storage accounts for roughly 30 percent of SolarHut's work in 2021 so far. These solar installation with battery storage contracts represent roughly $223,000 in revenue. SolarHut typically enters around 56 new installation contracts per year, but had been on track to surpass that number before the Contractors' State Licensing Board's (CSLB) November 1, 2021 regulatory change came into play.

9. SolarHut also does significant warranty and maintenance work. I would estimate that approximately 10 percent of the work we do each week involves maintenance under an existing warranty. We have cultivated a reputation as company that does excellent work, provides outstanding customer service, and completes our work in a timely manner.

10. The CSLB's regulatory changes are already harming SolarHut's ability to seek new business. Because we will not be allowed to complete work on existing contracts pre-dating November 1, 2021, if they include battery storage, SolarHut is extremely hesitant to enter any new contracts involving a battery storage component with this regulatory deadline looming. Yet, our customers are increasingly interested in battery storage. For example, SolarHut offers a free over-the-phone home evaluation for people looking into residential solar installation. During this phone evaluation, our sales team also describes our products and answers any customer questions. These calls average around 40 minutes in length. Last week, I observed two of these home evaluation calls. With both conversations, the customer spent 30 of the 40 minutes asking about battery storage. I believe this focus on battery storage during the home evaluation calls is representative of a broader and increasing demand from our customers for battery storage installation. Once SolarHut is no longer able to offer battery storage installation under our C-46 license, we will undoubtedly lose potential business from customers who wish to purchase both rooftop solar and battery systems together.

11. SolarHut's customers have increasingly demanded battery storage in the face of grid uncertainty. Wildfires, rolling power outages, as well as changes in the rates utilities charge for power during peak hours have all contributed to this increased demand for battery storage. Battery storage provides customers with back-up power, but also creates grid optimization, which allows the battery to be used each day beyond a back-up role. Battery storage helps with energy supplies by feeding power to the grid when the peak grid usage occurs. This back-feeding is invaluable in the face of growing demand for energy, aging power infrastructure, and power system constraints.

12. The CSLB's regulatory changes are also having a damaging effect on SolarHut's reputation, business relationships, and future growth. Over the last decade, I have cultivated a strong professional relationship with an upper level manager at SunPower. Over the years, SunPower frequently asked SolarHut to do maintenance work on systems in El Dorado County for SunPower customers whose

original solar installer had gone bankrupt or was no longer doing business. Impressed with SolarHut's work on those calls, SunPower's upper level manager recently began sending SolarHut qualified leads, or information about valuable solar customers who are looking for Sun Power to be installed and have already provided their personal information. Over the past year, a number of these SunPower leads have turned into fruitful contracts. For instance, just last week, SolarHut closed on a contract to do a high quality solar plus battery storage installation based on a SunPower lead. I estimate this contract to be worth roughly $37,414.00.

13. The recent release of SunPower's Sun Vault battery, which provides a much more affordable alternative to SunPower's previous battery offerings, makes this SunPower referral relationship even more valuable. Yet, the CSLB's new rule will destroy the working relationship with SunPower that SolarHut has spent years cultivating. In a recent conversation, my SunPower contact confirmed my fears that, following the regulatory change on November 1, 2021, he will no longer be able to send me his high quality leads. Because SunPower does not segregate its battery installation work from the accompanying solar PV systems, the CSLB's rule will prohibit me from continuing my work with SunPower. The loss of this hard-won referral relationship is devastating to a small business like SolarHut.

14. CSLB's rule also makes it impossible for SolarHut to complete outstanding solar plus battery installation contracts after November 1, 2021, at which time my company and crews will be prohibited from doing this work under my C-46 license. SolarHut currently has three outstanding contracts involving battery energy storage that we may not be able to complete before November 1, 2021. Together, those contracts are worth roughly $144,063.00 in revenue.

15. One of the outstanding solar plus battery storage contracts involves new construction of a large home. SolarHut entered a contract to do this rooftop solar and battery energy system installation in April 2021. We have already installed the solar panels and completed most of the rooftop work, but have been waiting for LG to get the battery back in stock and for other construction crews to complete the sheetrock and exterior stucco work. I have been told that the LG Chem Prime battery will be available at the end of October or beginning of November. Even if that estimate is accurate and there are no further pandemic-related supply chain delays, it is very unlikely that we could install the battery storage system in time to complete the contract by November 1, 2021. Because of the way the installation contract is

written, we will not be able to subcontract this battery storage work out to a C-10 with a Certified Electrician on staff. This contract alone represents $81,717.00 in revenue.

16. If SolarHut is unable to perform on this and its two other outstanding battery storage contracts, as will almost certainly be the case, the company will not only face potential contract liability, but will also suffer harm to the impeccable professional reputation that my employees and I have worked so hard to create. If SolarHut is forced to default on this contract due to legal and logistical circumstances beyond my control, this will further damage our professional relationship with SunPower and potential future solar customers.

17. The CSLB's rule will also have a devastating impact on SolarHut's work force. Our most recent hire is a salesperson whose sole task is to follow up on the SunPower referrals we had started to receive. When and if those SunPower leads dry up after November 1, 2021, I will be forced to terminate this sales position and will have to let go of our newest employee. Indeed, my ability to employ other members of the sales team will be jeopardized as well, given that it will be difficult to make future sales once we explain that we can no longer install battery storage with our rooftop solar systems.

18. I also expect to have difficulty retaining my installation workers after the CSLB's regulatory changes go into effect. Despite the fact that some of my solar installers have been doing this work for over a decade, they will no longer be able to work on battery storage installations after November 1, 2021. This will be true even if I somehow obtained a C-10 license by November 1, because we do not have a Certified Electrician on staff. Moreover, even if I were able to hire a Certified Electrician in the midst of the current labor shortage, which I have been trying to do for the last two years without success, the Certified Electrician would be doing the same work my installers formerly did. Thus, the Certified Electrician would act as a replacement for these employees, who will still be in the position of no longer being qualified to do the work they have done their entire careers.

19. I have considered the possibility of having one of my certified installers become a Certified Electrician. I have done significant personal research into the requirements and I have found that the length of the electrician certification process would be four to six years—a period of time that is far too long to save SolarHut and my workers from irreparable financial and business harm. For instance, if one of my certified installers wanted to become a Certified Electrician, he would need to complete a four-year

journeyman program, 8,000 apprenticeship hours working directly under a Certified Electrician, provide documentation demonstrating that these apprenticeship hours were worked under the correct supervision and type of license, and take the Certified Electrician exam. When I worked for a C-10 license holder at the beginning of my career, it took some of my colleagues years to accrue enough hours to become a Certified Electrician. Given that solar installation work slows in the winter and that there is a shortage of Certified Electricians available to train apprentices, I believe it would also take years for any of my current employees to become a Certified Electrician.

20. I have researched sitting for the C-10 license exam. I would need to gather significant paperwork to demonstrate my experience and hours worked, submit this documentation to the Social Security Administration, and sit for the C-10 license exam. Based on my understanding of the process, there is no way that I could complete the certification requirements by November 1, 2021.

21. Moreover, based on CSLB's Bulletins, if I obtain a C-10 license after November 1, 2021, my crews will no longer be able to do any work involving connecting electrical devices. Under the CSLB's rule change, I would need a Certified Electrician for essentially every job SolarHut does. As I understand the CSLB's explanation at its September 17 workshop, if the job involves battery storage, no one but a Certified Electrician can do any wiring, including wiring for run-of-the-mill residential PV solar panels. Yet, if I continue to operate under my C-46 license alone, my crews will still be able to do the wiring work associated with installation of rooftop solar systems that do not include battery storage. This nonsensical licensing structure puts me, an installer who currently holds only a C-46 license, in the impossible position of giving up projects with batteries, which will jeopardize my ability to stay in business, or sitting for the C-10 exam and continuing to do battery work with a workforce I do not have and cannot find. Given the number of jobs we have and my physical limitations and age, I could not do the work involving electrical devices myself and continue to run my business.

22. Even if I did decide to pursue my C-10 license, it will be nearly impossible to find and hire a qualified Certified Electrician who wants to work for a small solar company. First, CSLB's change in the scope of the C-46 license will cause other C-46 contractors to seek C-10 licenses. Under CSLB's new rule, C-10 license holders will now have to hire Certified Electricians, thus increasing demand for these laborers. In my experience, the labor supply is already very scarce in the field of solar installation and

construction, more broadly, and especially for Certified Electricians. I hired a Certified Electrician two years ago, but he proved to be an unreliable employee who crashed two company trucks and performed subpar work. I terminated his employment after just three months and have not been able to find a replacement since. I am personally acquaintanced with three different Certified Electricians, all of whom have expressed a strong dislike for solar work. Moreover, the added cost of hiring a Certified Electrician, which would require me to pay much more than the $40 per hour rate I pay my current installers and increase the rates I charge my customers as a result.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed September 27, 2021 at Placerville, California.

Luke Miller

Declaration of Luke Miller

Final Audit Report 2021-09-27

Created:	2021-09-27
By:	Dolores Abrams (abrams@smwlaw.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA4BDS0pQxojO1vlD78uzqJQDi2klinaV5

"Declaration of Luke Miller" History

Document created by Dolores Abrams (abrams@smwlaw.com)
2021-09-27 - 7:09:11 PM GMT- IP address: 52.39.49.65

Document emailed to Luke Miller (lukemiller@solarhut.org) for signature
2021-09-27 - 7:09:57 PM GMT

Email viewed by Luke Miller (lukemiller@solarhut.org)
2021-09-27 - 8:57:24 PM GMT- IP address: 66.249.84.232

Document e-signed by Luke Miller (lukemiller@solarhut.org)
Signature Date: 2021-09-27 - 8:58:47 PM GMT - Time Source: server- IP address: 102.165.42.45

Agreement completed.
2021-09-27 - 8:58:47 PM GMT

MATTHEW D. ZINN (State Bar No. 214587)
HEATHER M. MINNER (State Bar No. 252676)
EDWARD T. SCHEXNAYDER (State Bar No. 284494)
TORI GIBBONS (State Bar No. 286112)
SHUTE, MIHALY & WEINBERGER LLP
396 Hayes Street
San Francisco, California 94102
Telephone: (415) 552-7272
Facsimile: (415) 552-5816
Zinn@smwlaw.com
Minner@smwlaw.com
Schexnayder@smwlaw.com
Gibbons@smwlaw.com

Attorneys for Petitioner and Plaintiff
CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION, INC. dba CALIFORNIA SOLAR and STORAGE ASSOCIATION

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

CALIFORNIA SOLAR ENERGY INDUSTRIESASSOCIATION, INC. dba CALIFORNIA SOLAR and STORAGE ASSOCIATION

Petitioner and Plaintiff,

v.

CONTRACTORS STATE LICENSE BOARD; DAVID FOGT, in his official capacity as Registrar of Contractors; and DOES 1-20, inclusive,

Respondents and Defendants.

Case No. CGC-21-594911

DECLARATION OF SCOTT RYAN IN SUPPORT OF PETITIONER'S MOTION FOR PRELIMINARY INJUNCTION

Code of Civil Procedure § 1085; Administrative Procedures Act, Government Code § 11340 et seq.

Filed Concurrently with PETITIONER'S MOTION FOR PRELIMINARY INJUNCTION

DECLARATION OF SCOTT RYAN

I, Scott Ryan, declare as follows:

1. I am the owner of SunPower by Sun Solar (Sun Solar), a member of the California Storage and Solar Association (CALSSA), the petitioner in this action. I make this declaration in support of CALSSA's motion for a preliminary injunction. I have personal knowledge of the facts set forth herein, except as to those stated on information and belief, and as to those, I am informed and believe them to be true. If called as a witness, I could and would competently testify to the matters stated herein.

2. I have been the owner and President of Sun Solar since February 2020. Prior to this, I was the Vice President of the company, which previously operated under the name Solar Energy Solutions, for nine years. From 2006 to 2011, I was the general manager of residential and light commercial solar energy installer, Bland Solar & Air, Inc. I also co-owned and managed Solar Sign, a company I founded to do product development of low cost solar-powered signage lighting. In total, I have worked in the solar industry for 15 years.

3. Sun Solar is a solar company that specializes in installing residential and commercial solar energy panels and systems throughout central and southern California. Sun Solar has corporate offices in Bakersfield, California, and three additional offices in Visalia, Fresno, and Anaheim, California, respectively. Between these four offices, Sun Solar employs about 100 people. Sun Solar is a licensed dealer for both SunPower and Tesla battery systems. One of the requirements to become a SunPower dealer is that every one of Sun Solar's crews has a member who has undergone Hazardous Materials training on how to safely transport and handle batteries.

4. Approximately 90 to 95 percent of Sun Solar's work consists of photovoltaic (PV) solar installations on residential rooftops. In 2021, Sun Solar has entered about 700 contracts for residential rooftop solar installation and has completed the work on 500 of those contracts. Of Sun Solar's residential rooftop solar installation contracts entered or completed in 2021, roughly 20 to 25 percent are paired with battery energy storage systems.

5. Sun Solar has seen a tremendous increase in the demand for residential rooftop solar that includes battery storage in the last several years. In August 2021 alone, Sun Solar sold 24 battery energy storage systems, meaning that the company signed installation contracts for residential rooftop solar that

included a battery storage component. Sun Solar's rooftop solar installations typically cost a residential customer around $35,000. Adding battery storage to that installation contract typically increases the price of the contract by about $20,000. Based on this cost breakdown, Sun Solar made approximately $480,000 from the battery portion of its installation contracts. Sun Solar's August 2021 total revenue from rooftop solar and battery storage installation contracts was around $840,000. This August sales figure represents a typical month for Sun Solar.

6. In my conversations with Sun Solar's customers, I have found that this huge increase in demand is due to concerns about rolling power shut offs, wildfires, and the inability of California's grid to provide sufficient power on peak usage days. For instance, I do not have rooftop solar or battery storage at my personal residence. We experienced a six hour power outage this summer during one of the hottest days of the year. During that outage period, my spouse and I agreed that we would make adding solar battery storage installation at our home a priority for the near future.

7. In the face of this growing demand for residential rooftop solar with battery storage, Sun Solar has faced a number of supply chain issues in the past year. For instance, orders for the Tesla Powerwall Battery System can be delayed for up to 12 months. Because of these supply chain delays, Sun Solar has roughly 75 rooftop solar installation with battery contracts that are currently pending until the battery manufacturer can supply Sun Solar with the requisite batteries.

8. I hold a C-46 solar contractor's license on behalf of Sun Solar. When I bought out my business partner in 2020 to take full ownership of the company, I had to take the C-46 license exam so that I could become the new qualifier for Sun Solar's license. While I am not allowed to reveal details of the test, I can say that a significant number of questions were related to batteries and battery storage installation, as reflected in the published study guide. Under the company's C-46 license, Sun Solar has been installing solar photovoltaic systems on residential rooftops—including those with battery storage—since 2010.

9. Sun Solar works on solar and solar with battery installations throughout California's Central Valley, ranging from Anaheim to Bakersfield to Fresno. In doing this work, Sun Solar has worked with roughly 50 to 60 different jurisdictions to obtain the requisite permits. As part of the permitting process, Sun Solar must comply with any safety and regulatory requirements of the local jurisdiction. A

typical residential rooftop solar installation job begins with a crew leader reviewing the Plan Sets. A Plan Set is a document that Sun Solar generates with information about the job location, description of work we contracted to do, and a list of system components required for the installation. The Plan Set guides the entire solar energy system installation process and is approved by local building officials as being code compliant before they issue a permit to begin work. Once they receive approval, the crew installs the rooftop solar system, followed by the battery storage component, if one is included.

10. Following any solar installation job, a local inspector must check the rooftop installation, as well as the electrical work throughout the project. The inspector looks for the correct clearances, wire sizing, proper electrical grounding for safety, and that the equipment has been installed in accordance with the manufacturer's specification, California Fire Code, local building codes, and the National Electric Code. All of Sun Solar's solar installation work is subject to thorough inspection, including its battery storage system installation.

11. I have never had, nor am I aware of, any issues with the public safety of Sun Solar's installations with battery systems. We have never had a fire or any significant safety malfunction of a system caused by the workmanship of Sun Solar's installation employees from the electrical aspect of the rooftop solar arrays or the battery storage components.

12. It is my understanding that once the Contractors State License Board's (CSLB) new rule goes into effect on November 1, 2021, Sun Solar will no longer be able to install battery storage systems under my C-46 license. Sun Solar does not have any other license classification authorized to install batteries. I understand from the CSLB's bulletin regarding the new rule that this restriction applies to any and all work done under a C-46 license after November 1, 2021, including work on unfinished installation contracts that predate November 1, 2021.

13. This new rule will have a significant and immediate impact on my business. First, Sun Solar will lose revenue we would otherwise have received from obtaining and completing contracts for solar installation with battery storage systems. As noted above, this currently represents a loss of 20 to 25 percent of our annual business. Prior to the CSLB's new rule, we had expected to see Sun Solar's battery storage installation work grow even further next year, based on customer demand. The battery portion of Sun Solar's current installation projects represents roughly $480,000 of monthly revenue. If the CSLB's

rule goes into effect on November 1, 2021, Sun Solar stands to lose not only revenue from the sale and installation of battery systems, but the core business from the solar PV system installation as well, because customers are becoming increasingly uninterested in investing in rooftop solar installation that does not also include battery storage.

14. Sun Solar has already begun to experience a loss in revenue and core business due to the inability to contract for solar plus battery installation. It typically takes around 60 days for a solar installation project to go from a signed customer contract to a fully permitted undertaking. There are around 40 days between now and November 1, 2021, when the CSLB's rule will go into effect. Because the new rule will preclude Sun Solar from completing work on any pre-existing contracts after November 1, 2021, we are hesitant to sign new contracts for solar with battery storage at this point. It is unlikely that we could obtain the necessary permitting and complete the installation work under our C-46 license before the November 1 rule goes into effect. Taking this work without being able to complete it in time would leave Sun Solar open to potential contract liability and would damage the company's professional reputation. Sun Solar's hesitancy to seek out new contracts in light of the upcoming regulatory change means that we are missing out on the revenue and core business from the contracts we otherwise would be signing right now.

15. Relatedly, Sun Solar is facing potential contract liability and loss of business reputation from current contracts that it may not be able to complete by November 1, 2021, due to supply chain issues or the length of the permitting process. Currently, we have between 40 and 50 contracts that include battery storage that are in jeopardy of not being completed by November 1. This represents a potential loss of $800,000 in revenue if the customer still buys the solar portion of the contract, as well as contract liability and loss of goodwill with our customers. If the customer decides not to go forward with the solar portion of the contract, the potential losses will be even greater.

16. Sun Solar also will not be able to perform repair and maintenance work on solar plus battery systems guaranteed under our warranties after November 1, 2021. The state of California has a Self-Generation Incentive Program (SGIP) in which home and business owners who install battery storage can be eligible for a rebate. To qualify for the rebate, the installation contractor must provide the customer a 10-year service and maintenance contract and warranty. Sun Solar has offered this SGIP-based 10-year

warranty since the SGIP's inception as a way to lower customer costs and incentivize sales. I currently employ three full time service techs who work solely on maintenance and warranty calls. Following the November 1, 2021 rule, Sun Solar will no longer be able to perform service or maintenance work under these warranties on solar systems that include battery storage. Sun Solar will not be able to subcontract the work to a C-10 because specialty contractors, like a C-46, will be prohibited from subcontracting work to others that they are not permitted to perform under their own classification. Sun Solar's warranties also contain a provision stating that the warranty is void if another contractor works on one of Sun Solar's systems. Because of this, Sun Solar will not be able to perform its contractual obligations, will be exposed to contract liability, and will suffer a loss of business reputation among customers who are frustrated that Sun Power can no longer do the work it promised.

17. In anticipation of these devastating financial and professional losses, I have been exploring what it would take to obtain a license under which Sun Solar could continue to do much of its existing work and have been gathering necessary paperwork. This paperwork, which must be certified by someone who is experienced in that field of work or who already holds the type of license being sought, must be submitted to the Contractors State License Board Registrar's Office, which will take an estimated 60-90 days to respond to my application. Even if the Registrar's Office gets back to me and approves my hours, I still need to take the licensing exam. Based on my understanding of the process and these timelines, I will not be able to obtain an additional type of license by November 1, 2021. This means Sun Solar will not be able to take on any rooftop solar and battery jobs starting November 1. Given that this is 25 percent of Sun Solar's work, I would need to take drastic measures to ensure the financial stability of the business, which could mean laying off several workers, until I could get a license to continue this solar plus battery installation work.

18. The CSLB's new rule directs C-46 license holders to add the C-10 Electrical contractor classification to their license and then employ Certified Electricians to engage in work involving the connection of electrical devices such as solar panels or batteries after November 1, 2021. This means that my existing crews who have been doing rooftop solar with and without battery storage installations for over 10 years would no longer be qualified to perform this work. If I had a C-10 license, I would likely need to lay off 10 to 15 people so that I could try to hire Certified Electricians or some combination of

Certified Electricians and Certified Electrician apprentices. But that is not a viable option. We have attempted to hire Certified Electricians off and on for the last 10 years with little to no success, despite having run job postings with Associated Builders and Contractors, colleges, and other forums. My experience is consistent with my understanding that throughout the industry there is an extreme shortage of Certified Electricians in California.

19. Similarly, it is not viable for me to convert my existing workers to Certified Electricians. Based on my review of the requirements, if a member of my current installation crews wanted to become a Certified Electrician, he or she would need to spend significant time apprenticing with a Certified Electrician. The Certified Electrician training hours requirements are such that this apprenticeship experience would likely stretch over multiple years. Moreover, it is my belief that any work experience done under a C-46 license cannot be counted toward a Certified Electrician apprentice's certification hours. I know this because Sun Solar has three employees who are currently in three- or four-year certified electrician training programs, attempting to become Certified Electricians. They have to attend certified electrician training classes outside of their employment with Sun Solar because the hours they work under my C-46 do not count toward their certification. These employees are still one or more years away from becoming Certified Electricians. Thus, I could not simply or quickly convert my existing workforce to readily comply with the CSLB's new requirements.

20. A requirement to use Certified Electricians for work involving connecting solar panels and batteries would halt or drastically slow Sun Solar's ability to work on solar installations.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed September 24, 2021 at Bakersfield, California.

Scott Ryan (Sep 24, 2021 16:38 PDT)

Scott Ryan

Declaration of Scott Ryan

Final Audit Report 2021-09-24

Created:	2021-09-24
By:	Dolores Abrams (abrams@smwlaw.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAHJQUiuNBYAMEb_dEOUo92QWq-pom4v_M

"Declaration of Scott Ryan" History

Document created by Dolores Abrams (abrams@smwlaw.com)
2021-09-24 - 11:36:31 PM GMT

Document emailed to Scott Ryan (scott@sunpowerbysunsolar.com) for signature
2021-09-24 - 11:37:18 PM GMT

Email viewed by Scott Ryan (scott@sunpowerbysunsolar.com)
2021-09-24 - 11:37:35 PM GMT

Document e-signed by Scott Ryan (scott@sunpowerbysunsolar.com)
Signature Date: 2021-09-24 - 11:38:08 PM GMT - Time Source: server

Agreement completed.
2021-09-24 - 11:38:08 PM GMT

November 30, 2020

Via Email (David.Fogt@cslb.ca.gov)
David Fogt
Registrar, Contractors State License Board
P.O. Box 26000
Sacramento, CA 95826

Dear Mr. Fogt,

The California Solar & Storage Association (CALSSA) is writing to express our objection and concern regarding CSLB's stated intention to award RFP No. CSLB-20-01 for Energy Storage Consultant Services (RFP) to the Institute for Research on Labor Employment (IRLE). The RFP seeks a consultant to analyze "*the issues of [battery energy storage system] safety in installation and the cost to the marketplace of amending CSLB regulations*…." IRLE is a longtime, outspoken and biased advocate of organized labor. And as such, IRLE does not satisfy the RFP's minimum qualifications and any analysis it provides will be tainted by its demonstrated bias. CSLB should award this RFP to an impartial and unbiased Proposer.

Section B of the RFP defines "*Minimum Qualifications for the Proposer*." It states that the Proposers must "*have had no affiliation, whether by membership, contract, volunteer, or similar, with a private electrical, utility worker or solar energy industry association*" within the prior five years.[1] This would include any affiliation with the International Brotherhood of Electrical Workers (IBEW). The purpose of this qualification is to avoid bias that creates an actual or perceived conflict of interest. This is especially important with respect to IBEW. For decades, IBEW has lobbied CSLB to restrict the C-46 solar contractor license classification in ways that benefit IBEW and other labor unions, including CSLB's current regulatory process regarding Energy Storage Systems (ESS).

IRLE is an advocacy organization for labor unions. Its stated purpose is to support "*the vital and effective functioning of unions and worker organizations*" and "*cultivate partnerships around the issues that matter most to unions...*"[2] IRLE's pro-union bias is

[1] Department of Consumer Affairs, RFP No. CSLB-20-01, Energy Storage System Consultant Services. March 4, 2020.
[2] See IRLE's website "About Us" page at https://laborcenter.berkeley.edu/about/ (Accessed 11/30/2020).

further demonstrated by the staff it would assign to this RFP – Betony Jones and Dr. Carol Zabin – each of whom have extensive affiliations with the IBEW and organized labor generally.

IRLE's website demonstrates the pro-union bias of the organization and these individuals. For example, the IRLE website includes a November 2020 publication authored by Ms. Jones titled "*Prevailing wage in solar can deliver good jobs while keeping growth on track*." The following excerpt from the introduction preordains how IRLE and Ms. Jones analysis under this RFP:

> *Despite growing commitment to policy solutions that ensure more equitable climate solutions, many industry players vehemently oppose such solutions, arguing that we can either respond to the urgency of saving the planet or we can create quality jobs and ensure economic equity… but not both.*
>
> ***
>
> *Prevailing wage is good for workers and the local economy, but the solar industry argues that prevailing wage standards will make projects too expensive and halt solar development. The logic of this argument gains an easy foothold, but it's simply not true.*[3]

IRLE and its staff have a clear affiliation with and bias in favor of IBEW, as demonstrated by a brief sampling of evidence provided below:

1. On September 12, 2018, the UC Berkeley Labor Center (IRLE is the Labor Center's administrative unit) organized a conference titled "Labor in the Climate Transition: Charting the Roadmap for 2019 and Beyond." The stated goal of the conference goals was to "*[h]ighlight the importance of labor unions for building sustainable broad-based coalitions that can support strong climate policies at the state, national and international level*". [4]

   IBEW and two other labor union organizations co-sponsored the event. See Attachment A for documentation.

1. On July 12, 2016, the IRLE held a press conference to release its report titled "*The Link Between Good Jobs and a Low Carbon Future*." This report was co-authored by the same individuals IRLE proposes assigning to CSLB's RFP, Dr. Carol Zabin and Betony Jones. The press conference was held at IBEW-NECA Sacramento Area Electrical Training Center, and the press release explicitly references IRLE's pro-union bias. See Attachment B for documentation.

[3] See *Prevailing wage in solar can deliver good jobs while keeping growth on track*, Betony Jones, published 11/12/2020. Available at https://laborcenter.berkeley.edu/green-economy/.

[4] https://laborcenter.berkeley.edu/beyond2019-post/

2. On March 12, 2018, Betony Jones spoke on a panel with a representative from IBEW Local 595 at a forum titled "*Climate Change and Labor: Challenges and Opportunities*." The purpose of the forum was "*to grow communication channels between labor representatives, policy experts and climate advocates in order to create promising pathways to a prosperous and equitable future*." See Attachment C for documentation.

3. On January 11, 2019, the "Blue Green Alliance" published a blog post, cowritten by labor union representatives, including IBEW, the Western States Council of the International Association of Sheet Metal, Air, Rail and Transportation and the CA State Pipe Trades Council. The post praised a new California Public Utilities Commission decision that would, "*ensure that when utility incentives are used for certain efficiency upgrades, the workers installing the equipment must be properly trained[.]*"[5] It appears that Betony Jones worked with the IBEW to advocate for this decision, as on January 14, 2019, she shared it on Twitter with the accompanying message, "*Proud to work with @IBEW, @UCBLaborCenter, @SierraClub, @NRDC, @CleanAirCA, CA State Pipe Trades Council, & SMART Western States Council to help create good #highroadjobs & reduce greenhouse gas emissions in California. #LaborClimate #EnergyEfficiency*." See Attachment D for documentation.

4. On February 9, 2019, Dr. Carol Zabin spoke on a panel about climate activism and unions with IBEW's Director of Environmental and Workforce Engagement, Jennifer Kropke. Ms. Kropke later tweeted a photo of her with Dr. Carol Zabin with heart emojis around the phrase "*our house of labor*." See Attachment E for documentation.

We would also like to point out that Donald Holmstrom, who will be conducting the "Workplace Risk and Safety Analysis" for IRLE's team on this RFP, is a former president of the Oil, Chemical and Atomic Workers International Union. See Attachment F for documentation.

IRLE and its staff have had a public affiliation with the IBEW and their pro-union bias is undeniable. When Betony Jones tweets that she is "*Proud to work with the IBEW*" she demonstrated a public affiliation and affinity with the IBEW. When Dr. Zabin speaks on a panel about climate activism and unions with representatives from the IBEW and then poses, smiling, for a photo with an IBEW representative that is tweeted out with the caption "*our house of labor*," a public affiliation and affinity with IBEW cannot be denied. When the Labor Center allows the IBEW to pay them to co-sponsor their workshop titled "*Labor in the Climate Transition: Charting the Roadmap for 2019 and Beyond*," the organization's bias in favor of IBEW is obvious.

[5] https://www.bluegreenalliance.org/resources/california-public-utility-commission-agrees-a-skilled-trained-and-diverse-workforce-is-the-key-to-achieving-efficiency-goals/

CALSSA respects IRLE and its staff and this objection is not meant to denigrate their work in any way. But the BESS issue and CSLB's proposed restriction of the C46 license classification is highly controversial. CSLB issued this RFP to obtain unbiased, professional analysis of the cost and safety issues that bear upon this issue. Any analysis by IRLE is preordained to echo the position its union allies have asserted for years, and CSLB BESS analysis would be irreparably tainted as a result. CSLB should not and can not countenance such a biased action.

IRLE and its staff lack the qualifications stated in the RFP, and for that reason, CALSSA requests that CSLB not proceed with awarding this RFP to IRLE or its staff.[6]

Sincerely,

Bernadette Del Chiaro
Executive Director, California Solar & Storage Association

cc: Reza Pejuhesh, Department of Consumer Affairs (via e-mail Reza.Pejuhesh@dca.ca.gov)

[6] On November 9, 2020, CALSSA received an email from an attorney with the Department of Consumer Affairs indicating that "no bidders filed a timely protest" to awarding the RFP to IRLE. Please note that CALSSA was unable to protest this award because it did not submit a bid.

SHUTE, MIHALY & WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

EDWARD T. SCHEXNAYDER
Attorney
Schexnayder@smwlaw.com

November 23, 2021

Via Electronic Mail Only

Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

Re: Contractors State License Board's Proposal to Initiate Rulemaking to Preclude C-46 Solar Contractors from Installing Battery Energy Storage Systems

Dear Ms. Del Chiaro:

We have reviewed the Contractors State License Board's proposed amendments to Title 16 of the California Code of Regulations, including section 832.46, which sets forth the special license classification for C-46 Solar Contractors (collectively, "Proposed Rule"). As proposed, these amendments would dramatically restrict solar contractors' work by, among other things, prohibiting solar contractors from installing, maintaining, or repairing battery energy storage systems that are paired with photovoltaic solar energy systems.

As discussed below, the Proposed Rule is unlawful. As an initial matter, it exceeds the scope of the Board's regulatory authority over contractors in numerous respects, including by rewriting the C-46 classification in a manner that is inconsistent with the established practice in the solar industry. Additionally, the Board cannot authorize adoption of the Proposed Rule without first conducting environmental review under the California Environmental Quality Act. By limiting the availability of new solar and storage installations in California, the Proposed Rule will foreseeably and adversely

affect the both the environment and public health throughout the state.[1] Moreover, if adopted, the Proposed Rule would substantially impair solar contractors' existing contractual rights and obligations, rendering the Proposed Rule unconstitutional. For all of these reasons, the Board cannot adopt the Proposed Rule in its current form.

I. The Proposed Rule Exceeds the Board's Regulatory Authority.

Although state law authorizes the Board to establish specialty license classifications, that authority is limited in key respects. First, the Board may only adopt regulations that "effect the classification of contractors *in a manner consistent with established usage and procedures* as found in the construction business." Bus. & Prof. Code § 7059 (emphasis added). This statute clearly requires the Board follow existing industry practice when establishing license classifications. *See* 55 Ops.Atty.Gen. 141 (in defining a license classification, the "Board must find from established usage and procedure . . . that a particular area of construction operations requires special skill and involves the use of specialized building trades or crafts.").

Here, the Proposed Rule is fundamentally *inconsistent* with established usage and procedures in the solar industry. Solar contractors have been installing energy storage systems as part of solar energy systems since the inception of the C-46 classification. As the Board itself explained in its 2019 study of energy storage systems, "[t]he C-46 Solar Contractor has been installing some form of [energy storage systems] in conjunction with a photovoltaic system *for approximately 40 years*." CSLB, Energy Storage Systems Report (March 2019) (emphasis added). With increased demand for solar and storage projects today, licensed solar contractors must continue to be well-versed in battery installations. In 2017, the Board conducted an occupational analysis "to identify the *critical job activities* performed by [Board]-Licensed C-46 Solar Contractors." CSLB, Occupational Analysis Report, C-46 Solar Examination (August 2017) at 5 (emphasis added). "Photovoltaic (PV) System Installation and Commissioning," including the installation of "equipment used in the generation and *storage* of electricity," received the

[1] As currently drafted, the Proposed Rule states that "A licensee classified in this section [C-46] shall not install, connect, modify, maintain, or repair a battery energy storage system." The apparent meaning of this prohibition is that if a solar contract wished to install battery projects, the contractor could not hold a C-46 classification at all, even if the contractor simultaneously held a C-10 classification. The result would be that any contractor that installs a battery project under a C-10 classification would be required to use certified electricians for all solar projects, even ones that do not have a storage component. If this is indeed the CSLB's intent, the rule would have an even greater impact on the environment by slowing the deployment of not only solar and storage projects, but all solar panel projects for companies that engage in this work.

highest critical task score. *Id*. at 18 (emphasis added). Reflecting this assessment, 22 percent of the C-46 (Solar Contractor) license exam covers battery storage and assesses a candidate's knowledge in the installation of photovoltaic systems "with energy storage (i.e., batteries)," among other tasks. The *Contractors State License Board License Examination Study Guide, Solar C-46* likewise lists "Install energy storage systems (ESS)" as a key exam topic for the C-46 classification. Thus, as the Board has repeatedly recognized, the "established usage and procedures" for the C-46 classification includes installing batteries as part of solar energy storage systems. Accordingly, the Board may not lawfully adopt the Proposed Rule, which is inconsistent with that usage and procedure.

Additionally, the Board is only authorized to employ license classifications to "effect the classification of *contractors*." Bus. & Prof. Code § 7059 (emphasis added). Crucially here, the Proposed Rule's fundamental purpose is not to regulate contractors themselves, but rather their *workers*. The Proposed Rule is premised on the (erroneous) view that solar contractors' workers are not qualified to install batteries, and that only certified electricians may install batteries. As discussed in other materials CALSSA has submitted to the Board, there is no basis for this distinction, especially where there is no evidence that certified electricians are better equipped to install batteries.

Indeed, regulating all solar contractors in this manner conflicts with the fundamental purpose of the California Contractor's Law, which is to protect consumers from unscrupulous contractors:

> It was not the purpose of the legislature in adopting the original 'Contractor's License Law' in 1929 or in making additions or amendments thereto . . . to work a hardship upon honest men engaged in a contracting business. The legislative intent was to protect the public against incompetent and dishonest operators.

Oddo v. Hedde (1950) 101 Cal.App.2d 375, 382. Here, C-46 contractors and their works have been safely and professionally installing the batteries in energy storage systems for over four decades. There is no evidence that precluding these contractors from continuing with this work would provide any protection for battery consumers in California.

Even assuming the Board could lawfully amend the C-46 classification to preclude battery installations, the Proposed Rule further violates Business & Professions Code section 7059 by attempting to define "incidental and supplemental" work performed by solar contractors to conclusively exclude installing batteries. Business & Professions Code section 7059 expressly allows contractors to perform work in crafts or trades outside of a specialty license classification where that additional work is "incidental and

supplemental" to work performed under a license. Courts have long interpreted "incidental and supplemental" work as being "necessary to the main purpose" of the work authorized by a license classification. *Currie v. Stolowitz* (1959) 169 Cal.App.2d 810, 814. This settled legal interpretation aligns with the Board's current regulatory definition of "incidental and supplemental," which is "essential to accomplish the work in which the contractor is classified." 16 Cal. Code Regs. § 831.

The Proposed Rule would amend Title 16, section 831, to definitively conclude that installing battery energy systems is never "incidental and supplemental" to installing a solar energy system. We are aware of no other attempt by the Board to arbitrarily single out another specialty license classification in such a manner. Indeed, doing so here ignores that *by design*, many solar energy systems require batteries to operate. For instance, solar energy systems that are not connected to the grid cannot function without a battery energy system. Additionally, solar energy systems connected to the grid will not perform their desired task of providing back-up power to customers during a power outage unless they are paired with a battery. Thus, installing batteries is frequently "necessary" and "essential" for solar contractors to install solar energy systems under the C-46 classification. This essential nature of energy storage as a component of a photovoltaic system is further reflected in the CSLB's own C-46 Occupational Analysis, which defines Domain 4 – Photovoltaic (PV) System Installation and Commissioning as the domain that "assesses the candidate's knowledge of the installation of PV components, wiring, and ancillary equipment used in the generation and storage of electricity." C-46 Occupational Analysis (August 2017) at 18. By attempting to categorically determine that installing a battery energy storage system is never "incidental and supplemental" to installing a solar energy system, the Proposed Rule conflicts with the established statutory meaning of that term.

Finally, the Proposed Rule purports to declare that, by definition, solar energy systems exclude battery energy storage systems, creating conflicts with state law that establish that solar energy systems *include* energy storage. For instance, Civil Code section 801.5 defines "solar energy system" as "[a]ny solar collector or other solar energy device whose primary purpose is to provide for the collection, *storage*, and distribution of solar energy for space heating, space cooling, electric generation, or water heating." (Emphasis added.) Revenue & Taxation Code § 73(b)(1) similarly defines an "Active solar energy system" as a "system that . . . uses solar devices, which are thermally isolated from living space or any other area where the energy is used, to provide for the collection, *storage*, or distribution of solar energy." (Emphasis added.) Thus, the Proposed Rule cannot be reconciled with other state laws that recognize that methods of storing solar energy, like batteries, are definitively *part of* a solar energy system.

II. The Board Cannot Authorize Adoption of the Proposed Rule Without First Conducting Environmental Review.

CEQA defines "project" as including an activity undertaken by a public agency that has the potential to cause either a direct or a reasonably foreseeable indirect change in the physical environment. Pub. Resources Code § 21065; 14 Cal. Code Regs. § 15378(a)(1). "[A] proposed activity is a CEQA project if, by its general nature, the activity is *capable of causing* a direct or reasonably foreseeable indirect physical change in the environment. This determination is made without considering whether . . . these potential effects will actually occur." *Union of Medical Marijuana Patients, Inc. v. City of San Diego* (2019) 7 Cal.5th 1171, 1197 (emphasis added). A reasonably foreseeable indirect physical change is one that "the activity is capable, at least in theory, of causing." *Id.*

As explained below, the Proposed Rule is capable of causing a reasonably foreseeable indirect physical change in the environment, making it a "project" for purposes of CEQA. Accordingly, the Board must study the potential environmental impacts of its proposed rule, at the very least by conducting an initial study to determine if the project may have a significant effect on the environment. 14 Cal. Code Regs. § 15063.

By limiting the types of contractors and workers who can install solar and storage systems, the Proposed Rule would severely curtail the installation of those systems, resulting in increased greenhouse gas emissions and other pollutants associated with fossil-fuel power plants. The Proposed Rule would require current C-46 license holders to obtain C-10 licenses and require dual license holders to use only certified electricians to install battery energy storage systems. The Proposed Rule would therefore necessitate a workforce conversion in the solar industry, from qualified solar installers to certified electricians. To put this shift into perspective, a 2019 CALSSA analysis estimated that there were a total of 50,000 certified electricians, electrical trainees, and electrical apprentices in California, compared to 48,295 qualified solar workers.

But this is just the current picture. The market for battery and solar panel installations has grown dramatically in recent years and is expected to continue to grow. California's 2019 Building Energy Efficiency Standards (Standards), which took effect on January 1, 2020, require the installation of solar panels on all new single-family homes and multi-family dwellings. Standards § 150.1(c)(14).The standards also require builders to design homes so that battery storage can be easily added. Standards § 110.10. This August, the California Energy Commission approved the 2022 Standards, which will additionally require the installation of solar panels and battery storage on new

commercial buildings and high-rise multifamily buildings beginning January 1, 2023.[2] CALSSA estimates that these mandates will increase the solar market by at least 22% due to growth in the commercial sector alone. This increased demand will require yet more installation workers and, if the Proposed Rule is adopted, certified electricians. Additional electricians will likewise be necessary to implement other elements of California's long-term climate goals, including within the renewable energy, energy efficiency, and building decarbonization sectors. California Workforce Development Board, *Putting California on the High Road: A Jobs and Climate Action Plan for 2030*, June 2020, p. 106; Betony Jones et al., *California Building Decarbonization: Workforce Needs and Recommendations*, November 2019, p. 31.

This expected increase in demand for electricians is in stark contrast to the labor supply shortage, expected to grow each year for at least the next decade. The U.S. Bureau of Labor and Statistics (BLS) estimates that over the next ten years the number of electrician jobs is expected to grow at a rate almost double that of construction trades workers generally.[3] During the same time period, the BLS projects approximately 84,000 openings for electricians each year, "result[ing] from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire." *Id.* This reality is consistent with the experiences of many CALSSA members, who already report long-standing difficulties finding and hiring certified electricians.

Given this critical shortage of electricians, if the Proposed Rule is adopted, there will not be enough electricians in California to meet the demand—both current and future—for solar and battery storage system installations. Without electricians to install solar and storage projects, the Proposed Rule will at best slow, and at worse halt, their deployment.

The resulting impact on the environment is clear and foreseeable. For each solar system not installed as a result of the proposed rule, the use of and reliance on carbon-based energy will increase, resulting in increased emissions of greenhouse gases and other pollutants. Similarly, lost solar storage capability will increase the use of dirty "peaker" plants and diesel backup generators during power shutoff events and other power outages, which have become increasingly common in recent years due to climate change and related wildfires. The impacts from this lost storage are especially great due

[2] California Energy Commission 2022 Building Energy Efficiency Standards Summary, available at https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf.
[3] U.S. Bureau of Labor Statistics Occupation Outlook Handbook, Electricians, available at https://www.bls.gov/ooh/construction-and-extraction/electricians.htm#tab-6, last visited November 17, 2021

to the Governor's recent emergency proclamation, which waives air pollution restrictions on natural gas plants and diesel generators during such emergency events. Moreover, because California power plants are disproportionately located in low-income and minority communities, these impacts will be primarily borne by communities that are already overburdened by pollution and resulting health impacts. Physicians, Scientists, and Engineers for Healthy Energy Research Brief, *Natural gas power plants in California's disadvantaged communities*, April 2017. Finally, sensitive wildlife habitat and open space initiatives such as Governor Newsom's "30 by '30" goal will also be compromised as many acres of land are used to build large solar farms in lieu of rooftop projects.[4]

The Proposed Rule is more than capable of causing these and other environmental impacts. Accordingly, the Board must analyze the potential environmental impacts of the Proposed Rule. See *Union of Medical Marijuana Patients,* 7 Cal.5th at 1197.

III. The Proposed Rule Would Unconstitutionally Impair Solar Contractors' Contracts.

Additionally, the Proposed Rule will violate the Contract Clauses of the California and United States Constitutions, both of which prohibit the state from impairing the obligations of contracts. Cal. Const. Art. I, § 9; U.S. Const. Art. I, § 10. Under both state and federal law, regulations that substantially impair a contractual relationship and are not justified by a "significant and legitimate public purpose" are void. *Energy Reserves Group, Inc. v. Kansas Power and Light Co.* (1983) 459 U.S. 400, 410-412; see also *Fourth La Costa Condominium Owners Assn. v. Seith* (2008) 159 Cal.App.4th 563, 584.

Here, the Proposed Rule would substantially impair existing contracts between solar contractors and their customers by preventing contractors from performing their warranty obligations. C-46 contractors have installed the vast majority of an estimated 39,000 integrated solar and storage systems in the last six years alone. For each of these installations, there is a contract between the installing contractor and the customer, the majority of which contain warranties obligating the contractor to service and maintain the installation and equipment. In fact, such warranties are a required condition of participation in the state's Self Generation Incentive Program (SGIP), which provides rebates to consumers for the installation of energy storage systems. To qualify for a rebate, the consumer's contract with the installer must include a minimum 10-year service warranty, which guarantees the continued performance of the system over the

[4] *See* https://www.gov.ca.gov/2020/10/07/governor-newsom-launches-innovative-strategies-to-use-california-land-to-fight-climate-change-conserve-biodiversity-and-boost-climate-resilience/

warranty period. July 13, 2021 SGIP Handbook, pp. 66-67. Ten-year installation and equipment warranties are also a required condition of interconnection, meaning that any consumer wishing to connect a storage system to the grid must contract with the installing contractor for such a warranty. California Public Utilities Commission Decision 16-01-44, Conclusion of Law ¶ 28.

The Proposed Rule would prevent contractors from performing their warranty obligations under these contracts, and any other contracts containing service and maintenance obligations. From the consumer's perspective, the Proposed Rule would eliminate contractually guaranteed service and maintenance of their systems. Moreover, in some cases, system and/or equipment warranties are conditioned on service and maintenance by the installing contractor alone. Therefore, the Proposed Rule, by preventing the installing C-46 contractor from servicing and maintaining, would in some instances void the system's and/or equipment's warranties entirely. These are substantial impairments of the parties' obligations under their contracts.

Finally, there is no significant and legitimate public purpose behind the Proposed Rule. There is no evidence that C-46 contractors and their workers are not qualified to safely install and maintain battery energy storage systems, and the Board has failed to identify any other valid basis for the Proposed Rule. To the contrary, the Proposed Rule would have a devastating impact on solar contractors and workers, as well as the state's clean energy policy goals and mandates, with no benefit to public or consumer safety. Thus, the Proposed Rule would squarely violate the Contract Clauses of the California and United States Constitutions.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Edward T. Schexnayder

1443053.1

CONTRACTORS STATE LICENSE BOARD
PROPOSED TEXT

Amend Section 810, as follows:

§ 810. Definitions

(a) For purposes of this division, "battery energy storage system" means *one device or devices assembled together capable of storing electrical energy to be supplied at a future time.* ~~a rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, and associated electrical equipment designed to provide electrical power to a building.~~ A battery energy storage system is *typically* used to provide standby or emergency power, and uninterruptible power supply, load shedding, load sharing or similar capabilities.

(b) For purposes of this division, "photovoltaic solar energy system" means any device or devices assembled together to provide for the collection, storage, and distribution of electricity.

(~~b~~c) For the purposes of this ~~chapter~~ division, "Board" means the Contractors State License Board and "Code," unless otherwise defined, means the Business and Professions Code.

Note: Authority cited: Section 7008, Business and Professions Code. Reference: Section 7008, Business and Professions Code.

Amend Section 832.10, as follows:

§ 832.10, Class C-10 - Electrical Contractor

An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, battery energy storage systems, solar photovoltaic cells or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

Amend Section 832.46, as follows:

§ 832.46. Class C-46 - Solar Contractor

(a) A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems *located on a customer property*.

(b) A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

(c) For the purposes of this section, ~~an energy storage system, as defined in section 810, shall be considered part of a photovoltaic solar energy system. A~~ *a* licensee classified in this section shall not install, connect, modify, maintain, or repair a battery energy storage system, as defined in section 810, *unless the battery energy storage system has an energy capacity less than one megawatt-hour and is paired with solar photovoltaic device or devices*.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

Amend Section 831, as follows:

§ 831. Incidental and Supplemental Defined.

(a) For purposes of Section 7059, work in other classifications is "incidental and supplemental" to the work for which a specialty contractor is licensed if that work is essential to accomplish the work in which the contractor is classified. A specialty contractor may use subcontractors to complete the incidental and supplemental work, or he may use his own employees to do so.

(b) For purposes of Section 7059 of the Code and this division, installation, connection, modification, maintenance, or repair of a battery energy storage system, as defined in section 810, is ~~not~~" incidental and supplemental" to the work performed by a licensee classified as a C-46 Solar Contractor pursuant to section 832.46 *when it is paired with a photovoltaic solar energy device or devices.*

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

SHUTE, MIHALY & WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

EDWARD T. SCHEXNAYDER
Attorney
Schexnayder@smwlaw.com

November 23, 2021

Via Electronic Mail Only

Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

Re: Contractors State License Board's Proposal to Initiate Rulemaking to Preclude C-46 Solar Contractors from Installing Battery Energy Storage Systems

Dear Ms. Del Chiaro:

We have reviewed the Contractors State License Board's proposed amendments to Title 16 of the California Code of Regulations, including section 832.46, which sets forth the special license classification for C-46 Solar Contractors (collectively, "Proposed Rule"). As proposed, these amendments would dramatically restrict solar contractors' work by, among other things, prohibiting solar contractors from installing, maintaining, or repairing battery energy storage systems that are paired with photovoltaic solar energy systems.

As discussed below, the Proposed Rule is unlawful. As an initial matter, it exceeds the scope of the Board's regulatory authority over contractors in numerous respects, including by rewriting the C-46 classification in a manner that is inconsistent with the established practice in the solar industry. Additionally, the Board cannot authorize adoption of the Proposed Rule without first conducting environmental review under the California Environmental Quality Act. By limiting the availability of new solar and storage installations in California, the Proposed Rule will foreseeably and adversely

affect the both the environment and public health throughout the state.[1] Moreover, if adopted, the Proposed Rule would substantially impair solar contractors' existing contractual rights and obligations, rendering the Proposed Rule unconstitutional. For all of these reasons, the Board cannot adopt the Proposed Rule in its current form.

I. The Proposed Rule Exceeds the Board's Regulatory Authority.

Although state law authorizes the Board to establish specialty license classifications, that authority is limited in key respects. First, the Board may only adopt regulations that "effect the classification of contractors *in a manner consistent with established usage and procedures* as found in the construction business." Bus. & Prof. Code § 7059 (emphasis added). This statute clearly requires the Board follow existing industry practice when establishing license classifications. *See* 55 Ops.Atty.Gen. 141 (in defining a license classification, the "Board must find from established usage and procedure . . . that a particular area of construction operations requires special skill and involves the use of specialized building trades or crafts.").

Here, the Proposed Rule is fundamentally *inconsistent* with established usage and procedures in the solar industry. Solar contractors have been installing energy storage systems as part of solar energy systems since the inception of the C-46 classification. As the Board itself explained in its 2019 study of energy storage systems, "[t]he C-46 Solar Contractor has been installing some form of [energy storage systems] in conjunction with a photovoltaic system *for approximately 40 years*." CSLB, Energy Storage Systems Report (March 2019) (emphasis added). With increased demand for solar and storage projects today, licensed solar contractors must continue to be well-versed in battery installations. In 2017, the Board conducted an occupational analysis "to identify the *critical job activities* performed by [Board]-Licensed C-46 Solar Contractors." CSLB, Occupational Analysis Report, C-46 Solar Examination (August 2017) at 5 (emphasis added). "Photovoltaic (PV) System Installation and Commissioning," including the installation of "equipment used in the generation and *storage* of electricity," received the

[1] As currently drafted, the Proposed Rule states that "A licensee classified in this section [C-46] shall not install, connect, modify, maintain, or repair a battery energy storage system." The apparent meaning of this prohibition is that if a solar contract wished to install battery projects, the contractor could not hold a C-46 classification at all, even if the contractor simultaneously held a C-10 classification. The result would be that any contractor that installs a battery project under a C-10 classification would be required to use certified electricians for all solar projects, even ones that do not have a storage component. If this is indeed the CSLB's intent, the rule would have an even greater impact on the environment by slowing the deployment of not only solar and storage projects, but all solar panel projects for companies that engage in this work.

highest critical task score. *Id*. at 18 (emphasis added). Reflecting this assessment, 22 percent of the C-46 (Solar Contractor) license exam covers battery storage and assesses a candidate's knowledge in the installation of photovoltaic systems "with energy storage (i.e., batteries)," among other tasks. The *Contractors State License Board License Examination Study Guide, Solar C-46* likewise lists "Install energy storage systems (ESS)" as a key exam topic for the C-46 classification. Thus, as the Board has repeatedly recognized, the "established usage and procedures" for the C-46 classification includes installing batteries as part of solar energy storage systems. Accordingly, the Board may not lawfully adopt the Proposed Rule, which is inconsistent with that usage and procedure.

Additionally, the Board is only authorized to employ license classifications to "effect the classification of *contractors*." Bus. & Prof. Code § 7059 (emphasis added). Crucially here, the Proposed Rule's fundamental purpose is not to regulate contractors themselves, but rather their *workers*. The Proposed Rule is premised on the (erroneous) view that solar contractors' workers are not qualified to install batteries, and that only certified electricians may install batteries. As discussed in other materials CALSSA has submitted to the Board, there is no basis for this distinction, especially where there is no evidence that certified electricians are better equipped to install batteries.

Indeed, regulating all solar contractors in this manner conflicts with the fundamental purpose of the California Contractor's Law, which is to protect consumers from unscrupulous contractors:

> It was not the purpose of the legislature in adopting the original 'Contractor's License Law' in 1929 or in making additions or amendments thereto . . . to work a hardship upon honest men engaged in a contracting business. The legislative intent was to protect the public against incompetent and dishonest operators.

Oddo v. Hedde (1950) 101 Cal.App.2d 375, 382. Here, C-46 contractors and their works have been safely and professionally installing the batteries in energy storage systems for over four decades. There is no evidence that precluding these contractors from continuing with this work would provide any protection for battery consumers in California.

Even assuming the Board could lawfully amend the C-46 classification to preclude battery installations, the Proposed Rule further violates Business & Professions Code section 7059 by attempting to define "incidental and supplemental" work performed by solar contractors to conclusively exclude installing batteries. Business & Professions Code section 7059 expressly allows contractors to perform work in crafts or trades outside of a specialty license classification where that additional work is "incidental and

supplemental" to work performed under a license. Courts have long interpreted "incidental and supplemental" work as being "necessary to the main purpose" of the work authorized by a license classification. *Currie v. Stolowitz* (1959) 169 Cal.App.2d 810, 814. This settled legal interpretation aligns with the Board's current regulatory definition of "incidental and supplemental," which is "essential to accomplish the work in which the contractor is classified." 16 Cal. Code Regs. § 831.

The Proposed Rule would amend Title 16, section 831, to definitively conclude that installing battery energy systems is never "incidental and supplemental" to installing a solar energy system. We are aware of no other attempt by the Board to arbitrarily single out another specialty license classification in such a manner. Indeed, doing so here ignores that *by design*, many solar energy systems require batteries to operate. For instance, solar energy systems that are not connected to the grid cannot function without a battery energy system. Additionally, solar energy systems connected to the grid will not perform their desired task of providing back-up power to customers during a power outage unless they are paired with a battery. Thus, installing batteries is frequently "necessary" and "essential" for solar contractors to install solar energy systems under the C-46 classification. This essential nature of energy storage as a component of a photovoltaic system is further reflected in the CSLB's own C-46 Occupational Analysis, which defines Domain 4 – Photovoltaic (PV) System Installation and Commissioning as the domain that "assesses the candidate's knowledge of the installation of PV components, wiring, and ancillary equipment used in the generation and storage of electricity." C-46 Occupational Analysis (August 2017) at 18. By attempting to categorically determine that installing a battery energy storage system is never "incidental and supplemental" to installing a solar energy system, the Proposed Rule conflicts with the established statutory meaning of that term.

Finally, the Proposed Rule purports to declare that, by definition, solar energy systems exclude battery energy storage systems, creating conflicts with state law that establish that solar energy systems *include* energy storage. For instance, Civil Code section 801.5 defines "solar energy system" as "[a]ny solar collector or other solar energy device whose primary purpose is to provide for the collection, *storage*, and distribution of solar energy for space heating, space cooling, electric generation, or water heating." (Emphasis added.) Revenue & Taxation Code § 73(b)(1) similarly defines an "Active solar energy system" as a "system that . . . uses solar devices, which are thermally isolated from living space or any other area where the energy is used, to provide for the collection, *storage*, or distribution of solar energy." (Emphasis added.) Thus, the Proposed Rule cannot be reconciled with other state laws that recognize that methods of storing solar energy, like batteries, are definitively *part of* a solar energy system.

II. The Board Cannot Authorize Adoption of the Proposed Rule Without First Conducting Environmental Review.

CEQA defines "project" as including an activity undertaken by a public agency that has the potential to cause either a direct or a reasonably foreseeable indirect change in the physical environment. Pub. Resources Code § 21065; 14 Cal. Code Regs. § 15378(a)(1). "[A] proposed activity is a CEQA project if, by its general nature, the activity is *capable of causing* a direct or reasonably foreseeable indirect physical change in the environment. This determination is made without considering whether . . . these potential effects will actually occur." *Union of Medical Marijuana Patients, Inc. v. City of San Diego* (2019) 7 Cal.5th 1171, 1197 (emphasis added). A reasonably foreseeable indirect physical change is one that "the activity is capable, at least in theory, of causing." *Id.*

As explained below, the Proposed Rule is capable of causing a reasonably foreseeable indirect physical change in the environment, making it a "project" for purposes of CEQA. Accordingly, the Board must study the potential environmental impacts of its proposed rule, at the very least by conducting an initial study to determine if the project may have a significant effect on the environment. 14 Cal. Code Regs. § 15063.

By limiting the types of contractors and workers who can install solar and storage systems, the Proposed Rule would severely curtail the installation of those systems, resulting in increased greenhouse gas emissions and other pollutants associated with fossil-fuel power plants. The Proposed Rule would require current C-46 license holders to obtain C-10 licenses and require dual license holders to use only certified electricians to install battery energy storage systems. The Proposed Rule would therefore necessitate a workforce conversion in the solar industry, from qualified solar installers to certified electricians. To put this shift into perspective, a 2019 CALSSA analysis estimated that there were a total of 50,000 certified electricians, electrical trainees, and electrical apprentices in California, compared to 48,295 qualified solar workers.

But this is just the current picture. The market for battery and solar panel installations has grown dramatically in recent years and is expected to continue to grow. California's 2019 Building Energy Efficiency Standards (Standards), which took effect on January 1, 2020, require the installation of solar panels on all new single-family homes and multi-family dwellings. Standards § 150.1(c)(14).The standards also require builders to design homes so that battery storage can be easily added. Standards § 110.10. This August, the California Energy Commission approved the 2022 Standards, which will additionally require the installation of solar panels and battery storage on new

commercial buildings and high-rise multifamily buildings beginning January 1, 2023.[2] CALSSA estimates that these mandates will increase the solar market by at least 22% due to growth in the commercial sector alone. This increased demand will require yet more installation workers and, if the Proposed Rule is adopted, certified electricians. Additional electricians will likewise be necessary to implement other elements of California's long-term climate goals, including within the renewable energy, energy efficiency, and building decarbonization sectors. California Workforce Development Board, *Putting California on the High Road: A Jobs and Climate Action Plan for 2030*, June 2020, p. 106; Betony Jones et al., *California Building Decarbonization: Workforce Needs and Recommendations*, November 2019, p. 31.

This expected increase in demand for electricians is in stark contrast to the labor supply shortage, expected to grow each year for at least the next decade. The U.S. Bureau of Labor and Statistics (BLS) estimates that over the next ten years the number of electrician jobs is expected to grow at a rate almost double that of construction trades workers generally.[3] During the same time period, the BLS projects approximately 84,000 openings for electricians each year, "result[ing] from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire." *Id.* This reality is consistent with the experiences of many CALSSA members, who already report long-standing difficulties finding and hiring certified electricians.

Given this critical shortage of electricians, if the Proposed Rule is adopted, there will not be enough electricians in California to meet the demand—both current and future—for solar and battery storage system installations. Without electricians to install solar and storage projects, the Proposed Rule will at best slow, and at worse halt, their deployment.

The resulting impact on the environment is clear and foreseeable. For each solar system not installed as a result of the proposed rule, the use of and reliance on carbon-based energy will increase, resulting in increased emissions of greenhouse gases and other pollutants. Similarly, lost solar storage capability will increase the use of dirty "peaker" plants and diesel backup generators during power shutoff events and other power outages, which have become increasingly common in recent years due to climate change and related wildfires. The impacts from this lost storage are especially great due

[2] California Energy Commission 2022 Building Energy Efficiency Standards Summary, available at https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf.
[3] U.S. Bureau of Labor Statistics Occupation Outlook Handbook, Electricians, available at https://www.bls.gov/ooh/construction-and-extraction/electricians.htm#tab-6, last visited November 17, 2021

to the Governor's recent emergency proclamation, which waives air pollution restrictions on natural gas plants and diesel generators during such emergency events. Moreover, because California power plants are disproportionately located in low-income and minority communities, these impacts will be primarily borne by communities that are already overburdened by pollution and resulting health impacts. Physicians, Scientists, and Engineers for Healthy Energy Research Brief, *Natural gas power plants in California's disadvantaged communities*, April 2017. Finally, sensitive wildlife habitat and open space initiatives such as Governor Newsom's "30 by '30" goal will also be compromised as many acres of land are used to build large solar farms in lieu of rooftop projects.[4]

The Proposed Rule is more than capable of causing these and other environmental impacts. Accordingly, the Board must analyze the potential environmental impacts of the Proposed Rule. See *Union of Medical Marijuana Patients,* 7 Cal.5th at 1197.

III. The Proposed Rule Would Unconstitutionally Impair Solar Contractors' Contracts.

Additionally, the Proposed Rule will violate the Contract Clauses of the California and United States Constitutions, both of which prohibit the state from impairing the obligations of contracts. Cal. Const. Art. I, § 9; U.S. Const. Art. I, § 10. Under both state and federal law, regulations that substantially impair a contractual relationship and are not justified by a "significant and legitimate public purpose" are void. *Energy Reserves Group, Inc. v. Kansas Power and Light Co.* (1983) 459 U.S. 400, 410-412; see also *Fourth La Costa Condominium Owners Assn. v. Seith* (2008) 159 Cal.App.4th 563, 584.

Here, the Proposed Rule would substantially impair existing contracts between solar contractors and their customers by preventing contractors from performing their warranty obligations. C-46 contractors have installed the vast majority of an estimated 39,000 integrated solar and storage systems in the last six years alone. For each of these installations, there is a contract between the installing contractor and the customer, the majority of which contain warranties obligating the contractor to service and maintain the installation and equipment. In fact, such warranties are a required condition of participation in the state's Self Generation Incentive Program (SGIP), which provides rebates to consumers for the installation of energy storage systems. To qualify for a rebate, the consumer's contract with the installer must include a minimum 10-year service warranty, which guarantees the continued performance of the system over the

[4] *See* https://www.gov.ca.gov/2020/10/07/governor-newsom-launches-innovative-strategies-to-use-california-land-to-fight-climate-change-conserve-biodiversity-and-boost-climate-resilience/

warranty period. July 13, 2021 SGIP Handbook, pp. 66-67. Ten-year installation and equipment warranties are also a required condition of interconnection, meaning that any consumer wishing to connect a storage system to the grid must contract with the installing contractor for such a warranty. California Public Utilities Commission Decision 16-01-44, Conclusion of Law ¶ 28.

The Proposed Rule would prevent contractors from performing their warranty obligations under these contracts, and any other contracts containing service and maintenance obligations. From the consumer's perspective, the Proposed Rule would eliminate contractually guaranteed service and maintenance of their systems. Moreover, in some cases, system and/or equipment warranties are conditioned on service and maintenance by the installing contractor alone. Therefore, the Proposed Rule, by preventing the installing C-46 contractor from servicing and maintaining, would in some instances void the system's and/or equipment's warranties entirely. These are substantial impairments of the parties' obligations under their contracts.

Finally, there is no significant and legitimate public purpose behind the Proposed Rule. There is no evidence that C-46 contractors and their workers are not qualified to safely install and maintain battery energy storage systems, and the Board has failed to identify any other valid basis for the Proposed Rule. To the contrary, the Proposed Rule would have a devastating impact on solar contractors and workers, as well as the state's clean energy policy goals and mandates, with no benefit to public or consumer safety. Thus, the Proposed Rule would squarely violate the Contract Clauses of the California and United States Constitutions.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Edward T. Schexnayder

1443053.1

WENDEL ROSEN
1111 Broadway, 24th Floor
Oakland, CA 94607-4036
T: 510.834.6600
F: 510.834.1928
www.wendel.com
dsimon@wendel.com

November 4, 2019

VIA HAND-DELIVERY AND E-MAIL

David Fogt (david.fogt@cslb.ca.gov)
Registrar of Contractors
California Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Re: CSLB's Determination that C-46 Cannot Add Storage to Existing Solar Systems

Dear Mr. Fogt:

During our one-on-one discussion at the October 1, 2019 energy storage stakeholders meeting that you hosted at CSLB's headquarters, we briefly discussed CSLB's current position that C-46 solar contractors are permitted to install an energy storage device only if solar photovoltaic modules are simultaneously installed. You invited me to send you this letter explaining why the California Solar and Storage Association ("CALSSA") feels strongly that CSLB's position is arbitrary and contrary to law.

Summary

During the past year, CSLB has asserted through e-mails and correspondence that C-46 solar contractors may install energy storage devices only at the same time they install solar photovoltaic modules under a single permit, but they are prohibited from adding the same devices later. When asked, CSLB indicated this timing distinction is necessary to avoid rendering meaningless the second sentence of the C-46 classification that says "*[a] licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.*"

CSLB's rationale is flawed because it wrongly assumes that storage devices are not included in the definition of solar energy systems that C-46 contractors have been permitted to install for 40 years. In fact, CSLB regulation and numerous legislative enactments have uniformly included storage devices in the C-46 classification. CSLB cannot change the law simply by issuing e-mails and letters stating its new interpretation, and any new regulation to this effect would exceed CSLB's statutory authority. Moreover, CSLB's rationale is inconsistent with its own interpretation because it would mean solar contractors are never permitted to install storage devices because they are never required in order to install a solar energy system.

The referenced sentence in the C-46 classification simply reiterates statutory and regulatory provisions that allow specialty contractors to perform work outside their trade when that work is "incidental and supplemental" to accomplish work within their classification, such as the necessity for solar contractors' to install and waterproof roof penetrations to support roof-mounted photovoltaic panels.

CSLB's unlawful and arbitrary restriction hurts consumers seeking to protect themselves against utility power shut-offs by adding storage devices to their solar energy systems, the overwhelming percentage of which were installed by C-46 solar contractors. Now they must hire a different contractor to modify their system by adding or expanding storage capacity, thus voiding the warranties they received from the C-46 and product manufacturers whose warranties exclude coverage for modifications made by others. No discernable benefit is produced by CSLB's arbitrary action that flies in the face of 40 years of industry practice and applicable law.

Analysis

1. CSLB's Current Position Regarding Who May Install Energy Storage

On December 19, 2018, CSLB sent an e-mail asserting that C-46 solar contractors can install energy storage only when they install a photovoltaic system at the same time and under a single permit.[1] CALSSA asked CSLB to clarify and justify its position. CSLB responded in a May 14, 2019 letter from Classification Deputy Hal Clay, attached as **Exhibit 2**. Mr. Clay contended that "*CSLB's established policy for many years*" has been that a C-10 is the only specialty classification permitted to modify an existing solar energy system by adding energy storage. As proof, he attached the December 2018 e-mail and three earlier letters.

The first letter was issued in 2005 in response to an inquiry from an electricians' union (IBEW). It does not mention energy storage and therefore is not relevant to this issue.

The second letter was written in 2016 in response to an inquiry from an electricians' union training organization (NECA). It states that "*[t]he C10 – Electrical classification is the most appropriate to install [energy storage systems] in existing structures.*" It does not mention solar energy systems or the C-46 solar contractor classification. Therefore, this second letter is similarly irrelevant because it does not address the issue of who may install energy storage when paired with solar.

CSLB finally touched on this issue in the third letter, dated July 18, 2017. There, CSLB asserted: "*The C46 – Solar classification may install energy storage systems as part of a solar system installation. The C10 – Electrical classification may install energy storage systems as part of a photovoltaic system installation as well as an independent project.*" This language does not support the distinction CSLB now claims, where a C-46 is not permitted to add storage to an

[1] *See* December 19, 2018 e-mail from CSLB Classification Deputy Hal Clay to Santa Barbara County building inspector Curtis Jensen, attached hereto as **Exhibit 1**.

existing photovoltaic system. Rather, it merely stated that a C-10 may install storage in both situations – where photovoltaics are present, as well as when they are not.

CSLB did not squarely address this issue until Mr. Clay's December 2018 e-mail to the Santa Barbara building inspector, described above. This was the first time CSLB asserted that a C-46 may not add storage to an existing photovoltaic system. Mr. Clay's May 14, 2019 assertion that this "*has been the CSLB's established policy for many years*" is unsupported by these earlier letters. More importantly, this new position is inconsistent with 40 years of CSLB regulations and Legislative enactments, all of which have uniformly included storage within the solar classification.

2. CSLB and the California Legislature Have Always Considered Energy Storage A Component of Solar Energy Systems that Solar Contractors Are Permitted to Install

(a) CSLB Regulations Have Consistently Included Energy Storage within the Solar Contractor Classification for More than 40 Years

CSLB outlined the history of its solar energy and storage licensing activities on pages 12-20 of its March 21, 2019 Energy Storage Systems Report (the "Report"). Storage systems were included in CSLB's earliest solar classification when it created the SC-44 Supplemental Solar Classification in 1978. "*Storage systems*" were expressly included in CSLB's regulatory definition of an "*active solar system*". Four years later, in 1982, CSLB amended the classification to clarify that these systems include the storage of electricity generated from photovoltaic solar energy systems. Those changes were retained when CSLB amended the classification again in 1983.

In 2009, CSLB amended the classification to its current form. It simplified the classification by replacing the term "*active solar energy system*" (and its associated definition that included "storage systems") with the undefined but – after 31 years – generally understood terms "*thermal or photovoltaic solar energy systems*." The Report quotes CSLB's statement of reasons for the 2009 amendments:

> The proposed amendment is being made in order to update the definition of a C-46 Solar Contractor by deleting text that refers to specific and in some cases outdated types of solar energy systems. Instead, the definition would simply refer to thermal and photovoltaic solar energy systems to allow for new innovations that would also meet this definition.[2]

Nothing in the statement of reasons indicates any intent or desire to remove storage or other aspects of "solar energy systems" definition from the scope of work solar contractors are permitted to perform.

[2] *See* Report at p. 20.

CSLB's regulatory history unequivocally proves that energy storage devices are a component of solar energy systems that C-46 contractors were expressly authorized to install whenever they are paired with photovoltaics. Nothing in CSLB's 40-year history of regulating solar contractors provides any basis or support CSLB's recent arbitrary position that allows a C-46 to include storage devices in the original installation but prohibits them from subsequently adding these devices to an existing system.

(b) The California Legislature has Likewise Understood and Defined Solar Energy Systems to Include Energy Storage

The California Legislature likewise considers storage devices a component of solar energy systems. For more than 40 years, and on 23 separate occasions, the California Legislature has defined "solar energy systems" to include storage.[3] In 1978 – the same year CSLB adopted the Supplemental Solar Classification – the Legislature adopted Civil Code § 801.5. This law creates a solar easement for sunlight across real property for any "*solar energy system*", which the Legislature defined as:

> Any solar collector or other solar energy device whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating.... [and a] structural design feature of a building, including ... [a]ny design feature whose primary purpose is to provide for the collection, storage, and distribution of solar energy for electricity generation, space heating or cooling, or for water heating.

The Legislature has amended § 801.5 three times since 1978 without removing the references to storage, thus reaffirming its initial determination that solar energy systems include storage.

That same year (1978), the Legislature adopted the Solar Rights Act at Civil Code § 714. This law voids deed and contract provisions that restrict the installation of "*solar energy systems*", which the Legislature defined by reference to the definition provided in § 801.5 (discussed above). The Legislature has amended the Solar Rights Act 12 times without modifying its determination that solar energy systems include storage devices.

In 1980, the Legislature adopted Revenue & Taxation Code § 73 to exempt "*active solar energy systems*" from property taxes, and once again the Legislature defined solar to include "storage":

> Active solar energy system" means a system that, upon completion of the construction of a system as part of a new property or the addition of a system to an existing property, uses solar devices, which are thermally isolated from living

[3] As explained below, the Legislature has passed three laws and amended them 20 times since 1978, and each time the Legislature affirmed that solar energy systems include storage.

> space or any other area where the energy is used, to provide for the collection, storage, or distribution of solar energy.[4] (Underlining added)
>
> ***
>
> An active solar energy system that uses solar energy in the production of electricity includes storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of those items.[5] (Underlining added)

The Legislature has amended § 73 five times without modifying its determination that solar energy systems include storage devices.

This overwhelming and incontrovertible evidence establishes that storage devices have always been considered a component of solar energy systems that solar contractors are permitted to install. CSLB established this fact in 1978 when it created the Supplemental Solar Classification, and the Legislature followed CSLB's lead by adopting three different statutes that define solar energy systems to include storage and amending those statutes 23 times without changing this critical fact. Nothing in CSLB's regulatory history or the Legislature's statutory enactments supports the arbitrary and groundless limitation CSLB now seeks to impose.

3. CSLB's Rationale for Prohibiting Solar Contractors from Adding Storage to an Existing Solar Energy System is Fatally Flawed

In light of this 40-year history, CALSSA was mystified by CSLB's reinterpretation of what constitutes a solar energy system and the work solar contractors are permitted to perform. So on May 20, 2019, CALSSA requested a meeting with CSLB to understand its legal justification for not allowing a C-46 solar contractor to modify existing solar energy systems by adding energy storage. CSLB responded in a May 28, 2019 letter from its Chief of Licensing, Justin Paddock, which is attached as **Exhibit 3**. Mr. Paddock referenced the second sentence of current solar contractor classification at 16 CCR 832.46 which states:

> A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to **install** a thermal or photovoltaic solar energy system. (Emphasis in original)

Mr. Paddock reasoned that this part of the regulation would be rendered meaningless if a C-46 is permitted to add energy storage to an existing solar energy system. He is incorrect.

Mr. Paddock's reasoning assumes that energy storage is not considered part of a solar energy system. But, as detailed above, CSLB and the Legislature have always defined solar energy systems to include storage devices. Moreover, the sentence he references has been part

[4] *See* Revenue & Taxation Code § 73(b)(1).

[5] *See* Revenue & Taxation Code § 73(d)(1)(B).

of the C-46 classification regulation since its creation in 1982, and until 2009, that regulation included a definition of "solar energy systems" that expressly included energy storage. Therefore, CSLB cannot now redefine that sentence to exclude energy storage. Finally, if Mr. Paddock's interpretation were correct, then a C-46 would never be permitted to install energy storage. That is because the referenced sentence only allows the C-46 to perform other construction trades when doing so is required to install solar energy system. Energy storage is never required to install a solar energy system, as evidenced by the fact that an overwhelming majority of existing systems do not include storage.

The sentence Mr. Paddock referenced in the C-46 classification at 16 CCR 832.46 exists to place sensible restrictions on a classification that necessarily involves multiple trades. As CSLB explained in its Energy Storage Systems Report, CSLB developed the C-46 classification in 1981 based on the fact that "*a new specialty class, rather than a supplemental license, would allow the Board to verify the practical skills of applicants to the class, including 'HVAC, electrical, plumbing, engineering, and other associated trades'.*"[6] The referenced sentence simply reiterates the statutory and regulatory provisions that allow specialty contractors (like the C-46) to perform work outside their trade that is "*incidental and supplemental*" to their classification. Specifically, Business and Professions Code § 7059(a) provides:

> Nothing contained in this section shall prohibit a specialty contractor from taking and executing a contract involving the use of two or more crafts or trades, if the performance of the work in the crafts or trades, other than in which he or she is licensed, is incidental and supplemental to the performance of the work in the craft for which the specialty contractor is licensed.

CSLB defined "incidental and supplemental" by regulation at 16 CCR 831:

> For purposes of Section 7059, work in other classifications is "incidental and supplemental" to the work for which a specialty contractor is licensed if that work is essential to accomplish the work in which the contractor is classified. A specialty contractor may use subcontractors to complete the incidental and supplemental work, or he may use his own employees to do so. (Emphasis added)

The restriction that permits solar contractors to perform other trades only when "*required*" to install a solar energy system under 16 CCR 832.46 follows the general restriction in Regulation 831 that allows a contractor to perform work in other classifications only when doing so is "*essential*" to accomplish work that is squarely within that contractor's classification.

Nothing in CSLB's regulations supports an arbitrary restriction on solar contractor's ability to add storage devices to an existing photovoltaic system because, as noted above, solar energy systems have always been defined to include storage. These retrofit projects are simply a

[6] *See* Report at p. 11.

modification, which solar contractors are permitted to make under the first sentence of 16 CCR 832.46 which states:

> A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. (Emphasis added)

Adding storage to an existing system is no different than adding an inverter to a system that was previously used for only for serving a property's direct current (DC) energy needs, or adding a telecommunication monitoring device to a system that previously had none.

4. CSLB Lacks Authority to Prohibit a C-46 from Adding Storage Devices to Existing Solar Energy Systems

CSLB's reinterpretation of the C-46 classification is inconsistent with text and regulatory history the C-46 classification at 16 CCR 832.46. CSLB cannot change that regulation simply by issuing letters and e-mails announcing a substantive change under the guise of CSLB's "interpretation". If CSLB wishes to change regulation, it must follow the rule-making process provided under the Administrative Procedures Act and associated regulations. However, CSLB does not have unlimited rulemaking authority. That authority is derived from Business and Professions Code § 7059(a), which allows CSLB to adopt contractor license classifications based on established practices in the construction industry:

> The board may adopt reasonably necessary rules and regulations to effect the classification of contractors in a manner consistent with established usage and procedure as found in the construction business, and may limit the field and scope of the operations of a licensed contractor to those in which he or she is classified and qualified to engage .... (Emphasis added)

CSLB knows and admits "*[t]he C-46 Solar Contractor has been installing some form of ESS in conjunction with a photovoltaic system for approximately 40 years.*"[7] Throughout this time, CSLB has ensured solar contractors' competency with energy storage devices. A review of CSLB's 2017 Occupational Analysis Report for the C-46 Solar Examination emphasizes competency in the installation, service, and repair of energy storage devices. Indeed, the C-46 Occupational Analysis Questionnaire contains no less than 31 different references to energy storage.[8]

Solar contractors' experience with energy storage began with off-grid solar energy systems because batteries were essential if the owner desired electricity at night. It continued with some grid-tied systems when solar customers wanted to store excess electricity production instead of simply feeding it into the utility grid without compensation. Storage became

---

[7] *See* Report at p. 70.

[8] *See* CSLB's Occupational Analysis Report, C-46 Solar Examination, August 2017, Appendix B – Occupational Analysis Questionnaire, Section III.

somewhat less attractive after 1996, because California adopted net metering rules that required utilities to provide solar customers a bill credit for excess electricity solar customers' systems exported to the grid.[9]

Batteries have become increasingly popular again in recent years for a few reasons. In 2016, the utilities convinced the California Public Utilities Commission ("CPUC") to change net metering by reducing the credit solar customers receive for electricity their systems export to the grid. The utilities also convinced the CPUC to adopt "time-of-use" rate structures that decrease the value of electricity generated during daylight hours, thereby further weakening the economic value of solar energy exported to the grid. These changes make it more attractive for solar customers to store excess electricity their systems produce instead of feeding it into the grid. At the same time, advances in battery technology have enabled battery manufacturers to provide modular, self-contained storage devices with integrated safety measures that are becoming increasingly common and affordable.

Solar contractors have been installing and servicing energy storage devices for more than 40 years. CSLB acknowledges this and has diligently tested their competency in this subject. CSLB cannot suddenly disavow these facts by reinterpreting existing regulation, or adopting new regulations, that fly in the face of this long-established usage in the construction industry.

5. CSLB's Unjustified Position Undermines Consumer Protection and Creates Unnecessary Complications in the Market

Consumer protection is a fundamental concern for CSLB and underlies many of its laudable programs and regulatory efforts. But its arbitrary restriction on solar contractors hurts consumers who, like so many in this era of utility shut-offs, want to add a storage device to their existing photovoltaic system. Adding storage requires significant system modifications. The wired connection between the photovoltaic modules and inverter are interrupted by the addition of the storage device. And unless the storage device has its own inverter, it will rely on the solar energy system's inverter to convert the stored DC electricity to AC before feeding into the property's electric service panel. Inverters are the most frequent cause of solar energy system failures.

According to CSLB's reinterpretation, a customer who hired a C-46 contractor to install their solar energy system would be forced to hire a different contractor to make these modifications. Contractor warranties exclude coverage for modifications made by others. If the malfunction subsequently occurs in the inverter or any other part of the original systems, the C-46 who installed it will reasonably suspect the problem was caused by the C-10's modifications and/or the energy storage device it supplied and installed. The C-10 will invariably blame the C-46. It is often difficult to establish the source and cause of electrical problems. The customer

[9] "Net-metering" is a program the State of California initially adopted in 1996 through Public Utilities Code § 2827 utilities to provide solar energy customers a credit for electricity their photovoltaic systems feed into the grid.

will be stuck in the middle because of CSLB's arbitrary action and lose the benefit of the warranties they purchased. This is significant because these warranties often run for 10-years.

The problem becomes worse when one considers the impact on warranties provided by the manufacturers of solar energy system components. California required manufacturers to provide long-term warranties as a condition to participate in the California's earliest solar rebate program, the California Solar Initiative. Those warranties became the norm with manufacturers routinely providing warranties of 20 years for photovoltaic panels and 5-10 years for inverters. Those warranties routinely exclude damage caused by modifications made by contractors they have not certified to work on their products. So the manufacturer could challenge any product warranty claim based on the subsequent addition of an energy storage device unless the installing C-10 happens to be one of their approved contractors.

CSLB's arbitrary restriction creates additional problems and complications. If a C-46 installed a storage device, are they prohibited from repairing or maintaining it? The cost of batteries will continue to fall in coming years. Because modern storage devices are modular and easily expanded, many storage customers will invariably choose to increase their energy storage capacity by adding additional devices as prices fall, especially as PG&E and other utilities expand their power shut-offs to mitigate wildfire risk. Under CSLB's arbitrary position, a customer who hired a C-46 to install their original system with storage will now have to hire a different (C-10) contractor to expand their storage capacity, resulting in two contractors having conflicting responsibility for the same component of the consumer's solar energy system.

This arbitrary decision by the CSLB staff has already caused disruption in the marketplace, including for some of California's most experienced contractors. In one example, a solar contractor intended to include a storage device in the initial solar energy system but was unable to do so because of manufacturer back-log. The contractor addressed the delay by first pulling a permit for the photovoltaic system and then pulling a subsequent permit to install the storage device once the product became available a few months later. This strategy is becoming increasingly common because federal tax credits on solar energy systems are steadily declining over the coming years and customers want to start their projects as soon as possible to lock-in savings at the higher tax credit. In other situations, certain building departments in California are requiring two separate permits be pulled, one for the solar photovoltaic system and one for the energy storage device.

The foregoing examples illustrate the untenable nature of CSLB's position. It harms consumers by undermining both their legal rights and the ability to protect themselves against an increasingly unreliable utility grid.

Conclusion

CSLB's position prohibiting solar contractors from adding energy storage to existing solar energy systems is inconsistent with more than 40 years of California law, CSLB regulation, and industry practice. It provides no discernable benefit to the public and, to the contrary, it undermines the warranty rights of California consumers that CSLB was created to advance. We

realize CSLB has not had sufficient opportunity to consider this issue because attention has focused on the broader rule-making process for energy storage overall. We hope this letter provides CSLB a more thorough examination of the issue and its ramifications, and we request a meeting to discuss this issue with you in person after you have had an opportunity to digest its contents.

Our goal and request is for CSLB to issue a letter retracting its recent guidance and affirming that the current C-46 classification allows solar contractors to install energy storage devices as part of a solar energy system, whether simultaneous to the installation of solar photovoltaic panels or as a modification to an existing photovoltaic system. We appreciate the opportunity to provide you our analysis of this issue and look forward to hearing from you to schedule a time so that we may discuss next steps.

Very truly yours,

WENDEL ROSEN LLP

Donald S. Simon

cc: Bernadette Del Chiaro, CALSSA

Exhibit 1

From: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> **On Behalf Of** CSLB Classifications Deputy@CSLB
Sent: Wednesday, December 19, 2018 12:24 PM
To: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Subject: RE: Another question regarding license classification

Good afternoon,

Your interpretation of when it is appropriate for a C46-Solar contractor to install an Energy Storage System (ESS) is correct. A C46 contractor can install an ESS at the time of installation of the PV solar system.

The most appropriate classification for the project described would be the C10-Electrical classification. C10 contractors can install ESS as stand-alone projects.

Hal Clay

Enforcement Representative II

Classification Deputy

From: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Sent: Wednesday, December 19, 2018 9:49 AM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Cc: Habich, Joseph <jhabich@co.santa-barbara.ca.us>; Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>
Subject: Another question regarding license classification

Mr. Clay,

I am sending this e-mail to you, because of your past assistance with other classification questions.

We have a client who holds a C-46 license. They have submitted for a permit "to retrofit solar electrical systems with AC Coupled home batteries" (Energy Storage System, ESS).

So the permit's scope of work would not include the installation of a Photovoltaic system or a Solar Heat Collector, but rather just the installation of ESS units to an existing electrical system that has a PV system.

I believe that the CSLB position is, if the contractor was installing a PV system and the ESS under the same permit, then this scope of work could be performed under the C-46 license.

Would this be a correct understanding of the Board's interpretation?

But what if there were no existing PV system, or as in this case an existing PV system, and the C-46 wants to install an ESS unit to an existing electrical system?

Would this be allowable, according to the CSLB interpretation of the C-46 license classification?

Exhibit 2

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800.321.CSLB (2752) | *www.cslb.ca.gov* | *CheckTheLicenseFirst.com*

STATE OF CALIFORNIA
Governor Gavin Newsom

May 14, 2019

Bernadette Del Chiaro
California Solar & Storage Association
1107 9th Street
Sacramento, CA 95814

Re: CSLB policy on C46-Solar classification and Energy Storage System (ESS) installation

Dear Ms. Del Chiaro:

This letter is in response to your request for clarification of the Contractors State License Board (CSLB) policy on when it is appropriate for a C46-Solar classification contractor to install an energy storage system. Your request has been sent to me for reply.

It has been the policy of the CSLB that it is appropriate for C46-Solar classification contractors to install energy storage systems only at the time they are installing a solar PV system.

Energy storage systems are electrical devices. As such, stand-alone energy storage system installations are performed by C10-Electrical classification contractors. The CSLB has maintained that contractors holding the A-General Engineering and B-General Building classifications may also install energy storage systems within the scope of work on projects they are properly licensed to perform.

The installation of energy storage systems to existing solar PV systems, regardless of the classification of the original installing contractor, are appropriately performed by C10-Electrical classification contractors. The foregoing has been the CSLB's established policy for many years.

CSLB employees continue to review any classification determination requests related to energy storage systems on a case by case basis with input from senior staff of the CSLB and work to provide consistent classification determinations on this topic.

As a point of reference, the CSLB Energy Storage Systems Report compiled prior to the March 21, 2019 meeting included a summary of four previous publicly issued determinations provided on this subject. Here is that summary:

1. For the purposes of PV systems on residential and commercial buildings and projects that "feed into the utility grid or otherwise offset the energy costs for structures they serve," the C-10 Electrical or C-46 Solar contractor licenses are the appropriate classifications. (July 5, 2005 Letter – former Registrar Stephen Sands)

2. The C-10 Electrical Contractor may install an energy storage system as part of a photovoltaic system installation or as an independent contract. (see October 28, 2016 Enforcement Committee packet and July 18, 2017 Classification Deputy determination).

3. The C-46 Solar Contractor classification may install an energy storage system as part of a solar system installation only and may not install a standalone energy storage

system. (see October 28, 2016 Enforcement Committee packet and July 18, 2017 Classification Deputy determination)

4. The A-General Engineering Contractor classification may install an energy storage system if the work includes a plant or facility to house the system. (November 15, 2016 Letter - former Registrar Cindi Christenson).

Since the March 21, 2019 meeting, the CSLB has received only one additional ESS classification determination request. A determination, consistent with all previous determinations, was provided to the inquiring party on April 3, 2019 after consulting with the Registrar, Chief Deputy Registrar, Chief of Licensing & Examination and the Chief of Legislation.

Thank you for contacting the Contractors Board and allowing us to address your concerns.

Sincerely,

Hal Clay
Classification Deputy
Licensing Division

Enc 1: Copies of previous determinations referenced in ESS report
Enc 2: Copy of April 3, 2019 determination

EXHIBIT ONE

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800-321-CSLB (2752)
www.cslb.ca.gov

STATE OF CALIFORNIA
ARNOLD SCHWARZENEGGER, Governor

July 5, 2005

John J. O'Rourke
International Brotherhood of Electrical Workers
Local Union 6
55 Fillmore Street
San Francisco, CA 94117

Subject: Photovoltaic Systems

Dear Mr. O'Rourke:

This letter is in response to your request for a licensing determination concerning the installation of photovoltaic systems.

Specifically, you have asked that we list the license classifications that are appropriate for photovoltaic systems that, for residential and commercial building projects, are installed for the purpose of feeding into the utility grid or otherwise offsetting the energy used for the structures they serve. Under existing laws and regulations, contractors holding either one of the following two (2) license classifications can install any photovoltaic system without limitations:

C-10 (Electrical)
C-46 (Solar)

In addition, contractors holding the General Engineering (A) license classification or the General Building (B) classification may contract for the installation of these systems as outlined below:

1. In order for the General Engineering (A) classification to be appropriate, the systems must be installed on the types of projects specified under the provisions of Business and Professions Code Section 7056 (copy enclosed).

2. In order for the General Building (B) classification to be appropriate, the prime contract must involve two or more unrelated trades, or be contracted to an appropriately licensed subcontractor as specified in Business and Professions Code Section 7057 (copy enclosed).

I trust that the foregoing information has been responsive to your request. If further clarification or additional information is needed, please do not hesitate to call my office at (916) 255-4800.

Sincerely,

Stephen P. Sands
Registrar of Contractors

EXHIBIT TWO

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, California 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800-321-CSLB (2752)
www.cslb.ca.gov • CheckTheLicenseFirst.com

STATE OF CALIFORNIA
Governor Edmund G. Brown Jr.

November 15, 2016

Eddie Bernacchi
NECA Legislative and Regulatory Advocate
1127 11th Street, Suite 747
Sacramento, CA 95814-3811

Dear Mr. Bernacchi:

I am writing in response to your request for clarification from the Contractors State License Board (CSLB) on which specialty license classification should be obtained to place, install and connect an electrical energy storage system.

Energy Storage Systems (ESS) store electricity obtained when power is not being used, or "off-peak times". These stations consist of: foundations, battery containers that are set on helical piers- usually galvanized steel piers driven into the ground to a designed depth with a piece of machinery, and transformers set on concrete pads.

A microgrid is any small-scale localized station with its own power resources, generations and loads, and definable boundaries.

There are two classifications that can install microgrids or an ESS. The C10 – Electrical classification is most appropriate to install the ESS systems in existing structures. The A – General Engineering classification would be appropriate if the work also included a plant or facility to house the ESS system.

I hope this information is helpful.

Sincerely,

Cindi Christenson
Registrar

EXHIBIT THREE

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, California 95827
Mailing Address P O Box 26000 Sacramento, CA 95826
800-321 CSLB (2752)
www.cslb.ca.gov • CheckTheLicenseFirst.com

STATE OF CALIFORNIA
Governor Edmund G. Brown Jr.

July 18, 2017

Jonathan Hart
Center for Sustainable Energy
9325 Sky Park Court, STE 100
San Diego, CA 92123

Mr. Jonathan Hart,

This letter is to follow up the email you sent requesting verification of the appropriate classifications to perform installation of an energy storage system as part of a solar installation.

The C46 – Solar classification may install energy storage systems as part of a solar system installation. The C10 – Electrical classification may install energy storage systems as part of a photovoltaic system installation as well as an independent project.

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

Andrea Sisto
Classification Deputy
classifications@cslb.ca.gov

Clay, Hal@CSLB

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Wednesday, April 3, 2019 3:30 PM
To: CSLB Classifications Deputy@CSLB; Bernadette Del Chiaro; Brad Heavner
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

I'm sorry, I can't except the explanation.

At this time, I am requesting the support of our industry group CALSSA regarding your determination of this prior to this being formally approved based on the recent meeting that occurred.

Kindly,

Shawn

On Wed, Apr 3, 2019 at 12:24 PM CSLB Classifications Deputy@CSLB <Classifications@cslb.ca.gov> wrote:

Good afternoon,

Are you asking for contact information of another person at CSLB? Or would you accept my explanation that I met with the Registrar, Chief Deputy Registrar, Chief of Licensing & Examination and Chief of Legislation this morning to discuss your email and then sent you the reply.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6333 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Wednesday, April 3, 2019 3:04 PM
To: CSLB Classifications Deputy@CSLB <Classifications@cslb.ca.gov>; Brad Heavner <brad@calssa.org>; Bernadette Del Chiaro <bernadette@calssa.org>; Simon Wooley <swooley@swellenergy.com>
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

Mr. Clay,

Per my previous email to SB County which I'll respond to to keep all in the chain, the CSLB hasn't formally made this decision and the C46 industry ia currently working with the policymakers on this determination. As such, I don't believe your interpretation is correct based on the current classification language and would ask that you please provide me with a second opinion on this from a colleague or supervisor at CSLB. I have also included CALSSA here on this email and they will also escalate this to CSLB.

Regarding our license. Our contracting business, Swell Services Inc., is currently a B and we also have additional classifications submitted as C10 or C46. We currently subcontract to both C10 and 46 statewide and need absolute clarity on this so we can stay in compliance and cease subcontracting to C46 if there is a from all determination.

Regards,

Shawn

On Wed, Apr 3, 2019, 10:14 AM CSLB Classifications Deputy@CSLB <Classifications@cslb.ca.gov> wrote:

Good afternoon,

After further discussions regarding the project described, it would not be appropriate for a C46-Solar classification contractor to install the battery system (ESS) described. It was not installed at the time of installation of the solar PV system and, therefore, is not appropriate for a C46 contractor to perform. The most appropriate classification is the C10-Electrcial classification.

A bigger question did arise out of our meeting though. Does Swell Energy require a contractors license? If Swell Energy is contracting directly with property owners for the installation of the battery (ESS) system, even through the use of licensed subcontractors, they meet the definition of a contractor in Business and Professions Code section 7026 and are required to hold a contractors license. Is Swell Energy contracting for the installation of these systems? Would you be able to provide a copy of your contract for one of these projects?

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6333 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Tuesday, March 26, 2019 2:27 PM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>; Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>; Mason, Steve <Mason@co.santa-barbara.ca.us>; Matson, Mark <mmatson@co.santa-barbara.ca.us>; Greene, Kevin <Kvgreen@co.santa-barbara.ca.us>
Cc: Bernadette Del Chiaro <bernadette@calssa.org>; Brad Heavner <brad@calssa.org>
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

Dear Mr. Clay, Mr. Curtis and Santa Barbara County Building and Safety Officials,

As you may know, the most recent CSLB board meeting had on their agenda a discussion regarding the C46 classification installing energy storage both during the solar install as well as a retrofit/modification to existing solar. Here is the information from this meeting:

Agenda: http://www.cslb.ca.gov/Media_Room/Board_And_Committee_Meetings/2019/Energy_Storage_Systems.aspx

Meeting packet: http://www.cslb.ca.gov/Resources/BoardPackets/BoardMeetingPacket20190321.pdf

Energy Storage report: http://www.cslb.ca.gov/Media_Room/Board_And_Committee_Meetings/2019/Energy_Storage_Systems.aspx

The CSLB voted to begin making possible changes to CSLB regulations defining which classifications can perform work on energy storage systems, including those paired with solar. The vote to authorize the opening of a rule-making at the CSLB does not mean, however, that California has made any change in the current licensing classifications. With this ruling, there is no change to licensing eligibility until after public proceeding results in a vote of the board on a specific regulatory change.

As such, please approve our partner who is a C-46 contractor to install energy storage systems on existing solar as this is clearly listed as a function of their qualifications with the CA Code of Regulations Title 16, Division 8, Article 3.

"A C46 a solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system."

In order to install an AC coupled home battery in combination with solar, such as the Tesla Powerwall 2 AC system, modifications must be made to the existing solar system as follows:

- The value and operations of the solar energy storage system must be clearly conveyed to the homeowner regarding how their solar energy will charge the battery and discharge to serve on-site load during TOU peak periods.
- The solar AC point of interconnection must be relocated to the backup loads center or combined generation/AC battery combiner panel.
- A revised interconnection diagram and net metering agreement must be submitted to the utility for their approval showing the connection between the storage and solar and showing the system as a combined NEM paired system.
- Current Transmitters must be installed on the solar properly and connected to the battery energy management system in order for the system to properly work.
- During the commissioning process, the details of the solar system must be correctly inputted into the battery energy management system to ensure correct operations.
- If the solar AC system is too large to "AC Couple" to the battery we have to modify the solar to either curtail the production during an outage with a DC relay.
- The home battery provides backup during an outage with solar serving as the energy source to charge the batteries and the solar is managed through the home battery energy system.

Here is a snapshot showing how the systems operate to modify the solar energy to charge the battery directly during the off-peak hours and serve on-site loads during peak utility time periods. The solar energy flow of electrons in this case is substantially modified with the introduction of the advanced solar energy storage system.

Please let me know if you have any additional questions and if we may have our partner proceed with permitting and installations of Energy Storage systems in Santa Barbara County?

Thank you,

Shawn

On Thu, Jan 31, 2019 at 1:31 PM Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> wrote:

Good afternoon,

As of today, there are no formal determinations/documentation as the final decision on the appropriate trade to install/upgrade ESS systems, as stand-alone projects, has not been made. As of today, the CSLB is allowing C46-Solar classification contractors to install an ESS system only at the time of installation of a solar PV system. A C10-Electrical classification is required for any other ESS system installations or upgrades.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6332 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Thursday, January 31, 2019 12:42 PM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Subject: Re: (Second Request) - Re: FW: Another question regarding license classification

Hellow Mr. Clay,

I am following up on this email sent on January 3rd. Do you have any documentation showing this formal CSLB determination regarding the C-46?

Thanks,

Shawn

On Thu, Jan 3, 2019 at 8:35 AM Shawn Jacobson <shawn@swellenergy.com> wrote:

Good Morning Clay,

Thank you for your response. Can you please reference a document that shows this formal decision from the CSLB?

I found this document from utilities and other industry advocates that requested this formal decision but cannot find anything showing what the determination is from the committee.

http://www.cslb.ca.gov/Resources/BoardPackets/2-23-18_licensing_committee_mtg_handouts.pdf

Regards,

Shawn

On Thu, Jan 3, 2019 at 8:30 AM Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> wrote:

Good morning,

As of now, a C46-Solar classification contractor can only install an Energy Storage System (ESS) at the time of installation of a solar system. Any upgrades or stand-alone ESS projects are performed by C10-Electrcial contractors. That is not just my opinion, it is the CSLB position on the matter.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6332 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Shawn Jacobson <shawn@swellenergy.com>
Sent: Thursday, January 3, 2019 8:26 AM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Subject: (Second Request) - Re: FW: Another question regarding license classification

Dear Mr. Clay,

I hope you had a great holiday and new year. Would you be able to kindly review and respond to my message below on behalf of CSLB?

Thanks,

Shawn

---------- Forwarded message ---------
From: **Shawn Jacobson** <shawn@swellenergy.com>
Date: Wed, Dec 19, 2018 at 2:06 PM
Subject: Fwd: FW: Another question regarding license classification
To: <Hal.Clay@cslb.ca.gov>

Dear Mr. Clay,

Per the message below between you (CSLB) and The County of Santa Barbara, I am hoping you can provide additional information and documentation regarding your decision for the C46 License classification to be ineligible for retrofitting energy storage systems on existing residential solar PV.

Here is the original message that I sent to SB County outlining the initial request for clarification from them and these points may be useful to you in further review of this matter. I look forward to hearing from you.

//

Swell Energy develops home energy storage and solar solutions throughout CA and it was recently brought to my attention that our local installer (sub-contractor) is unable to permit projects to retrofit solar electrical systems with AC Coupled home batteries with their C46 solar license in Santa Barbara County. I am unsure of the rationale behind your interpretation of the C46 classification and would you be able to provide me with a response and formal stance on this in writing?

In reviewing this on behalf of your department and Santa Barbara County, I would like to provide the following information for your reference.

1. Per CSLB and the CA Code of Regulations Title 16, Division 8, Article 3 a C46 **a solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems.** A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

2. Per the C46 study guide and testing process, there is substantial content specific to the installation of energy storage systems, unlike any other trade examination.

3. The SGIP rebate program, administered by the CPUC, provides funding for home batteries to support a more resilient and renewable energy grid. Per their handbook, attached, they specifically made a ruling that C46 license holders are eligible to install these projects when energy storage systems are connected with solar.

4. In a recent IRS ruling, a residential AC Coupled energy storage systems tied to existing solar are eligible for the "Solar" tax credit. https://www.irs.gov/pub/irs-wd/201809003.pdf ***"We conclude that this Battery meets the definition of a "qualified solar electric property expenditure" under § 25D(d)(2) of the Code, and therefore, you may claim a tax credit on this Battery. The Battery is considered to be property which uses solar energy to generate electricity for use in your dwelling unit located in the United States and used as a residence by you.***

5. Per item 1 above, in order to install an AC coupled home battery with solar, such as the Tesla Powerwall 2 AC system, modifications must be made to the existing solar system as follows.

- The solar AC point of interconnection must be relocated to the backup loads center or combined generation/AC battery combiner panel.

- A revised interconnection diagram and net metering agreement must be submitted to the utility for their approval showing the connection between the storage and solar.

- Current Transmitters must be installed on the solar and connected to the battery energy management system in order for the system to properly work.

- During the commissioning process, the details of the solar system must be correctly inputted into the battery energy management system to ensure correct operations.

- If the solar AC system is too large to "AC Couple" to the battery we have to modify the solar to either curtail the production during an outage with a DC relay.

- The home battery provides backup during an outage with solar serving as the energy source to charge the batteries and the solar is managed through the home battery energy system.

- Home batteries also help to alleviate the very real energy infrastructure problem known as the "Duck Curve" whereby there is an enormous peak demand now on the grid in the afternoon/evening and peaker generation facilities have a difficult time solving for. Energy storage systems store the energy from the solar in the morning and then use that solar energy in the home during peak hours. Here is a screenshot of one of our systems which shows the home/grid energy, solar energy, and charge/discharge of the battery to use the solar energy during peak hours.

Thank you in advance for any clarity and guidance you can provide here for this issue and please let me know if you have any additional questions.

Sincerely,

---------- Forwarded message ---------
From: **Jensen, Curtis** <cujensen@co.santa-barbara.ca.us>
Date: Wed, Dec 19, 2018 at 1:45 PM
Subject: FW: Another question regarding license classification
To: shawn@swellenergy.com <shawn@swellenergy.com>
Cc: Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>, Mason, Steve <Mason@co.santa-barbara.ca.us>, Matson, Mark <mmatson@co.santa-barbara.ca.us>, Greene, Kevin <Kvgreen@co.santa-barbara.ca.us>

Mr. Jacobson,

Please see below the CSLB e-mail response received today from a Classifications Deputy, regarding the required contractor's license classification for the installation of an ESS unit only.

Relying upon this and previous information provided by the CSLB, the refusal to issue a permit to a C-46 license holder for the installation of only an ESS unit, without a concurrent installation of a photovoltaic system, is in accordance with the CSLB's classification for this license.

If I have misunderstood your actual circumstances, or I have misinterpreted your original query; please inform me via return e-mail for further discussion.

Respectfully,

Curtis Jensen

Building Inspector

(805) 884-6842 Santa Barbara Office

(805) 934-6585 Santa Maria Office

County of Santa Barbara

Division of Building and Safety

123 E. Anapamu Street

Santa Barbara, CA 93101

Effective 10.26.18, our new inspection request cutoff time will be 5PM. Any requests received after that time will be performed the day after (e.g. for requests received after 5PM on Monday, the inspection will be performed on Wednesday; if requested after 5PM on Friday, the inspection will be performed on Tuesday).

2018 – 2019 Santa Barbara County Holiday Closures (No permitting or inspection services will be available during this time): December 25th – January 1st (County Winter Holiday Closure), January 21st (Dr. Martin Luther King Day)

From: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov> **On Behalf Of** CSLB Classifications Deputy@CSLB
Sent: Wednesday, December 19, 2018 12:24 PM
To: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Subject: RE: Another question regarding license classification

Good afternoon,

Your interpretation of when it is appropriate for a C46-Solar contractor to install an Energy Storage System (ESS) is correct. A C46 contractor can install an ESS at the time of installation of the PV solar system.

The most appropriate classification for the project described would be the C10-Electrical classification. C10 contractors can install ESS as stand-alone projects.

Hal Clay

Enforcement Representative II

Classification Deputy

Contractors State License Board

916 255-6332 fax

This determination is not a formal declaratory decision under the comprehensive process in the Administrative Procedures Act. I trust that the foregoing information has been of assistance to you.

From: Jensen, Curtis <cujensen@co.santa-barbara.ca.us>
Sent: Wednesday, December 19, 2018 9:49 AM
To: Clay, Hal@CSLB <Hal.Clay@cslb.ca.gov>
Cc: Habich, Joseph <jhabich@co.santa-barbara.ca.us>; Abolhoda, Massoud <mabolhoda@co.santa-barbara.ca.us>
Subject: Another question regarding license classification

Mr. Clay,

I am sending this e-mail to you, because of your past assistance with other classification questions.

We have a client who holds a C-46 license. They have submitted for a permit "to retrofit solar electrical systems with AC Coupled home batteries" (Energy Storage System, ESS).

So the permit's scope of work would not include the installation of a Photovoltaic system or a Solar Heat Collector, but rather just the installation of ESS units to an existing electrical system that has a PV system.

I believe that the CSLB position is, if the contractor was installing a PV system and the ESS under the same permit, then this scope of work could be performed under the C-46 license.

Would this be a correct understanding of the Board's interpretation?

But what if there were no existing PV system, or as in this case an existing PV system, and the C-46 wants to install an ESS unit to an existing electrical system?

Would this be allowable, according to the CSLB interpretation of the C-46 license classification?

Respectfully,

Curtis Jensen

Building Inspector

(805) 884-6842 Santa Barbara Office

(805) 934-6585 Santa Maria Office

County of Santa Barbara

Division of Building and Safety

123 E. Anapamu Street

Santa Barbara, CA 93101

Effective 10.26.18, our new inspection request cutoff time will be 5PM. Any requests received after that time will be performed the day after (e.g. for requests received after 5PM on Monday, the inspection will be performed on Wednesday; if requested after 5PM on Friday, the inspection will be performed on Tuesday).

2018 – 2019 Santa Barbara County Holiday Closures (No permitting or inspection services will be available during this time): December 25th – January 1st (County Winter Holiday Closure), January 21st (Dr. Martin Luther King Day)

--

Shawn Jacobson
Sr. Director of Operations | Swell Energy
P: 805.804.7965
E: shawn@swellenergy.com **W:** SwellEnergy.com

For customer or partner support:
P: 310-340-0493
E: support@swellenergy.com
For Additional information and FAQ's, please click here

--

Shawn Jacobson

Sr. Director of Operations | Swell Energy
P: 805.804.7965
E: shawn@swellenergy.com **W:** SwellEnergy.com

For customer or partner support:
P: 310-340-0493
E: support@swellenergy.com
For Additional information and FAQ's, please click here

Exhibit 3

CONTRACTORS STATE LICENSE BOARD
9821 Business Park Drive, Sacramento, CA 95827
Mailing Address: P.O. Box 26000, Sacramento, CA 95826
800.321.CSLB (2752) | www.cslb.ca.gov | CheckTheLicenseFirst.com

STATE OF CALIFORNIA
Governor Gavin Newsom

May 28, 2019

Bernadette Del Chiaro
California Solar & Storage Association
1107 9th Street
Sacramento, CA 95814

Re: Your May 20, 2019 Request for a Meeting

Dear Ms. Del Chiaro:

April 29, 2019, you sent an email that included the following request:

> *When the CSLB board voted in March to open up a rule making on the issue of storage licensing classifications, a question was asked of CSLB legal counsel immediately before the vote that "no changes" would be made to eligibility of licenses prior to the rule making process and that any changes to eligibility would come before the board before being made final. Revoking the eligibility of a C46 contractor to modify an existing PV system with a battery is clearly a change in eligibility and a departure from current practices. Could you please have the CSLB clarify that no changes should be made prior to a full rule making process concludes and the board has had a chance to vote on any changes.*

The Contractors State License Board (CSLB) is not "revoking" the eligibility of a C-46 contractor to contract for the installation of an energy storage system (ESS) when a preexisting photovoltaic system was already installed. CSLB never authorized this practice. On May 14, 2019, CSLB provided you a letter from its Classification Deputy, Hal Clay, (dated May 10, 2019) confirming he found no evidence the Board ever authorized this practice.

Please know that CSLB staff was instructed not to make any ESS determinations that are contrary to current practice until the regulatory process concludes. Mr. Clay's letter confirmed what the current practice is by including four related classification opinions dating from July 5, 2005 to April 3, 2019. The classification opinions confirmed CSLB has only authorized a C46 solar contractor to install an ESS at the time of the photovoltaic installation. CSLB's policy has not changed in this regard.

On May 20, 2019, you sent an email in response to Mr. Clay's letter that included the following request:

> *The legal and policy rationale for CSLB's apparent decision to restrict the C46 classification from modifying an existing solar PV system by adding battery storage remains an unanswered question and major issue for the California Solar & Storage Association and one we would like to better understand. This decision is already causing financial harm to our companies and market disruption. We respectfully request an In-person meeting with you and any other CSLB personnel you believe appropriate at your earliest convenience.*

As referenced in Mr. Clay's May 14, 2019 letter and as articulated in the Energy Storage Systems Report, this policy determination is based upon the CSLB's regulatory text and the historical interpretation of that regulation. Specifically, Title 16, California Code of Regulations section 832.46 states, in pertinent part, that a "licensee classified in this section shall not undertake or perform building or construction trades, crafts or skills, except when required to **install** a thermal or photovoltaic system (emphasis added)." The CSLB has interpreted this language to mean that if the construction contract calls for ESS installation alone ("stand-alone contract"), and not as part of a thermal or photovoltaic solar energy system installation (PVI), the C-46 solar contractor would be working out of class to perform such stand-alone contract work. To interpret the regulation to allow a C-46 solar contractor to install an electric device such as an ESS independent of a PVI would, in the CSLB's view, render this last sentence of the regulation meaningless.

On March 21, 2019, the board unanimously adopted a motion that requires staff to, in part, draft a proposed regulatory package for board consideration that would prohibit or restrict certain contractor classifications from performing the installation of an ESS. At that time, the board confirmed that changes would not be made to established ESS classification determinations outside of the regulatory process. Staff are currently following that direction.

Thank you for your request for a meeting. Due to current workload priorities and the upcoming board meeting, a meeting to discuss C-46 scope and practice is not currently possible. Please provide anticipated availability beginning the last two weeks of June if you would like to participate in a meeting with stakeholders on this issue. We will of course keep you informed regarding the regulatory hearing process, during which there will be opportunity to voice your concerns/suggestions regarding C-46 scope and practice as well.

Sincerely,

Justin Paddock

Justin Paddock
Chief of Licensing and Examinations

Exhibit D

February 23, 2018
Sacramento, California

CONTRACTORS STATE LICENSE BOARD

Licensing Committee Meeting Handouts

SOUTHERN CALIFORNIA EDISON®

An EDISON INTERNATIONAL® Company

February 20, 2018

Mr. David Fogt
Registrar of Contractors
Department of Consumer Affairs, Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: C-46 Energy Storage Jurisdiction

Dear Mr. Fogt:

Southern California Edison Company (SCE) provides this letter for the Contractor State Licensing Board's (CSLB's) consideration as the CSLB evaluates issuing a formal determination on whether C-46 contractors should be permitted to install energy storage systems that are paired with solar photovoltaic systems. As described below, SCE believes that only those contractors who are duly-qualified to install stand-alone energy storage systems should be authorized to install such systems paired with solar photovoltaic, in order to ensure their safe and reliable operation and the safety and reliability of the distribution grid.

Energy storage systems are a distinct specialty area. While C-46 contractors are licensed to install, modify, maintain or repair thermal and photovoltaic solar energy systems, this does not directly translate to the expertise needed for energy storage systems. The installation and function of energy storage systems, which are a nascent technology that takes many forms and sizes, require adherence to *specialized* safety standards. This remains true when energy storage systems are paired with solar systems.

The safety of utility employees, customers, contractors, the environment, and the public at large is always SCE's paramount concern. Improperly installed energy storage systems create a serious risk of electrocution and fire. Specialized installers who are expert in the unique safety codes and standards for energy storage systems mitigate that risk.

In addition, SCE expects that the amount of energy storage systems on the electricity grid, and their role in maintaining electric system reliability, will grow rapidly in the coming years. The state's ambitious environmental goals, and customers' clean energy preferences, are driving an increase in energy storage systems (as well as renewable resources) interconnecting to SCE's

PO Box 800
2244 Walnut Grove Ave.
Rosemead, CA 91770

distribution system. SCE strongly supports the state's climate and air quality objectives, a key part of which is our responsibility to ensure the reliable operation of an increasingly cleaner – and more complex – distribution grid. Energy storage systems, properly installed by skilled contractors with the necessary expertise, will play a vital role in maintaining that reliability.

Finally, adopted regulations do not support extending energy storage installation qualifications to C-46 contractors. A C-46 licensed contractor: "installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section *shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.*"[1] An energy storage system is not "required to install" a solar system, but can be connected to a solar system at a customer's election. Contractors with a C-10 or "A" license are properly authorized to install these energy storage systems.

SCE urges the CSLB to make paramount the safety and reliability issues cited above when determining contractor qualifications for combined solar and energy storage system installations.

Thank you for your consideration.

Sincerely,

Phil Herrington
Senior Vice President, Transmission & Distribution
Southern California Edison

[1] 16 CCR § 832.46 (emphasis added).

SDGE
A Sempra Energy utility

David L. Geier
Senior Vice President
Electric Operations

8330 Century Park Court
San Diego, CA 92123-1530

Tel: 858.650.6131
Fax: 858.650.6106

February 20, 2018

Dean R. Grafilo, Director
Contractors State License Board
Department of Consumer Affairs
Consumer Information Division
1625 North Market Blvd., Suite N 112
Sacramento, CA 95834

RE: Utility C-46 Energy Storage Jurisdiction Letter

It has come to our attention that the CSLB has been asked to issue a formal determination clarifying whether C-46 solar contractors will be allowed to install energy storage systems that are paired with solar PV systems. It is our understanding that C-46 contractors are not currently allowed to install energy storage systems as stand-alone projects due to the fact energy storage systems have unique attributes that are vastly different from solar PV systems. A solar PV system generates and exports energy, while an energy storage system has two functionalities: the charge and discharge mode. Energy storage systems also vary widely in type, size and technology. Energy storage encompasses a diverse range of categories, including mechanical, thermal and chemical storage. Energy storage systems can also include the use of flywheels, ultracapacitors, superconducting magnetic energy storage, molten salt, synthetic oil or compressed air and varies wildly in size, with some large commercial systems now hitting the 10 to 20 MW level.

Because of these factors it is our opinion that energy storage systems have their own separate installation and safety standards and codes requirements that must be followed. Requiring appropriately trained and licensed contractors for electrical energy storage installation is necessary to ensure that these systems are installed properly and safely.

The safety and performance of energy storage systems is a particular concern to California utilities because these systems are increasingly interconnected with utilities' own distribution systems. Over the past few years, numerous legislative and regulatory requirements have been adopted that direct California's investor-owned utilities to procure significant energy storage capacity, including distributed, customer-side, behind-the-meter storage. California's Self-Generation Incentive Program (SGIP) was reauthorized with increased funding and an emphasis on distributed energy storage investments and now 75% of all SGIP funds are dedicated to energy storage projects.

It is clear that storage technology is about to become a transformative aspect of the California electrical infrastructure. Utilizing energy storage systems helps with grid optimization, the integration of distributed generation resources, and the reduction of greenhouse gas emissions.

However, these systems pose unique and particularly hazardous safety, fire and electrocution risks. Improperly installed systems cause hazards and can overheat, explode, arc flashes and blasts of electricity, or burst into flames. Installing large energy storage systems in residential and commercial settings will require special care.

SDG&E has a responsibility to ensure that integrated customer-side energy storage systems do not pose safety risks to customers or our employees, and do not threaten the integrity and performance of the electrical distribution system.

We strongly recommend treating energy storage systems as a separate system that may be connected to a solar PV system, rather than treating it as a mere add-on. Only contractors qualified to install these systems as stand-alone projects should be allowed to install energy storage systems when they are paired with PV systems.

Sincerely,

David L. Geier
Senior Vice President – Electric Operations

/rn

Pacific Gas and Electric Company

Mark Krausse
Director
State Agency Relations

1415 L Street, Suite 280
Sacramento, CA 95814

(916) 386-5709
(916) 386-5720 Fax
Mark.Krausse@pge.com

February 20, 2018

Mr. David Fogt
Registrar of Contractors
Department of Consumer Affairs, Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: C-46 Energy Storage Jurisdiction

Dear Mr. Fogt:

Pacific Gas and Electric Company (PG&E) understands that the Contractors State License Board is considering the issuance of a formal determination to clarify whether C-46 solar contractors will be permitted to install energy storage systems that are paired with solar PV systems. We understand C-46 solar contractors are not allowed to install stand-alone energy storage systems. PG&E would like to express our support for the proposal that would require only contractors qualified to install energy storage systems as stand-alone projects to install those same units paired with PV systems.

Energy storage systems can pose unique and potentially hazardous safety risks if not properly installed or operated. PG&E believes that as this relatively new technology comes into full maturity, installations of energy storage systems in residential and commercial settings should require a skilled, highly-trained workforce to ensure the long-term safety of customers, workers and the public.

PG&E's top priority is always the safety and reliability of the services we provide to our customers. It is with this is mind that we ask the board to adopt eligibility clarifications for contractors that will put safety first.

Respectfully,

Mark Krausse

NECA
NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION

Los Angeles County Chapter

100 East Corson Street, Suite 410
Pasadena, California 91103
T 626-792-6322
F 626-792-6372
805-642-7994

February 2, 2018

Marlo Richardson, Chair
Contractors State Licensing Board, Licensing Committee
P.O. Box 26000
Sacramento, CA 95826

RE: **Request for Formal Policy Determination re Scope of C-46 Jurisdiction**

Dear Mrs. Richardson,

On behalf of the Los Angeles County Chapter of the National Electrical Contractors Association (NECA), I respectfully submit the following question to the Licensing Committee for a formal policy determination.

I. Question Presented:

Shall the C-46 contractor classification be interpreted broadly to allow the installation of energy storage systems that are paired with the installation of a photovoltaic solar energy system or shall such work be deemed beyond the permissible scope of the classification?

II. Legal Framework:

Business and Professions Code section 7059 only allows specialty contractors to perform work that falls under the scope of other contractor classifications if that work is "incidental and supplemental" to the performance of the work in the craft for which the specialty contractor is licensed. Section 832.46 of California Code of Regulations, Title 16 additionally restricts C-46 contractor work to work that is "required to *install* a thermal or photovoltaic solar energy system." (Emphasis provided.)

Iii. Discussion:

It is undisputed that C-46 contractors are not licensed to install energy storage systems as stand-alone projects. C-46 contractors may only perform work to install thermal or photovoltaic solar systems. A dispute has arisen, however, as to whether C-46 contractors should be allowed to install energy storage systems that are paired with photovoltaic solar energy systems. The Business and Professions Code and Title 16 restrictions on the scope of specialty contractor classifications are sufficiently ambiguous that CSLB staff has held that this work is not plainly barred under the Code. CSLB board members, however, have stated during Licensing and Enforcement Committee discussions that C-46 licenses are not intended to encompass installation of energy storage systems even when they are combined with solar PV systems.[1] In addition, many building officials do not allow C-46 contractors to install energy storage systems on the grounds that these are separate systems that pose unique fire and life safety risks.

[1] See minutes of CSLB Licensing and Enforcement Committee Meeting, Solar Industry Update, October 28, 2016.

California energy policy has recently shifted focus to seek a dramatic increase of energy storage capacity in California, both at the utility scale and on the customer-side of the meter. As a result, the conflicting interpretations over C-46 jurisdiction require immediate resolution by the CSLB. We are requesting that the CSLB make a formal factual and policy determination clarifying whether energy storage systems shall be treated as separate systems that C-46 contractors may connect to solar PV systems, but may not install.

Argument:

For the reasons set forth below, we urge the CSLB to find that that C-46 contractors many not install energy storage systems even when paired with a solar PV system.

- Energy storage systems and solar PV systems are separate, unique systems that can work together, but have independent utility and different functions.

- Energy storage systems have their own separate installation and safety standards and code requirements that must be followed.[2]

- Energy storage systems pose significant risks and hazards to installers, occupants, utility workers and emergency personnel.[3] A system that is improperly installed could cause serious public safety hazards, including explosion, electrocution, arc flashes, arc blasts, fires caused by shorting or a thermal runaway of a battery storage system.[4]

- Requiring appropriately trained and licensed contractors for electrical energy storage installation is necessary to ensure that these systems are installed properly and safely.[5] Only contractors that are qualified to install these as stand-alone systems should be allowed to install them.

- Energy storage systems are not one size fits all systems. There are numerous types of energy storage systems and technologies. Energy storage systems also vary widely in size, with some customer-side systems exceeding several megawatts.

- A solar PV energy system is an energy production source that can produce energy for use by a connected energy storage system, but it is not, itself, an energy storage system.

- An energy storage system is an independent source of stored energy that can be used in parallel with a primary source of energy. Energy storage systems predate solar systems and can be paired with any energy source – not just solar.

---

[2] See NEIS, American National Standard, NECA 416-2016, Recommended Practice for Installing Energy Storage Systems (ESS). See also ESAMTAC, Energy Storage and Microgrid Training and Certification (August 2016).
[3] Declaration of Dan Henrich.
[4] Declaration of Dan Henrich; ESAMTAC, Energy Storage and Microgrid Training and Certification (August 2016) at pp. 2-3.
[5] NEIS, American National Standard, NECA 416-2016, Recommended Practice for Installing Energy Storage Systems (ESS) at p. 23. See also ESAMTAC, Energy Storage and Microgrid Training and Certification (August 2016).

- When paired together, a Solar PV system and an energy storage system may be connected in a wide variety of configurations. They can be connected to the same inverter or separate inverters. They can be grid connected and can be designed to disconnect from the grid during power outages and then automatically reconnect to the grid once power from the grid is restored. They can also be configured as microgrid systems that operate independently of the grid.

- California Public Utility Commission and California Energy Commission proceedings describe energy storage systems as separate devices that may be "paired" with other power sources, including solar PV systems.[6]

- Installation guides and the California Electrical Code refer to the "point of connection" between an energy storage system and an electric power production source. (See, e.g., NEIS, American National Standard, NECA 416-2016, Recommended Practice for Installing Energy Storage Systems.)

Kindest regards,

James M. Willson, Executive Director
Los Angeles County Chapter NECA

CC: David R. Fogt, Registrar of Contractors

[6] The Second Amended Ruling and Scoping Memo states that storage devices are an "addition or enhancement" to a NEM-eligible generation facility. (R.12-11-005, Second Amended Ruling and Scoping Memo (June 29, 2017) at p. 3.) In its "Decision Adopting Net Energy Metering Bill Credit Estimation Methodology for Generating Facilities Paired with Small Storage Devices," the Commission describes energy storage devices as "paired" with solar PV devices or other non-solar energy producing systems. (R.12-11-005, Decision Adopting Net Energy Metering Bill Credit Estimation Methodology for Generating Facilities Paired with Small Storage Devices (March 4, 2016) at p. 2.)

Electrical Safety Foundation International
1300 N. 17th St. Suite 900
Arlington, VA 22209

David R. Fogt, Registrar
and the Licensing Committee
California Contractors State License Board (CSLB)
Sacramento, CA 95826
Via Email To: david.fogt@cslb.ca.gov

In Reference To: February 23rd, 2018 Licensing Committee Meeting, Agenda Item H

The Electrical Safety Foundation International (ESFI) would like to provide public comment on Agenda Item H, "Review, Discussion, and Possible Action on License Classifications Authorized to Install Energy Storage Systems," for the February 23, 2018 Contractors State License Board Licensing Committee meeting.

For 24 years, ESFI has been the sole non-profit dedicated exclusively to promoting electrical safety and preventing electrically related deaths and injuries. As a trusted and valued source for all aspects of electrical safety, we say that it would be a mistake for the Contractors State License Board to allow specialty solar contractors that are not authorized to install stand-alone energy storage systems to install these systems as an incidental component to the installation of a solar PV system.

Energy storage systems are fundamentally different systems from solar PV systems and are subject to distinct code and safety requirements. Battery systems capture and store energy, but this stored energy inherently wants to escape. As a result, energy storage systems pose significant electrocution, fire, explosion and thermal runaway concerns.

This is not just a customer safety issue, but also a worker safety issue. Electrically related deaths are one of the leading causes of workplace related fatalities. Treating energy storage systems as a mere incidental addition to solar PV systems project will put workers at risk. Only contractors who have been trained in electrical risk assessment and electrical theory should work on these potentially dangerous systems. Appropriate contractor licensing requirements for energy storage systems ensures that the citizens and workers of California are properly protected from the risk of unsafe electrical work.

The Contractors State License Board Licensing Committee has an opportunity to stand-up for the safety of all workers in California by recognizing that battery energy storage systems are distinct systems that require specialized skill and knowledge to install. While battery energy storage systems require connection to a source of energy, it does not matter if this energy comes from the grid, a windmill or a solar PV array. If a contractor is not qualified to install a battery energy system that is connected to the grid, then he or she should not be allowed to install a battery energy system simply because it is powered by a different energy source. We urge you not to be expand the scope of specialty contractor licenses beyond their intended reach – particularly where electrical safety is at issue. Keep electrical safety a priority in California!

Thank you,

Brett Brenner
President
Electrical Safety Foundation International

CCUE
Coalition of California
Utility Employees

1231 I Street Suite 206
Sacramento, CA 95814
(916) 446-3413 phone
(916) 446-4805 fax

February 22, 2018

Licensing Committee
Contractors State License Board
c/o David R. Fogt, Registrar
P.O. Box 26000
Sacramento, CA 95826
Email: david.fogt@cslb.ca.gov

Agenda Item H - February 23, 2018 CSLB Licensing Committee Meeting

Dear Committee Members:

I am writing on behalf of the Coalition of California Utility Employees ("CCUE") to support action by the Contractors State License Board ("CSLB") to clarify that C-46 contractors are not authorized to install energy storage systems. The member unions of CCUE represent employees of most the electric utilities in California, both public and private. In order to reduce greenhouse gas emissions and meet statutory and regulatory mandates, the amount of solar PV systems and energy storage systems connected to utility distribution systems is increasing at a dizzying pace. The race to install these systems, however, should not be at the expense of safety.

CCUE is concerned that CSLB staff has been broadly interpreting the C-46 contractor license to allow C-46 contractors to expand the jurisdiction of their work to encompass electrical energy storage systems. This broad interpretation of C-46 jurisdiction appears rooted in a fundamental misunderstanding of the differences and independent functions of these systems.

The C-46 license expressly restricts the scope of work to work that is "required to install a thermal or photovoltaic solar energy system." While energy storage systems may be paired with PV systems, they are different beasts. They perform different functions and are subject to different installation, permitting and code standards. These systems also present different fire and life safety risks and are generally located on entirely different areas of a building or property. The claim that an energy storage system is required to install a photovoltaic solar energy system improperly conflates two separate systems just because they may be connected to work in conjunction with each other.

CUE is also concerned that CSLB staff are not fully cognizant that energy storage systems vary widely in size type and configuration. Commercial systems, in particular, are rapidly increasing in size, with some behind-the-meter commercial systems exceeding 10 megawatts. These are essentially utility-scale systems. Under CSLB's staff interpretation, even these systems could be installed by C-46 contractors as long as there is also a solar PV component.

Improperly installed energy storage systems pose risks to workers, emergency responders and the general public. Where connected to the grid, these systems can also pose risks to utility infrastructure and utility workers. These dangers do not diminish when energy storage systems are paired with solar PV systems. Only fully qualified contractors should be installing these systems.

Sincerely,

Scott Wetch

Exhibit E

Economic Impact Analysis of the CSLB's Proposed Battery Energy Storage System Rule

July 31, 2023

Prepared by:

Beacon Economics

110 South Fairfax Avenue | Suite 380
Los Angeles, CA 90036

Economic Impact Analysis of the CSLB's Proposed Battery Energy Storage System Rule

Executive Summary:

Last month was the hottest June ever recorded, and July is on track to break heat records as well.[1] As California pursues its crucial clean energy goals, with the hopes of limiting climate change damage, state and local policy makers are implementing new laws to encourage the adoption of solar energy and increasingly Battery Energy Storage Systems (BESS).

The CSLB recently released a proposed rule concerning solar contractor licenses, essentially limiting who is allowed to install certain types of BESS. This report calculates the economic impact of this proposed rule, analyzing its effects on jobs, the economy, small businesses, the industry, CO^2 emissions, and its fiscal impact to tax revenue. While contractors who hold multiple licenses will also be affected by this rule change, this study focuses primarily on "pure C-46" solar contractors as they are the group most affected by the rule. "Pure C-46" solar contractors are license holders who have a C-46, and do not have a C-10, A, or B license. There are currently 472 pure C-46 contractors. Some key findings from this report include:

1) The total business impact to pure C-46 contractors from the CSLB's rule in 2024 will be approximately $119.9M. This represents the value of prohibited projects that these 472 contactors would have otherwise installed in 2024 alone.
2) The Total Economic Impact to the statewide economy from the CSLB's rule will be roughly $86.9M in the year 2024 alone in the state of California.
    - The direct loss in economic activity will be an estimated $53.1M.
    - The total economic loss due to indirect economic effects, which are the secondary or ripple effects that occur when direct economic gains or losses trigger changes in other industries or sectors through interdependencies and supply chain linkages, will be $18.4M.
    - The induced economic effects will be $15.4M. These are economic impacts caused by changes in consumer spending due to direct and indirect effects.

[1] https://www.npr.org/2023/07/13/1187530636/last-month-was-the-hottest-june-ever-recorded-on-earth#:~:text=June%202023%20was%20the%20hottest%20on%20record%20since%201850%20June,exacerbates%20human%2Dcaused%20climate%20change.

3) The fiscal impact from the CSLB rule, in 2024 will be $13M
    - The state of California will lose $4.9M.
4) 165 jobs will not be supported in 2024, that would have otherwise. This represents total jobs lost in the in economy and does not include job shifts where solar workers would lose their current jobs and eventually be reemployed elsewhere.
5) While demand for certified electricians is expected to grow 7% a year until 2030, the number of certified electricians has decreased by roughly 6% over the last two years.
6) If pure C-46 contractors are eventually able to hire certified electricians, who have significantly higher labor wages, they will have to raise their prices 4.1%, resulting in a drop in demand of 7.4%.
7) 10.1M lbs of CO^2 will be emitted in 2024, that would otherwise have not been.
8) In regard to economic benefits, Beacon was not able to find any instances where a C-46 contractor incorrectly installed a BESS, leading to a fire and/or economic loss. Thus, Beacon was not able to find any economic damage that the CSLB's rule would prevent.

These findings indicate several assertions made in the CSLB rule proposal are inaccurate, such as no effect on small businesses, no business impacts, and no fiscal impacts. This report finds clear and direct impacts to each of these sectors.

Table of Contents

Introduction

The following report evaluates the economic impact of the Contractors State License Board's (CSLB) proposed rulemaking concerning Battery Energy Storage Systems (BESS), posted for public comment on June 16th. The proposed rule would:

1) Prohibit C-46 Solar Contractors from installing any BESS that exceeds 80kWh
2) Prohibit C-46 Solar Contractors from installing a BESS on any photovoltaic (PV) system, unless the contractor is installing the BESS and PV system at the same time
3) Prohibit C-46 Solar Contractors from maintaining, repairing or modifying any BESS including those that they install.

A C-46 Solar Contractor license allows contractors to install, modify, maintain, and repair thermal and PV energy systems.[2] There are a number of requirements to obtain a C-46 license, such as four years of experience performing or supervising solar work in the last ten years, and passing the Solar (C-46) Contract License Exam.

In terms of the State's policy objectives, regulators are encouraging the adoption of BESS across the state, and have built in financial incentives for them in the newest Net Energy Metering policy.[3] BESS play a vital role in California's electrical grid by enabling the storage of surplus energy generated by solar power installations. They help address the intermittent nature of solar energy by storing excess power during the day and releasing it during times of high demand. This integration of BESS with solar power fosters grid stability, reduces dependence on fossil fuels, and supports California's transition towards a sustainable energy future.

CSLB's rule does not encourage BESS, but rather restricts their construction. Beacon Economics analyzed the impacts of CSLB's ruling using standard econometric policy evaluation techniques. The economic impacts will affect four segments of the market, in four different ways. It will effect "pure C-46" contractors more than any other license holder. "Pure C-46" contractors are license holders that do not have a C-10, A, or B license.

1) Because pure C-46 contractors will no longer be able to install BESS systems over 80 kWh, those installations will more likely be performed by C-10 contractors using more expensive certified electrician labor
2) Because C-46 contractors will only be able to install BESS at the same time as PV systems, they will not be able to perform retrofits (adding storage to a previously installed PV system). If those contractors obtain C-10 licenses, they will not be able to use their existing workforce and will be required to use more expensive certified electrician labor.
3) Because pure C-46 contractors will not be able to perform repairs or maintenance on BESS systems – something required for customers to be eligible for a SGIP rebate and to

[2] Source: CSLB, https://www.cslb.ca.gov/about_us/library/licensing_classifications/C-46_-_Solar.aspx
[3] https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M500/K043/500043682.PDF

be connected to the grid, C-46 contractors will not be able to perform the vast majority of solar plus storage installations regardless of system size. Thus, all of those solar and storage systems will instead more likely be installed by C-10 contractors moving forward, again, using more expensive certified electrician labor

4) Dual license holders (contractors who have a C-46 and C-10, and do not have an A or B) will need to employ certified electricians on their BESS and solar-plus-storage installations for work outside of the C-46 license.

For each of these economic effects, Beacon will provide the direct, indirect, induced and fiscal impact calculations. We first explain our base assumptions about labor and customer dynamics in the industry, to anticipate how they will react to the changes listed above. Next we divide the economic impact into the ways it will effect each market segment for pure C-46 contractors:

- Impacts to the 80kWh+ market
- Impacts to the Retrofit market
- Impacts to the PV plus BESS market

We then consider how the changes will affect the retrofit and 80 kWh+ market segments for dual license holders, contractors with a C-46 and C-10 license. Last, the report considers the impact on small businesses, employees, and the potential benefits of the CSLB rule.

Data Sources

The following analysis relies on data from the American Community Survey, the Bureau of Labor Statistics, O*Net, Job-listing websites, SGIP, Solar Jobs Census, and other sources. However, the primary data comes from the CSLB's Master List of California Licensed Contractors, and the California Interconnected Projects Sites dataset, or referred to hereafter as the Interconnections dataset. Beacon merged all years of recorded data for the Interconnections data, ranging from January 1982 to May 2023. For each solar interconnection project, this dataset provides the kWh, cost, contractor and many other useful variables.

The Interconnections dataset is an undercount, and therefore provides underestimates on economic impact. The Interconnections data does not cover all solar and storage installations occurring in California. In particular, it excludes interconnections with municipal and other public utilities that are not regulated by the California Public Utilities Commission. It also does not include solar and storage installations that are not connected to the grid, for instance off-grid residential systems. As a result, the impacts discussed here are below the actual impacts to the industry.

The Economic Impact of Using Certified Electricians, instead of Solar Workers

The CSLB recognizes that C-46 contractors may decide to obtain a C-10 license as a result of this ruling. It writes, "Any C-46 Solar Contractor without another license classification seeking to install BESS above 80 kWh may opt to apply for a C-10 Electrical Contractor license for $230."[4] If C-46 contractors hold a C-10 license, they will need to use certified electricians for installing their C-10 systems. Given constraints on the C-10 license and required workforce, discussed below, we do not expect that C-46 contractors will be able to obtain a C-10 license and hire a sufficient number of certified electricians to take on otherwise prohibited work in at least the first year after the rule goes into effect (it is likely that this shift to the C-10 license and its workforce requirements would take at least 3-4 years to adjust to). In that case, the projects that they are no longer qualified to do under the rule will still more likely be carried out by C-10 contractors and their certified electricians. We analyzed this switch to understand how it would impact contractors, consumers, and the industry. **We find that C-10 contractors taking over the market segments impacted by this rule, results in a chain of adverse impacts, leading to less solar installations and a smaller solar market.** This causal chain of events is noted below and calculated in the respective order:

- First, there is a lack of supply of certified electricians, constraining the mandated labor force.
- Second, this (along with other factors) leads to CE wages being considerable higher than solar installer wages, anywhere from 46% to over 200% higher.
- Third, these higher labor costs will increase the cost of installation by about 4%, which would be passed along to consumers.
- Next, the higher installation cost would lower demand for solar installations and reduce the number of PV systems and BESS that are installed in California, by roughly 7.3%
- The reduced growth in PV and BESS emissions means there would be less renewable energy installations in California, and lower the growth in carbon emissions reductions.

Each of these steps will be broken down further in the subsequent subsections and quantified in detail.

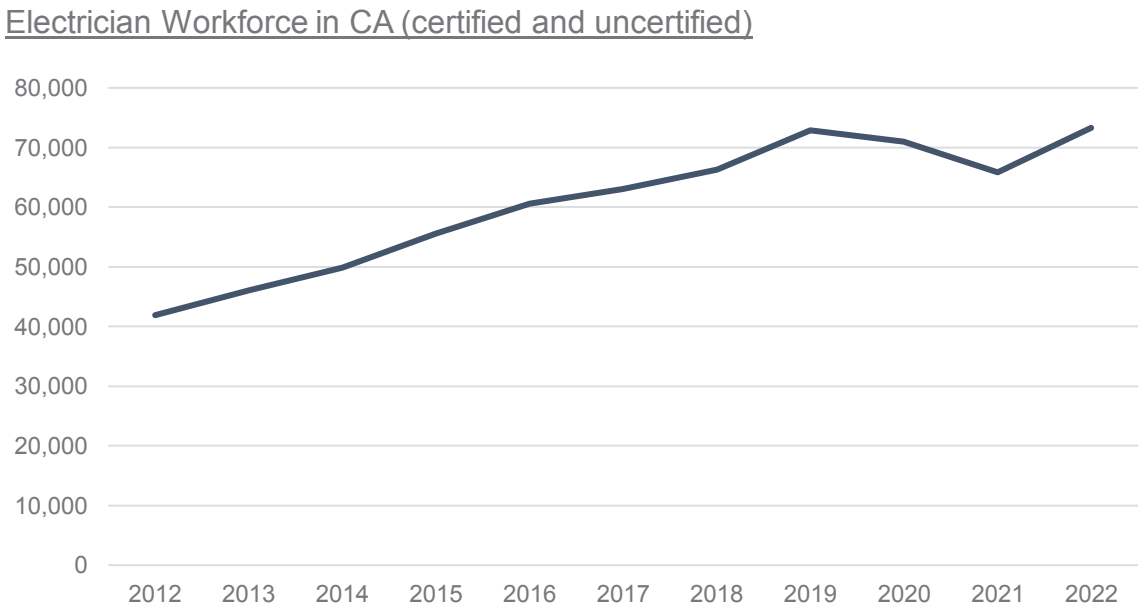
Lack of Certified Electricians

To start, several data points indicate a highly constrained certified electrician labor market, that is only expected to get worse. While the demand for electricians is growing due to the increasing electrification of the economy, the rate of electricians retiring is roughly the same as the rate of new electricians becoming certified.[5]

[4] https://www.cslb.ca.gov/Resources/LawsAndRegulations/2023/CSLB_-_BESS_-_Notice_-__OAL.pdf
[5] https://www.onetonline.org/link/summary/49-2095.00, https://www.bls.gov/ooh/construction-and-extraction/electricians.htm#tab-6

Baby boomers are retiring in large numbers across the United States leading to a labor supply shortage throughout the economy, and a record low unemployment of 3.5%. California leads the nation as the state with the most job openings of any state, with roughly one million.[6] From February 2020, just before the pandemic, to the end of 2022, the state's labor force contracted by 282,000 workers, or roughly 1.4%. This contraction was worse in some labor markets than others. If we divide the economy into 11 sectors, we find that construction added the least amount of new workers of any sector, except mining.[7]

Within construction, we find that the supply of electricians especially low. US Bureau of Labor statistics data, shown in the in the graph below, shows the number of electricians in California is the same as it was four years ago, despite the increase in demand.



Source: U.S. Bureau of Labor Statistics

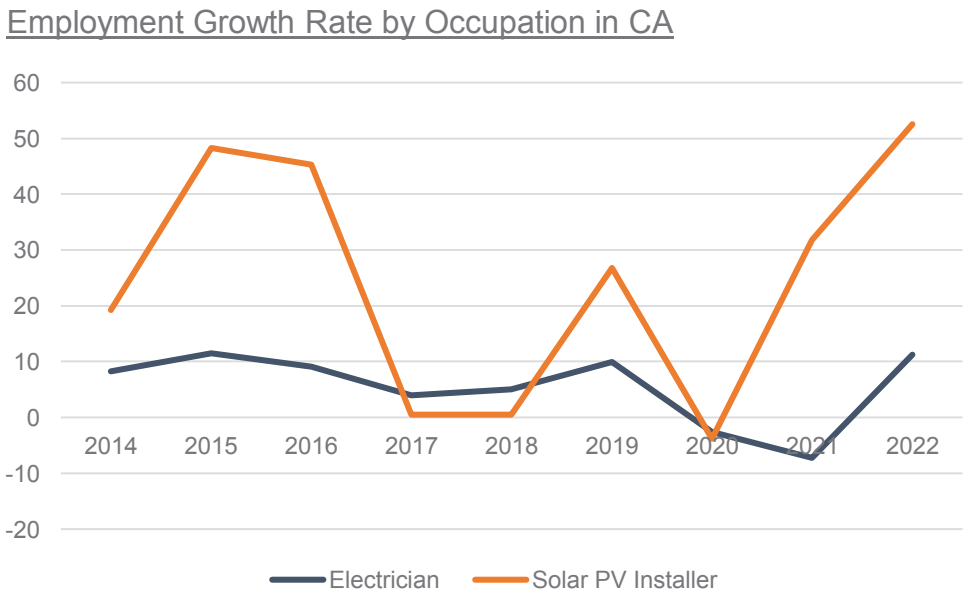
Another source of data on electrician employment specifically focuses on certified electricians in California[8]. The most recent update (06/13/2023) reported that there are currently 34,239 certified electricians. Older datasets are unavailable, so it is difficult to measure the growth of employment using this data. However, to put things into perspective we can look at a report published by the Labor Center in 2021[9]. This report asserts that "As of March 24, 2021, there were 36,550 certified electricians in California…" (Pg. 9). **Using this as a reference we see that the number of certified electricians has decreased by about 6% from March 2021 to June 2023.**

[6] https://news.bloomberglaw.com/daily-labor-report/california-leads-way-as-worker-shortage-deepens-across-us-states
[7] https://business.ucr.edu/news/2022/12/16/worker-shortage-constraining-growth
[8] https://data.ca.gov/dataset/dir-electrician-certification-unit-ecu/resource/291bacb8-2fdb-4d9c-a330-113781ce2f59?inner_span=True, accessed 20 June 2023
[9] https://laborcenter.berkeley.edu/wp-content/uploads/2021/07/BESS-report-final.pdf

At the same time, while the supply has shrunk, the demand for electricians has been growing, and is expected to grow at 7% over the coming decade, two percentage points higher than the 5% that the average occupation is expected to grow.[10]

Unfortunately, California is not starting out from a strong position. It has faced a certified electrician shortage for many years. Location Quotients, or LQs, are used to compare local employment in an occupation or industry to the national average. An LQ greater than one means that local employment of a particular occupation is greater than the national average for that occupation, and a LQ less than one means it is less than average. California's LQ for electricians is .89.[11] This means that despite California being more electrified than other states, and despite is high tech digital industries, it has less electricians than the average US state. To make matters worse for the solar industry, the LQ is lower in counties in sunny Southern California than in Northern California. For example, in Los Angeles the LQ is .73.

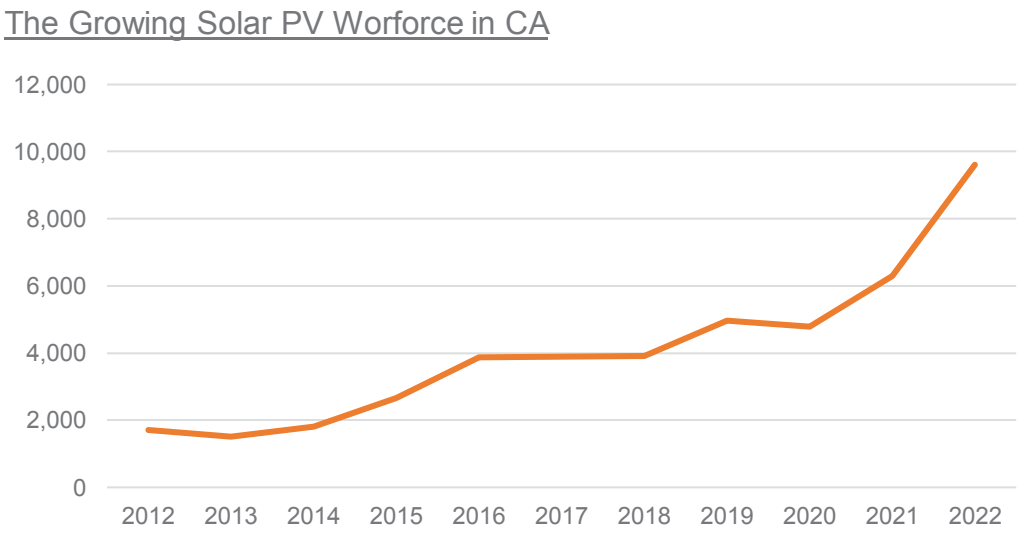
In California, it takes 4 years, or 8,000 hours of experience, to become a general certified electrician. This may partially explain why the rate of new certified electricians is so sluggish in California. Over the last 10 years, the rate of new electricians has not increased, as the blue line illustrates in the graph below. It hovered around 10% in the pre-pandemic years, and was about 10% last year as well. By contract the rate of solar installers in California has been rising quickly to meet demand. The red line in the graph below shows that the number of solar PV installers, employed by C-46 contractors, is increasing quickly. The number of solar installers grew at a staggering 52% rate last year.



Source: U.S. Bureau of Labor Statistics

[10] https://www.bls.gov/ooh/construction-and-extraction/electricians.htm#tab-6
[11] https://www.bls.gov/oes/current/oes472111.htm#st

While the number of electricians has mostly stayed the same in California over the last couple years, the number of solar installers doubled between 2020 and 2022. This follows the high growth rate of solar installations in the industry, which likewise doubled from 136k projects in 2020 to 248k projects in 2022. Demand for solar installers is extraordinarily high, and expected to grow at more than 11% a year.[12]



Source: U.S. Bureau of Labor Statistics

Solar installers are thus better positioned to provide the labor necessary to continue the fast growth rate of solar installations and to help decarbonize California's electrical grid, rather than supply-constrained certified electricians. As consumers learned first-hand in 2022, supply constraints lead to higher prices. Just as pandemic induced supply constraints contributed to inflationary price pressure on goods, labor supply constraints of CEs will lead to inflationary price pressure in the solar industry. The logical next question, is how much will these higher labor costs increase prices, and how much will that decrease demand and dampen solar's growth across the state.

Higher CE labor costs will lead to higher Installation Costs

Labor is a key input in solar installation projects. Thus it is easy to understand that increasing the cost of labor, will increase the cost of solar installations. Certified electricians have much higher wages than solar installers, and these increased labor costs get passed along to consumers in the form of higher PV installation prices.

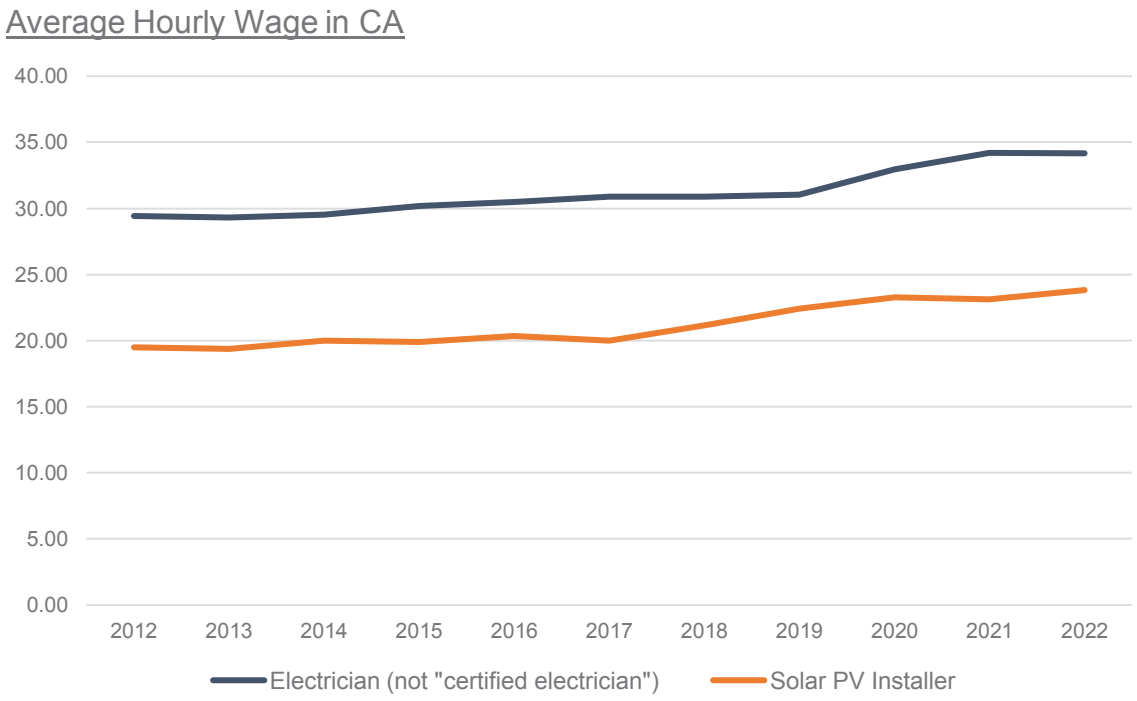
The following section quantifies this price increase. To being, we first look at research conducted by previous studies. A study conducted by Peter Philips, a labor economist at the University of Utah, based on NREL cost models and submitted to the CSLB found that the CSLB's proposed

[12] https://www.onetonline.org/link/summary/47-2231.00?redir=47-4099.01

rule would increase costs 3%.[13] The Labor Center study, also submitted to the CSLB, made very conservative assumptions and still found that the price would increase 1% to 2.1%.[14] Thus, the CSLB's statement regarding cost in the proposed ruling seems to be miscommunicated, "The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action."

The Labor Center analysis relies on averages from the SGIP data to compare prices based on license type. However, these average prices include the equipment cost, which are the majority of the costs. Therefore they fail to isolate labor costs, and the resulting differences. Beacon approached this issue by calculating regressions from the full raw interconnections data, which is the most accurate approach possible.

First, we calculated the cost increase looking at the wage difference. Sources vary on the exact wage difference, but they all agree solar installers are paid much less than certified electricians. The Bureau of Labor Statistics reports that electricians (not certified electricians) are paid $37.57/hr, 46% more than solar installers who are paid $25.81 an hour.[15]



Source: U.S. Bureau of Labor Statistics

There is less available data on the sub-category 'certified electricians', but their wages are substantially higher than average electricians. Prevailing wages for CEs in the industry range from $77/hr to $145/hr.

[13] https://cslb.ca.gov/Resources/BoardPackets/BESS_report.pdf
[14] https://cslb.ca.gov/Resources/BoardPackets/BESS_report.pdf
[15] https://www.bls.gov/oes/current/oes_ca.htm

To be highly conservative, let us assume that CEs are paid *only* 46% more than solar installers. If contractors need to switch to a C-10 and start using CEs, as compared to using solar installers under the C-46 license, how much will this increases the price of solar and BESS installation?

Labor costs make up roughly 10% of the cost on a PV or BESS installation.[16] The solar market is highly competitive, so we can assume just about all of the increase in wage cost is passed on to consumers.[17] This means the average cost of the installation will increase by roughly 4.1%. This is slightly higher, but close to the cost increase estimations provided by Peter Phillips and the Labor Center. Please note, this cost increase calculation does not take into account the fact that the CE labor supply is constrained, and that additional time and resources that will likely be necessary to find and hire CEs. Further, it does not take into account that this additional demand for CEs will increase labor constraints further, and therefore increase the wage discrepancy between CEs and solar installers further. Thus, this 4.1% increase due to labor wages is likely an underestimate as more pure C-46 get a C-10 license.

Nonetheless, a 4.1% increase in costs is substantial. To verify this number, Beacon looked to the actual data, collected in the interconnects dataset. Beacon compared the average costs of pure C-46 contractors to pure C-10 (contractors with no C-46, A, and B license), across retrofits and solar-plus-storage projects, from 2018 to 2022. We controlled for the installation size or equipment model, since that represents a large share of the costs.

In the retrofit market, 75 inverter sizes have been installed, but the vast majority, 86%, are either 10kw, 7.65kw, or 5 kw. In all three cases, pure C-46 have a lower cost. For 10kw, they are 3.8% less, for 7.65kw they are 6.1% less, and for 5kw they are 2.6% less. On average, these projects were 4.2% lower, which is close to the expected difference.

Likewise, Beacon controlled for the model of the invertor. Comparing pure C-46 and pure C-10, across the same models, we select models where both types of license-holders have installed at least 10 projects. We find that pure C-46 projects 4.3% less expensive than pure C-10.

For Solar-plus-storage projects, Beacon compared the type license holder types based on the system size. We filtered for similar system sizes here each license holder had at least 10 projects. Here we find that pure C-46 license are 11% less expensive than pure C-10.

Thus the data supports the hypothesis that pure C-46 contractor projects will be less expensive, because they use less expensive labor. Further the magnitude of the difference is roughly what would be expected from the difference in labor costs between solar installers and certified electricians, relative the overall cost structure of the project.

[16] https://cslb.ca.gov/Resources/BoardPackets/BESS_report.pdf
[17] https://www.aeaweb.org/articles?id=10.1257/app.20170611

Increased Costs will lead to Lower Demand and Fewer Solar Installations

Beacon's analysis confirms that the proposed rule will increase costs, and finds a steeper price crease than previous studies estimated. The next question is how will these higher costs impact demand. To answer this question, we need to discern the price elasticity of demand coefficients for the industry. The price elasticity coefficient quantifies how much a change in price will change demand. If an industry's demand is *inelastic*, it will have a coefficient less than one. This means that if the price increases by 1%, the quantity demanded, or purchased, will decrease by less than one percent. However, if an industry's demand is *elastic*, a 1% increase in price will lead to a greater than 1% decrease in demand.

There have been several academic studies on the elasticity of the solar industry. They show that the solar industry's demand is highly *elastic*, meaning, a 1% change in the price of PV or BESS systems leads to a much greater than 1% change in demand. Long run elasticity estimates in these studies range from 1.5[18], 1.76[19], to 1.9[20], to 3.8, to greater than 4[21]. Of these research studies, Burr (2016) is most applicable because it is based on microdata for California for solar systems, thus we use this estimated price elasticity of 1.8. This means that for each percent the price of solar increases in California, the demand decreases by 1.8%. It makes sense that solar installations are price sensitive, considering the fact there are many other cost-effective alternatives for consumers to obtain electricity. The financing and long term pay-off schedule of solar systems is a primary discussion for all potential solar consumers. If prices rise the expected 4.1%, a 1.8 price elasticity means that demand will drop by 7.4%. This 7.4% represents the drop in demand that is expected when a CE performs solar installations as opposed to a solar installer, employed by a C-46 contractor.

The CSLB relies on the Labor Center's report to determine there will be no cost increase. However, the Labor Center's economic impact section does not rely on standard economic methods. For example, they do not reference price elasticity of demand in their analysis, or any related economic literature. Instead, their support comes from a magazine article with marketing managers, and a NREL sentence that says end users decisions, "may not always be driven by economics."

[18] Gerarden, Todd. Demanding Innovation: The Impact of Consumer Subsidies on Solar Panel Production Costs. Harvard Environmental Economics Program. 2018

[19] Gillingham, K. and T. G. Tsvetanov. (2016). Hurdles and steps: Estimating demand for solar photovoltaics.

[20] Arino, Y., T. Kiso, and H. S. Chan (2016). The impact of electricity prices on the installation of residential solar photovoltaic panels: The case of japan.

[21] Burr, C. (2016). Subsidies , Tariffs and Investments in the Solar Power Market.

Economic Impacts by Market Segment

There are four specific market segments that will be impacted by this ruling, depending on the type of project and the license of the contractor. These are:

1) Pure C-46 contractors who install BESS systems over 80 kWh
2) Pure C-46 contractors who install retrofitted BESS
3) Pure C-46 contractors who install solar plus storage systems
4) Dual License holders (contractors who have a C-46 and C-10, and do not an A or B) who install retrofits, and BESS systems over 80 kWh

The explanation for each of these impacts is explained and estimated in order in the following sections. Further, the direct economic impact to each market segment is reported, as well as the indirect and induced economic impact to the broader economy. Economic ecosystems are highly complex and interrelated, and a loss at one end of the supply chain can impact a producer at the other end of the supply chain. To account for this, all Economic Impact studies include indirect and induced economic impacts, as well as the direct economic impacts.

For clarity purposes, these three effects are defined as:

1) Direct Effects represent the immediate changes in the economy resulting from the primary activity or event under examination.

2) Indirect Effects capture the ripple effects on other sectors and industries that provide goods and services to support the directly affected industries. For example, the decreased demand for solar panels and battery systems will lead to lower demand for raw materials, such as silicon, metals, and chemicals used in solar panel production, as well as components and parts for battery manufacturing. This lowers economic activity in industries involved in the extraction, processing, and manufacturing of these inputs. Indirect impacts also include the transportation services, logistics, and other supporting activities required to facilitate the supply chain of solar and battery technologies.

3) Induced Effects capture impacts in the solar electricity and battery storage industries that arise from the spending and consumption patterns resulting from the direct and indirect effects. As employees and business owners in the solar and battery sectors earn income, they spend their wages on various goods and services, thus stimulating other sectors of the economy. For example, solar and battery industry workers may spend their earnings on housing, transportation, food, entertainment, and other consumer goods, which benefit sectors such as construction, retail, hospitality, and more.

Beacon tried to compare its direct, indirect and induced economic impacts to the Labor Center's report, however the Labor Center has not analyzed or reported the traditional metrics of an economic impact report – direct, indirect, and induced effects.

Economic Impact 1: Prohibiting C-46 contractors from 80kWh+ BESS

The CSLB rule will prohibit pure C-46 contractors from installing BESS that exceed 80-kWh. This means that C-10 contractors will likely install them instead, and they will need to use the more expensive CE labor. As described above, this will decrease demand for 80-kWh by roughly 7.4%.

Therefore, to calculate the economic impact for the calendar year 2024, we summed the total market value of all BESS projects that exceeded 80-kWh for pure C-46 contractors in 2022, which was $8.5M. The solar market is growing exponentially, so we need to take this into account for any future projection of economic value. The 80-kWh+ market has grown an average of 60% over the last five years (a high of 62% and a low of 59%). Therefore, if we apply this growth rate to 2022's market total, we expect the 2024 market to be worth $22M. In other words, we expect C-46 contractors to perform $22M worth of 80-kWh+ projects in 2024. However, with the CSLB's rule, they will not be able to perform these installations, and instead a C-10 contractor likely will. As noted C-10 contractors will need to use more expensive labor, charge a higher price, and therefore decrease demand. Thus, instead of $22M in projects, consumers will demand $20.4M, an economic loss of $1.6M.

This $1.6M represents the direct economic loss to the industry, and additional $564k is lost due to indirect effects, and $472 is lost due to induced effects. In addition, we have broken down each of these effects into their labor-related and non-labor related components. This allows us to estimate the number of jobs that will, or will no longer, be supported as a result of the CSLB ruling.

The table below reports the findings. In total, the CSLB ruling capping C-46 BESS installations at 80 kWh will have a negative economic impact of $2.7M in one year. This assumes that all 80+kWh BESS work that C-46 is no longer allowed to install, will be installed by C-10 contractors. $730kof this loss results from a reduction in labor income. $1.6M is from a reduction to California's Gross Domestic Product (GDP), or in other words, total market value of final goods and services that are lost.

Table 1: 2024 Economic Impact of Prohibiting C-46 from Installing 80+kWh BESS

Impact	Jobs Supported	Labor Income	Value Added	Output
1 - Direct	-1.5	-$391,221	-$984,085	-$1,628,932
2 - Indirect	-1.6	-$172,949	-$302,629	-$563,934
3 - Induced	-2.2	-$166,323	-$293,839	-$471,857
	-5.3	-$730,493	-$1,580,552	-$2,664,722

This $2.76M loss results in 5.38 jobs no longer being supported. "Supported" jobs are those part-time, full-time and temporary jobs that are generated or would continue to exist because of some economic activity. In this case, it is a reduction in economic activity, which means 5.38 jobs would no longer be supported because of the CSLB 80 kWh cap for those C-46 only firms alone.

Note that loss of supported jobs does not reflect labor "shifts," where solar contractors will lose their current jobs, but eventually be hired in other sectors of the economy.

The economic loss calculated above will translate to a loss in tax revenue to local, state and federal governments. Beacon's model incorporates taxes based on the appropriate level of government, such as taxes on production and imports, corporate profits, personal income, and social insurance tax. We report the fiscal impact for each of the economic losses outlined in this report.

As the table below notes, the total loss of revenue to various levels of government is $505k. The state of California would lose $189k, the federal government would lose $101M, and lower administrative levels would lose the remaining $215k.

Table 2: 2024 Fiscal Impact of Prohibiting C-46 from Installing 80+kWh BESS

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
1 - Direct	-$62,865	-$71,952	-$48,148	-$146,951	-$33,202	-$363,116
2 - Indirect	-$5,753	-$6,607	-$4,422	-$21,804	-$34,079	-$72,666
3 - Induced	-$5,293	-$6,080	-$4,069	-$20,593	-$33,264	-$69,301
	-$73,912	-$84,639	-$56,639	-$189,348	-$100,545	-$505,083

Economic Impact 2: Prohibiting the Retroactive Installation of BESS Systems

Next, this rule will prohibit C-46 Contractors from installing BESS when they are not also installing PV systems, which means they will not be allowed to retroactively install BESS on previously installed PV systems. These retroactively installed systems are called "retrofits". This has serious economic consequences because only 6.5% of PV systems are currently installed with storage, meaning 94.5% do not have storage and could have a BESS installed at a later time. The potential retrofit market is vast, and growing rapidly. This was recently accelerated further by the fact that BESS are highly encouraged in the new NEM 3.0 policy framework. California policy makers recognize the importance of BESS to the grid and now offer incentives to include BESS in current PV systems.[22]

Based on interconnection data, the retrofit market for pure C-46 contractors was $12.5M in 2022, and growing quickly. Pure C-46 contractors installed 322 retrofits last year. This is a 153% increase from the 210 retrofits they installed in 2021. Pure C-46 contractors installed 11% of all retrofits in California in 2022.

It should be noted that the interconnections dataset has a high number of missing values for the total cost, or price, of each retrofit. Beacon used a simple OLS model to impute missing project

[22] https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M500/K043/500043682.PDF

values based on the correlation between the size of the battery and the project value, for the projects that did report this. This model had an R^2 of .89, meaning it explained 89% of the variation, and thus imputes the missing values with a high level of precision.

Assuming the CSLB's rule would prohibit C-46 contractors from installing retrofits in 2024, we need to estimate the value of the C-46 retrofit market for that year. The average growth rate for retrofits over the last five years is 68% (a high of 76% and a low of 59%). When we apply this 68%, we find that the pure C-46 retrofit market will be worth roughly $35.3M in 2024.

This $35.3M is likely a complete economic loss because these systems cannot have another contractor with a C-10 install a retrofit as the standard warranties would be voided if any other installer than the original PV installer were to install a BESS. Therefore, in 2024 roughly $35.3M worth of retrofits will not occur because of this ruling, that would have otherwise.

Table 3: Economic Impact of Prohibiting C-46 Retrofits

Impact	Jobs Supported	Labor Income	Value Added	Output
1 - Direct	-33	-$8,475,541	-$21,319,514	-$35,289,685
2 - Indirect	-35	-$3,746,814	-$6,556,240	-$12,217,233
3 - Induced	-49	-$3,603,280	-$6,365,818	-$10,222,445
	-116	-$15,825,635	-$34,241,571	-$57,729,363

The loss of the pure C-46 retrofit market will result in 116.4 jobs no longer being supported.

This large economic impact will consequently have a proportionally large fiscal impact. As noted below, $8.5M in revenue will be lost to federal, state and local authorities because of this portion of the CSLB rule.

Table 4: Fiscal Impacts of Prohibiting C-46 Retrofits – No pure C-46 obtain a C-10

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
1 - Direct	-$1,056,958	-$1,209,737	-$809,513	-$2,470,706	-$558,227	-$6,105,140
2 - Indirect	-$96,732	-$111,088	-$74,349	-$366,599	-$572,975	-$1,221,742
3 - Induced	-$88,999	-$102,227	-$68,420	-$346,241	-$559,281	-$1,165,168
	-$1,242,689	-$1,423,051	-$952,282	-$3,183,545	-$1,690,483	-$8,492,050

It is important to note there are large economic opportunity costs to this rule as well. Since 2017, pure C-46 contractors have installed over 66,000 PV systems that do not have a BESS. All of these systems are candidates for a BESS installation. Given that the median BESS install project costs $28,700 , this means there is roughly **$1.9 Billion worth of retrofit projects that C-46-only firms will never be able to install.** Again, the standard warranty of PV systems is voided if

a BESS is retrofitted by a different contractor than the one who originally installed the PV system. This means that all of these PV systems will likely not be able to receive a retrofit because of the CSLB's proposed rule. Blocking this sizable number of installations from receiving retrofits is inconsistent with the policy goals and energy needs of California.

Its important to note that the negative impact of this market segment would be reduced if pure C-46 license holders obtained a C-10. In that case, they would be able to perform these retrofits. They would need to install them using certified electricians labor, so they would have higher costs, but they would still be able to capture some of this market.

Economic Impact 3: Prohibiting pure C-46 from BESS Maintenance

By stipulating that BESS shall not be the work of pure C-46 contractors, except when they are installing them, this means pure C-46 cannot maintain, repair or service BESS. In order to be plugged into the grid, and to receive a SGIP rebate, customers contracts must provide that the contractor installing their BESS will service and maintain it as well. This means that C-46 contractors will be unable to install a system that has a BESS, regardless whether it is 80kWh+ or not.

To calculate the economic impact of this factor of the CSLB rule, we can calculate the total size of this market and then apply the price elasticity calculation, because while C-46 contractors could not install these, the more expensive C-10 contractors could.

In 2022, the total market for solar and storage was $37M for pure C-46 contractors. This market segment is growing quickly, on average 31% over the last five years, meaning it is expected to be worth roughly $63.8M by the end of 2024. Pure C-46 contractors will no longer be able to service this market because of the CSLB rule, and thus C-10 contractors will do so with certified electrician. Thus, we apply the price elasticity model and find that this will result in a demand decrease equivalent to $4.7M. The table below shows that the total economic impact from this loss in market demand is $7.7M.

Table 7: Economic Impact from Prohibiting Pure C-46 Solar with Storage Installation

Impact	Jobs Supported	Labor Income	Value Added	Output
1 - Direct	-4.3	-$1,128,673	-$2,839,083	-$4,699,466
2 - Indirect	-4.7	-$498,957	-$873,083	-$1,626,948
3 - Induced	-6.5	-$479,843	-$847,725	-$1,361,305
	-15.5	-$2,107,472	-$4,559,891	-$7,687,719

15.5 jobs would not be supported because of this impact, that would be otherwise. The Fiscal impact would be $1.5M across federal, state and local government authorities.

Table 8: Fiscal impacts from Prohibiting Pure C-46 Solar with Storage Installation

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
1 - Direct	-$181,365	-$207,581	-$138,906	-$423,952	-$95,787	-$1,047,590
2 - Indirect	-$16,598	-$19,062	-$12,758	-$62,905	-$98,318	-$209,641
3 - Induced	-$15,272	-$17,541	-$11,740	-$59,412	-$95,968	-$199,933
	-$213,235	-$244,184	-$163,404	-$546,269	-$290,073	-$1,457,164

Economic Impact 4: Dual License Holders using CEs for Retrofits and 80+kWh BESS

A fourth market segment that will be adversely impacted by the CSLB rule is the retrofit and 80kWh+ solar and storage systems that are installed by dual license holders. Dual license holders are contractors that have a C-46 and a C-10, but not an 'A' or 'B' license. These contractors could use solar workers for these installations, but will need to use more expensive certified electricians because of the CSLB rule removing this work from the C-46 solar classification.

Like the rest of the industry, this market segment has been skyrocketing over the last few years. In 2018, dual license holders did 236 projects that would be effected by the rule, worth $6.5M. In 2020, 813 projects were installed for $38.7M. Last year, in 2022, there were 1,917 projects in this segment for a total of $67.5M. The market has been expanding at a 53% growth rate over the last five years. Thus, the market that would be impacted by the rule for dual license holders is estimated to be worth $153M per year, by the end of 2024.

If this market is forced to use certified electricians, instead of solar workers, costs will increase and demand will decrease. The 2024 market would be closer to $146.2M, about $11.7M lower than it would otherwise. The total economic impact of this economic loss is detailed in the table below.

Table 9: Economic Impact to Dual License Holders

Impact	Jobs Supported	Labor Income	Value Added	Output
1 - Direct	-11	-$2,792,641	-$7,024,653	-$11,627,742
2 - Indirect	-12	-$1,234,553	-$2,160,242	-$4,025,506
3 - Induced	-16	-$1,187,259	-$2,097,499	-$3,368,235
	-38	-$5,214,453	-$11,282,395	-$19,021,483

The total economic loss from this drop in demand will be $19M. This will result in 38 jobs no longer being supported.

The fiscal impact of this loss is noted in the table below. As shown, the total fiscal loss to government authorities will be $3.6M.

Table 10: Fiscal Impact from loss to Dual License Holders

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
1 - Direct	-$448,746	-$513,610	-$343,690	-$1,048,972	-$237,003	-$2,592,020
2 - Indirect	-$41,069	-$47,164	-$31,566	-$155,645	-$243,264	-$518,707
3 - Induced	-$37,786	-$43,402	-$29,049	-$147,001	-$237,450	-$494,688
	-$527,600	-$604,176	-$404,304	-$1,351,617	-$717,717	-$3,605,415

Total Economic Impact

To calculate the total economic impact from the CSLB rule we can aggregate the four economic impacts detailed above. Part of the third market segment analyzed, solar and storage systems for pure C46 contractors, also included BESS that are larger than 80 kWh, which was the first market segment analyzed. These projects represented 1.8%, or $138k, of the solar plus storage market. Thus, we back out this figure from the total as to not double count it.

The table below shows the aggregate economic impact of all four market segments impacted by the CSLB rule. **In the year 2024, the CSLB rule will have an estimated economic cost of $86.9M to the greater economy. It will result in 165 fewer jobs being supported.**

Table 11: Total Economic Impact from the CSLB Proposed Rule

Impact	Jobs Supported	Labor Income	Value Added	Output
1 - Direct	-46	-$12,767,759	-$32,116,232	-$53,161,235
2 - Indirect	-49	-$5,644,292	-$9,876,479	-$18,404,336
3 - Induced	-69	-$5,428,068	-$9,589,622	-$15,399,339
Total	-165	-$23,840,119	-$51,582,331	**-$86,964,908**

As noted, this includes a direct economic impact of $53.2M. This direct loss in economic activity ripples through the economy impacting supply chains, the broader industry, and local markets. For example, 5 jobs will no longer be supported in the restaurant industry because of this loss. $18.4M will be lost due to indirect effects, and $15.4M will be lost due to induced effects.

The aggregate fiscal impact of the CSLB rule will be that $13M less is collected in taxes in 2024 by government authorities, than would have otherwise. Most of this loss, $4.9M, is to the California State Government.

Table 12: Fiscal Impact from the CSLB Proposed Rule

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
1 - Direct	-$1,620,939	-$1,855,240	-$1,241,460	-$3,789,047	-$856,091	-$9,362,777
2 - Indirect	-$148,347	-$170,364	-$114,021	-$562,212	-$878,708	-$1,873,651
3 - Induced	-$136,489	-$156,774	-$104,928	-$530,992	-$857,708	-$1,786,889
	-$1,905,774	-$2,182,376	-$1,460,410	-$4,882,251	-$2,592,507	-$13,023,317

Environmental Impact

In addition to the economy, labor markets and government budgets, this rule will have adverse effects on the environment as well, because it will slow the growth of the charging capacity and solar power generation capability of California's grid. California's charging capacity from battery storage has increased from less than 500 MW at the beginning of 2020 to 5,600 MW today.[23] California Independent System Operators credit this rise in battery capacity for making California's grid more reliable this summer compared to last year, when it was threatened by rolling brownouts.[24]

The CSLB ruling would reduce the future battery capacity of California's grid through the reduction of retrofits, and solar generation through solar-plus-storage projects. Based just on the solar-plus-storage project loss, California would generate 3,280 kWh less per day in 2024 because of the CSLB rule, than it would without the rule. It is difficult to calculate exactly how much CO^2 this would have saved, because the specific emissions intensity can vary depending on the energy mix and the time of year, as renewable energy sources are more prevalent during certain periods. Still, as a rough order of magnitude, if we assume California releases roughly 0.503 lbs of CO^2 per kWh, this means roughly 1.8M lbs of CO^2 would be emitted in 2024 because of the CSLB ruling, that would not otherwise.[25]

In terms of BESS capacity, the CSLB ruling would reduce the amount that would have been constructed in 2024 by 16,600 kWh. This reduction comes from aggregating each of the economic losses of each of the four market segments noted above. Just over half of the total comes from the loss in the Retrofit market. Power consumption and California's grid emissions intensity vary overtime, but research shows that a typical 7.5 kW PV system reduces a household

[23] https://www.gov.ca.gov/2023/07/12/icymi-california-grid-reaches-5600-mw-of-battery-storage-capacity-a-1020-increase-since-2020/
[24] https://www.latimes.com/california/story/2023-07-28/could-californias-power-grid-become-strained-this-summer
[25] https://www.eia.gov/electricity/state/california/

carbon emissions by 45%.[26] If a storage system is installed, the household's emissions are reduced by 80%. Using this as a rough guide, we can estimate that the reduction in storage capacity will lead to 8.3M lbs of daily CO^2 emissions that otherwise would have been prevented.

Adding the loss in solar generation and the loss in storage, we find a total of 10.1M lbs of CO^2 will be emitted, that would not have if the CSLB rule had not been implemented in 2024.

Effect on Small Business and Workers

Curiously, the CSLB determined that there will not be an effect on small businesses, but then writes it cannot determine the effect on small businesses in the next sentence:

"The Board has determined that the proposed regulations will not affect small businesses. Although small businesses owned by licensees of the Board may be impacted, the Board does not maintain data relating to the number or percentage of licensees who own a small business; therefore, the number or percentage of small businesses that may be impacted cannot be determined."[27]

Luckily, there are in fact ways to estimate the effect on small businesses. According to California Government Code 11342.610, small businesses involved in special trade construction, are defined as:

1) Independently owned and operated
2) Not dominant in its field of operation
3) Earn less than $5M per year

This rule will impact C-46 license holders, so we can begin by looking at the characteristics of these contractors as it pertains to these three small business criteria.

First, with regards to the independently operated criteria, there are 1,288 contractors that have a C-46 license.[28] In 2023, 964 of these contractors have additional licenses as well, while 472 contractors have a C-46 and no other licenses that would allow them to install BESS under the proposed rule (i.e, a C-10, "B", or "A" classification). Forty percent (40%) of these companies, or 129, are Sole Owners. This means 188 holders of only a C-46 license satisfy the first criteria of the small business designation.

Second, we know that none of these 188 firms are dominant in their field. They each generated less than 0.1% of the total revenue of the solar industry, or number of solar projects in California.

[26] https://www.pv-magazine.com/2021/02/26/batteries-double-co2-savings-of-households-with-pv-systems/
[27] Notice Of Proposed Rulemaking Concerning Battery Energy Storage Systems, Pg 9, https://www.cslb.ca.gov/Resources/LawsAndRegulations/2023/CSLB_-_BESS_-_Notice_-__OAL.pdf
[28] Sources: CSLB, https://www.cslb.ca.gov/onlineservices/dataportal/ContractorList

Third, we can estimate how much revenue these independently-owned businesses generate based on totaling the cost of all their projects in the Interconnections dataset. This shows us that 82 of these companies earned less than $5M in solar installations in California. It is possible that these companies generated revenue from other sources that was not captured in the interconnection dataset. However, given the interconnection data encompasses almost then entire share of solar installations, and the limited scope of the C-46 license, we do not expect significant variations. Regardless, it seem safe to assume that over 80 small businesses will be directly impacted by this regulation.

In the past five years, these 86 pure C-46 small businesses have installed 91 solar and storage projects, projects that they will no longer be able to install due to the rule's prohibition on repairing or maintaining BESS. They have also installed 16 battery retrofit projects, which would be prohibited under the new rule. The regulation will burden these small businesses as they decide whether it is possible to obtain a new license and find a new labor force, or revert to installation of solar only projects.

From 2018 to 2022, these companies installed over $6.6 M worth of solar-plus-storage and retrofit projects. These are jobs that they will no longer be able take due to the rule's prohibition on retrofits and repairing or maintaining BESS. These companies also installed almost 4000 PV systems that do not have a BESS, meaning that there is roughly $106.5M worth of retrofit projects for existing customers that these small businesses will not be able to provide. The regulation will burden these small businesses as they decide whether it is possible to obtain a new license and find a new labor force, or revert to installation of solar only projects.

In general, C-46 contractors are smaller than their C-10 license holding counterparts. In comparison, a C-10 license is for an Electrical Contractor, which allows them a broader array of projects: "An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, solar photovoltaic cells or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose."[29] C-10 contractors employ Certified Electricians on their projects, whereas C-46 employ primarily solar installers.

The rule will not only adversely impact small businesses and other C-46 contractors, it will also adversely impact their workers. California data from the American Community Survey shows that the population of solar installers is made up of a greater percentage of minorities, younger, and have received less formal education than Certified Electricians (CEs). The CSLB rule would take work away from these solar installers and shift it to certified electricians. Seventy-six percent (76%) of Solar Installers are non-white, compared to 62% of CEs. Eighty-two percent (82%) of solar installers are under the age of 35, whereas only 44% CEs are. Solar installation offers young workers a relatively high paying career for someone with only a high-school level education. Providing these young people with more work opportunities would boost their economic

[29] https://www.cslb.ca.gov/about_us/library/licensing_classifications/c-10_-_electrical.aspx

mobility and offer them a pathway to greater financial stability. New restrictions limiting what types of projects they are allowed to work on undermines this positive social outcome.

Significant economic literature demonstrates that enacting occupational licensure restrictions lowers employment.[30,31] For example, using differences between state licensing policy as natural experiments, economists have identified a causal relationship between licensure restrictions and slower employment growth in respective fields.[32] Further, occupational licensing restrictions have been proven to reduce income inequality as it restricts the entry of less well-off populations, and benefits more advantaged incumbents.[33] A 10% increase in federal regulation is associated with approximately 0.5% increase in income inequality, as measured by the Gini coefficient.[34] The CSLB's proposed rule is a good example of this causal mechanism. It would take

[30] Plemmons, A. (2022) Occupational Licensing's Effects on Firm Location and Employment in the United States. *British Journal of Industrial Relations*, 60, 735– 760. https://doi.org/10.1111/bjir.12661
[31] Kleiner, Morris. Krueger, Alan. Analyzing the Extent and Influence of Occupational Licensing on the Labor Market. Journal of Labor Economics. 2013 31:S1, S173-S202
[32] Kleiner, Morris M. 2006. Licensing Occupations: Ensuring Quality or Restricting Competition? Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. https://doi.org/10.17848/9781429454865
[33] Chambers, D., O'Reilly, C. The economic theory of regulation and inequality. *Public Choice* 193, 63–78 (2022). https://doi.org/10.1007/s11127-021-00922-w
[34] Chambers, O'Reilly. 2022. Regulation and income inequality in the United States. European Journal of Political Economy. https://doi.org/10.1016/j.ejpoleco.2021.102101

economic opportunity away from a younger, more diverse workforce, and transfer it to larger companies with more entrenched workforce.

Economic Benefits

It is always important to consider both the costs and benefits when conducting policy analysis. Objectively and evenly weighing the two together is important to make the best policy decision and promote the greatest social outcome. In this section, we analyze the purported benefits that will result from the CSLB's rule.

First, it is important to note that the CSLB claims no economic benefits from this rule. While the above sections of this report detail the clear economic costs, there are not any economic benefits listed by the CSLB in their notice of the proposed rule.

Although the CSLB does not list any economic benefits, Beacon considered the potential economic savings from this rule potentially reducing the number of BESS related accidents. However, we find zero evidence, that C-10 contractors install BESS more safely than C-46 installers. There is no safety data, economic data, or otherwise to suggest this. The Labor Center's report likewise provides no incidents where a fire was started the result of an error by a C-46 contractor.

Finding zero evidence that C-46 installers increase the chance of fire, we find no economic damages.

Conclusion

In summary, Beacon is able to find substantial economic costs to this ruling, but not able to identify any economic benefits. The ruling stifles the expansion of clean energy in California and leads to higher $C0^2$ emissions in the future, than otherwise would have occurred.

The direct economic loss to C-46 contractors is $53.2M, and the total economic loss to the general economy is $86.9M. By constraining what pure C-46 contractors are allowed to work on, the CSLB's rule will most likely either force them to obtain a C-10 license or have their market segments served by other C-10 contracting businesses. Overtime, the C-46 license will become more and more obsolete and certified electricians will increasingly replace solar workers in California's solar industry. This will lead to higher costs to consumers, less solar installations, and therefore less clean energy production.

As the state endeavors to pursue crucial clean energy goals and combat climate change, these economic setbacks pose a serious challenge. By limiting the pool of eligible contractors and imposing higher costs, the rule could deter investments in clean energy technologies like BESS,

slowing down their adoption and implementation. This, in turn, will impede the state's progress in transitioning to sustainable energy sources, thereby contributing to the exacerbation of climate change effects. Policymakers should carefully consider the proposed rule and the need to strike a balance between regulation and fostering the growth of a clean energy economy and a more resilient future.

Exhibit F

685. Direct-Current System Grounding. Two-wire dc circuits shall be permitted to be ngrounded.

685.14 Ungrounded Control Circuits. Where opera ional continuity is required, control circuits of 150 vol s or less from separa el derive systems shall be permitted to be ungrounded.

ARTICLE 690
olar Photovoltaic (V) ystems

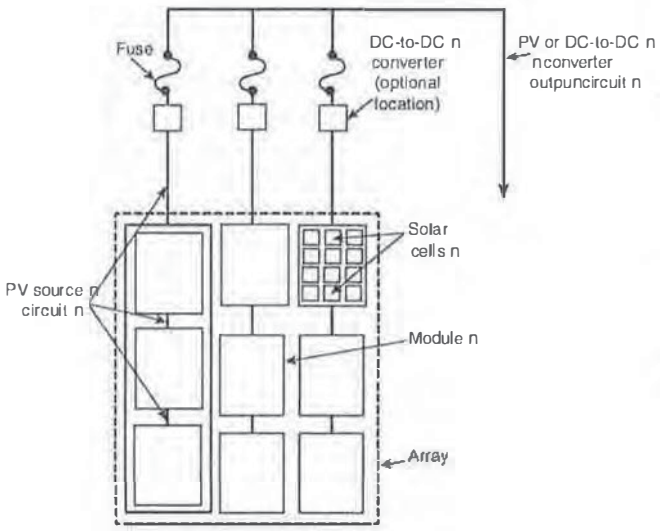
Part I. General

690.1 Scope. This ar icle applies to solar PV systems, o her than those covered b Article 691, including the array circui (s), inverter(s), an controller(s) for such s stems. The s stems covered b this article include those interactive with other l ctric power production sources or stand-alone, r both. These PV systems ma have ac or dc output for utilization.

Informational Note N . 1: S Informational N t Figure 690.1(a) and Informational N t Figure 690.1(b).

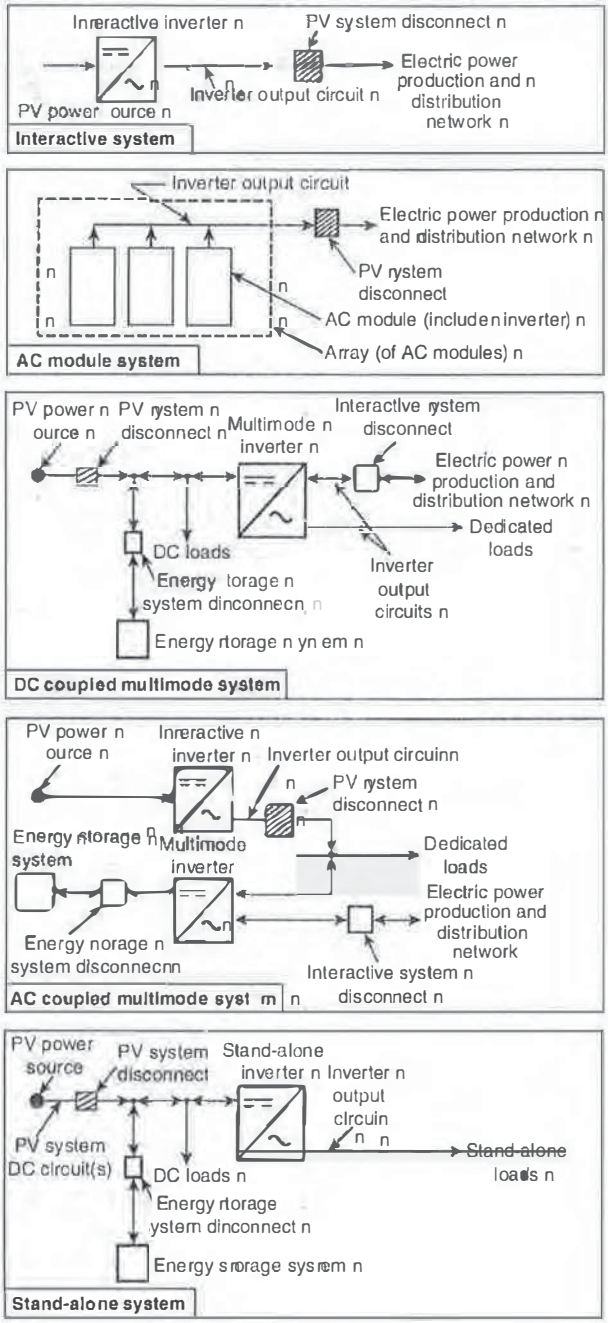
Informati nal Note No.2: Article 691 covers the installation of large-scale PV electric suppl sta ions.

690.2 Definitions. The finiti ns in this secti n shall apply only within this article.



Note:
(1) These diagrams are intended to be a means of identification for V power source components, circuits, and connections that make up the V power source.
( ) ustom V power source designs occur, and some components are optional.

Δ Informational Note Figure 69 .1( ) Identification of PV Power Source Components.



Note:
(1) These diagrams are intended o be a n eans n identi icatinn for PV n system cnmpnnents, circuin , and cnnnectinns.
(2) The PV system discnnnecnin rhese diagrams separares the PV system n r all rther nysrems.
(3) Nn all discnnnecting means required by Article 690, Part III are shnwn. n
(4) Systen grnunding and equipn ent grnunding are not shown. See Arricln 690, Part V.
(5) Custom designs occur in each cnn iguration, and some cn ponen s are n ptional. n

Δ Informational Note Figure 690.1(b) Identification of PV System Components in Common Configurations.

Exhibit G

BESS mtg 5/4/2022

Dan' Sag[regulation], Cindy Kawamoto, Mike[drafting],
~~[illegible]~~ Mar ich[doc] me,
Bob Sudecke,[C46] Joe Barragan,[C46]
Susan Granzella,[Bocchi] Jason Hurtado[DCA legal]
Dani Rogers,[regs] Ryan Marcroft,[DCA legal]
Pete Gregson,[C46] ~~Bob Sudecke~~,

UC Berkeley study and C-10 only.

Calsea said to state
we need to go thru the regulatory rule-making process to make any changes to the trade desc.

Pete said that the C-46 ~~[illegible]~~ can install "systems" & those include a battery, esp if it's off-grid

but the way that reads the reg it does not state that the battery is included

or Dunil goal is to
do ann alt wording he
an? to bum to be able
to make Discharge.

his goal is to amend the C-46
wording & include the BESS
in some way, preferably

based on the capacity of the
battery, not the occupancy
of the ~~hom~~ building.

his goal or idea is 70 or 80
Kw hours for on grid

+ @ 200 or 280 for off grid

then need to be backed

up by some law or reg to

get that the rule making

process.

he says the SO Kuch is good to cover us & light commercial & he says that more than SO for a system on the grid of another watt ... being why would you need that much power for a home.

Bob's concern is that if we limit it, we may have to change it later as the electrical needs increase esp. when we add EV charging to the homes.
+ he thinks it's already in the C-46 definition as it says "system".
+ mentioned that the C-46s have been doing the batteries all along, esp. for off grid

SHUTE, MIHALY & WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

HEATHER M. MINNER
Attorney
Minner@smwlaw.com

August 3, 2023

Via email

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Re: Proposed Rulemaking Concerning Battery Energy Storage Systems: CEQA Environmental Review Requirements

Dear Ms. Godines:

Shute, Mihaly & Weinberger, LLP represents the California Solar and Storage Association ("CALSSA") in matters related to proposed amendments to the C-46 Solar Contractor license classification. We write to provide comments on the Contractors State License Board's ("CSLB") proposed amendments to regulations regarding battery energy storage systems ("BESS"), described in the Notice of Proposed Rulemaking Concerning Battery Energy Storage Systems and Initial Statement of Reasons ("ISR") published on June 16, 2023 ("Proposed Regulations"). In particular, this letter addresses the need to conduct environmental review under the California Environmental Quality Act ("CEQA"), Public Resources Code § 21000 et seq.

The Proposed Regulations would (1) prohibit C-46 contractors from connecting or installing BESS of any size to existing solar panels, (2) prohibit C-46 contractors from maintaining or repairing BESS, and (3) prohibit C-46 contractors from installing BESS above 80 kWh. In its ISR, the CSLB states that it "preliminarily believes" that the Proposed Regulations are not a project subject to CEQA, and even if they were, they would fall within the common sense exemption to CEQA. Upon further consideration, the CSLB should come to understand that this is not the case.

As explained below, the Proposed Regulations are a project subject to CEQA. They likewise do not fall within any CEQA exemption, and there is a fair argument that they may cause significant environmental impacts. Accordingly, the CSLB cannot

approve the Proposed Regulations unless and until it prepares an Environmental Impact Report under CEQA. The CSLB should also consider that adoption of the Retrofit and Repair Alternative regulation proposed by CALSSA in a separate comment letter would likely avoid many of the significant impacts associated with the Proposed Regulation.

1. The Proposed Regulations are a project subject to CEQA.

CEQA applies to "projects," defined by the Public Resources Code as an activity which may cause either a direct or a reasonably foreseeable indirect change in the physical environment, and which is any of the following: "(a) An activity directly undertaken by any public agency[;] (b) An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies[;] (c) An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies." Pub. Resources Code § 21065; 14 Cal. Code Regs. § 15378(a)(1). If an activity is a project and not otherwise categorically exempt from CEQA's requirements, the agency must either undertake an initial study to determine whether the activity may have a significant effect on the environment or prepare an EIR. *Arcadians for Environmental Preservation v. City of Arcadia* (2023) 88 Cal.App.5th 418, 430.

The CSLB suggests that the Proposed Regulations are not a CEQA project because they "[do] not pertain to the issuance of licenses or other entitlements for use to persons, as understood and applied in the context of CEQA." ISR at 23. However, an agency's adoption of rules or regulations is "[a]n activity directly undertaken by a public agency" under Section 21065(a), and therefore may be a project for purposes of CEQA. *See*, *e.g.*, *John R. Lawson Rock & Oil, Inc. v. State Air Resources Bd.* (2018) 20 Cal.App.5th 77, 98 (agency's proposed modifications to regulatory scheme was a CEQA project); *POET, LLC v. State Air Resources Bd.* (2017) 12 Cal.App.5th 52, 73-74 ("the term 'activity' includes a state agency's enactment of regulations"); *California Unions for Reliable Energy v. Mojave Desert Air Quality Management District* (2009) 178 Cal.App.4th 1225, 1240 ("The adoption of a rule or regulation can be a project subject to CEQA."). The Proposed Regulations are clearly an activity directly undertaken by the CSLB, a public agency, and therefore may be a project pursuant to section 21065(a). Thus, whether they "pertain to the issuance of licenses or other entitlements" under section 21065(c) is immaterial.

The CSLB additionally argues that the Proposed Regulations are not a project because (1) there is "no evidence" that if adopted they may cause either a direct or reasonably foreseeable indirect physical change in the environment, and (2) the

arguments in support of finding an environmental impact are too speculative. ISR at 23. But

> a proposed activity is a CEQA project if, by its general nature, the activity is *capable of causing* a direct or reasonably foreseeable indirect physical change in the environment. This determination is made without considering whether, under the specific circumstances in which the proposed activity will be carried out, these potential effects will actually occur.

Union of Medical Marijuana Patients, Inc. v. City of San Diego (2019) 7 Cal.5th 1171, 1197 (emphasis added); *see also id.* (reasonably foreseeable indirect physical change is one that "the activity is capable, at least in theory, of causing"). Thus, clear evidence in the record that a project will in fact cause an impact is not the standard—it is sufficient that the activity is, by its general nature, capable of causing an impact.

Moreover, consistent with the "capable of causing" standard, there need not be a direct or immediate causal link between the activity and the impact. For example, in *Plastic Pipe & Fittings Assn. v. California Building Standards Com.* (2004) 124 Cal.App.4th 1390, plaintiffs argued that proposed building standards allowing the use of PEX, a form of plastic, in pipes, were not a project because PEX was one of several materials available for plumbing and there was no certainty that PEX would actually be used. 124 Cal.App.4th at 1412. The court disagreed, noting that "an activity need not cause an immediate environmental impact to be considered a project." *Id.* at 1413. Evidence in the record, which raised concerns about the potential dangers of PEX, was sufficient to show that the regulations *could* have a reasonably foreseeable indirect environmental impact. *Id.*

As discussed in more detail below, the CSLB's prohibition of retrofits by C-46 contractors will impede the installation of BESS on thousands of existing PV systems, as well as retrofits on PV-only systems installed by C-46 contractors in the future. This action, by preventing the installation of equipment that, by the CSLB's own admission is "essential to California's clean energy and decarbonization goals" (ISR at 16), is theoretically capable of causing a direct or reasonably foreseeable indirect physical change in the environment. *See* Section 3, below. It is therefore a project subject to CEQA.

2. The Proposed Regulations do not fall within CEQA's common-sense exemption.

A project subject to CEQA may nevertheless be exempt from CEQA's environmental review requirements under the "common sense" exemption, which applies only where "it can be seen with *certainty* that there is no possibility that the activity in question may have a significant effect on the environment." 14 Cal. Code Regs. § 15061(b)(3) (emphasis added). This exemption is "reserved for those 'obviously exempt' projects, 'where its absolute and precise language applies.'" *Davidon Homes v. City of San Jose* (1997) 54 Cal.App.4th 106, 117 (quoting *Myers v. Bd. of Supervisors* (1976) 58 Cal.App.3d 413, 425).

The agency invoking the common sense exemption has the burden of showing that evidence in the record justifies application of the exemption. *Muzzy Ranch Co. v. Solano Cnty. Airport Land Use Comm'n* (2007) 41 Cal. 4th 372, 386–87. This duty to provide factual support is particularly important "where the record shows . . . that opponents of the project have raised arguments regarding possible significant environmental impacts." *Id*. at 386. "[I]f a reasonable argument is made to suggest a possibility that a project will cause a significant environmental impact, the agency must refute that claim *to a certainty* before finding that the exemption applies." *Davidon Homes*, 54 Cal.App.4th at 118 (emphasis in original). By contrast, "the showing required of a party challenging [a common sense exemption] is slight, since [the] exemption requires the agency to be *certain* that there is *no possibility* the project may cause significant environmental impacts." *Id.* at 117 (emphases in original).

The CSLB asserts that the common sense exemption applies to the Proposed Regulations because "[l]icense classification standards do not cause direct physical changes in the environment, nor is there evidence to suggest that they may indirectly cause a significant effect on the environment." ISR at 26. The CSLB also criticizes a prior CALSSA letter advising the CSLB that CEQA applies to the Proposed Regulations, characterizing its reasoning as "remote [and] outlandish." *Id.* But as described in detail below, there is myriad evidence, including in the ISR itself, indicating that the Proposed Regulations may have significant environmental impacts. This is a *reasonable* argument, not remote or outlandish. The CSLB's cursory dismissal of and refusal to engage with the thrust of the argument—that the Proposed Regulations will decrease the installation of BESS, thereby increasing reliance on fossil fuels and slowing our transition away from them— does not justify application of the exemption. *Davidon*, 54 Cal.App.4th at 116-17. "A determination which has the effect of dispensing with further environmental review at the earliest possible stage requires something more." *Id.* at 117.

3. The CSLB's conclusion that the Proposed Regulations will not have a significant environmental impact relies on the wrong baseline.

To determine the impact of a proposed project, the agency must compare the project's potential impacts against the "baseline physical conditions" at the time of CEQA review.[1] *Communities for a Better Env't v. S. Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 320-21. The purpose of this requirement is "to give the public and decision makers the most accurate and understandable picture practically possible" of the project's likely impacts. 14 Cal. Code Regs. § 15125(a). An incorrect baseline undermines the agency's entire analysis, as it "mislead[s] the public as to the reality of the impacts and subvert[s] full consideration of the actual environmental impacts which would result." *Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 359 ("*EPIC*").

Courts have interpreted this requirement to mean that a project should be compared to the *actual* conditions existing at the time of CEQA analysis, "rather than to allowable conditions defined by a plan or regulatory framework." *Communities for a Better Env't*, 48 Cal.4th at 321; *see also City of Carmel–by–the–Sea v. Bd. of Supervisors* (1986) 183 Cal.App.3d 229, 246–247 (effects of rezoning must be compared to "real conditions on the ground" rather than to what was allowed under a prior plan). This is true even where actual conditions reflect violations of existing regulatory requirements. *See*, *e.g.*, *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1281 (baseline for proposed airport expansion was existing operations despite airport's previous operation and expansion without required permit); *Riverwatch w. County of San Diego* (1999) 76 Cal.App.4th 1428, 1452-53 (baseline for proposed quarry development was actual degraded condition of land, even though that condition resulted in part from prior illegal activities); *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 48 Cal.4th 357, 370-71 (baseline for proposed school playground was existing playground facility even though it was constructed in violation of school's use permit).

The Initial Statement of Reasons contends that the Proposed Regulations will not have any environmental impact because they allegedly reflect the current regulatory framework:

> [The assertion that the Proposed Regulations will prohibit C-46 contractors from repairing BESS or retrofitting existing PV systems with BESS] misapprehends the current state of the law. As discussed above, current law already prohibits C-46 contractors from performing all manner of BESS work, including BESS installations, except as necessary to install (not retrofit) a PV system. The proposed regulation does not change, but preserves, the existing classification

[1] This requirement applies at every step of the CEQA process, including when the agency invokes an exemption. *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1278.

> restriction by permitting C-46 contractors to install BESS with the installation of a PV system.

ISR at 23.

But as the Initial Statement of Reasons recognizes, current regulations do *not* expressly prohibit C-46 contractors from installing BESS, either in conjunction with the installation of new PV systems or as a retrofit to existing PV-only systems. The ISR likewise acknowledges that the current regulatory framework has led to "stated confusion about whether BESS is part of a PV system or a standalone electrical device." ISR at 6. Thus, it is far from established that current law prohibits C-46 contractors from retrofitting existing PV systems with BESS or from repairing BESS.

Indeed, it is the CSLB itself that "misapprehends the current state of the law." *Id.* at 23. For example, Civil Code section 801.5 defines "solar energy system" as "[a]ny solar collector or other solar energy device whose primary purpose is to provide for the collection, *storage*, and distribution of solar energy for space heating, space cooling, electric generation, or water heating." (Emphasis added.) Revenue & Taxation Code section 73(b)(1) similarly defines an "Active solar energy system" as a "system that . . . uses solar devices, which are thermally isolated from living space or any other area where the energy is used, to provide for the collection, *storage*, or distribution of solar energy." (Emphasis added.) The CSLB's interpretation cannot be reconciled with state law that recognizes that methods of storing solar energy, like batteries, are definitively *part of* a solar energy system. *See our letter regarding the Failure to Comply with APA Requirements, submitted separately in this rulemaking, at 16-22.*

In any case, regardless of the CSLB's flawed interpretation, contractors with a C-46 license classification, and no A, B, or C-10 license, which we refer to as "pure C-46 contractors", have been and are in fact retrofitting existing PV systems with BESS. In 2022, pure C-46 contractors installed 322 retrofits, representing 11% of all retrofit installations in California. Beacon Economics, *Economic Impact Analysis of the CSLB's Proposed Battery Energy Storage System Rule* ("Beacon Economics Report") (July 31, 2023) at 14. This reflects a 153% percent increase from the 210 retrofits installed by pure C-46 contractors in 2021. *Id.*. Absent the Proposed Regulations, this upward trending status quo will only continue. *Id.* (the retrofit market "is vast, and growing rapidly"). Indeed, over the last twenty years, pure C-46 contractors have installed over 66,000 PV systems without BESS, all of which are likely candidates for a BESS retrofit by the same contractors, given that warranty provisions on the panels would otherwise become void. *Id.* at 15.

Pure C-46 contractors are also maintaining and repairing the BESS they install, and are doing so pursuant to regulatory requirements. *See CALSSA letter re Superior Alternative for Battery Energy Storage Systems Regulatory Amendments, Exhibit B (Stimmler Letter at 4; Irwin Letter at 5; Poelstra Letter 4)* ; *Self-Generation Incentive Handbook* (Oct. 28, 2022), at 70 ("As part of the Executed Contract, all storage systems are required to include a minimum 10 year service warranty. A service warranty ensures proper maintenance and continued project performance. The service warranty must cover the system maintenance to include (but not limited to) system support, problem diagnosis, on-site repair and preventative maintenance.") (underline in original); California Public Utilities Commission Decision 16-01-44, Conclusion of Law ¶ 28 ("In order to promote safety and reliability of customer-sited renewable DG systems, each IOU should require the applicant to verify, as part of each interconnection request for a NEM successor tariff system, that a warranty of at least 10 years has been provided on all equipment and the installation of that equipment.").

The proper CEQA baseline for determination of the Proposed Regulations' potential environmental impacts must reflect these *actual* conditions, i.e., that C-46 contractors are installing a substantial and substantially increasing number of BESS retrofits. *Communities for a Better Env't*, 48 Cal.4th at 321. Instead, the CSLB's analysis compares the potential impacts of the Proposed Regulations against hypothetical conditions, which, moreover, are based on the CSLB's inaccurate interpretation of existing law. In refusing to acknowledge the number of retrofits currently being installed by C-46 contractors, the CSLB "subvert[s] full consideration of the actual environmental impacts which would result" from the Proposed Regulations, which will prevent retrofits that would occur absent the CSLB's action. *See EPIC*, 131 Cal.App.3d at 322; *see also id.* (use of improper baseline provides "an illusory basis for a finding of no significant adverse effect"). The CSLB must reconsider its CEQA determinations, and conduct further CEQA analysis, using a baseline that reflects the current installation of BESS retrofits by C-46 contractors.

4. The CSLB must prepare an Environmental Impact Report because there is a fair argument that the Proposed Regulations may have a significant effect on the environment.

Because adoption of the Proposed Regulations is a project that is not exempt from CEQA, the CSLB must study the potential environmental impacts of the Proposed Regulations, at the very least by conducting an initial study to determine if the project may have a significant effect on the environment. 14 Cal. Code Regs. § 15063. Further, because the Proposed Regulations may have a significant effect, the CSLB cannot simply issue a negative declaration but must prepare a full environmental impact report (EIR).

CEQA requires preparation of an EIR whenever a project "*may* have a significant effect on the environment." Pub. Res. Code § 21151(c) (emphasis added). If there is substantial evidence in the record to support a "fair argument" that a project may have significant environmental effects, an EIR *must* be prepared, even if the record contains contrary evidence. *Jensen v. City of Santa Rosa* (2018) 23 Cal.App.5th 877, 884. Section 21151(c) "creates a low threshold requirement for initial preparation of an EIR and reflects a preference for resolving doubts in favor of environmental review." *Jensen*, 23 Cal.App.5th at 884.

This standard is met here. As discussed below, there is evidence in the record, including in the ISR itself, supporting a fair argument that the Proposed Regulations may have significant environmental effects. The CSLB's claim that the Regulations will not have an impact is based primarily on its faulty assertion that its action merely preserves the status quo (ISR at 23); as described above in Section 3, that assertion is incorrect. In any case, even to the extent the CSLB's arguments are supported by evidence that may be contrary to CALSSA's, such evidence is insufficient at this stage to foreclose further CEQA review. *Jensen*, 23 Cal.App.5th at 884. Because there is substantial evidence supporting a fair argument that the Proposed Regulations may have significant environmental impacts, the CSLB may not approve the Regulations without first preparing an EIR.

a. The Proposed Regulations will reduce the number of BESS installations in California.

The Proposed Regulations will reduce the number of BESS installations that would otherwise occur in a number of ways. First, pure C-46 contractors will be prohibited from adding BESS to existing solar panels that they installed. Over the last twenty years, pure C-46 contractors have installed over 66,000 PV systems without BESS, all of which are likely candidates for a BESS retrofit by the same contractors. However, the typical PV system warranty is voided if BESS is retrofitted by a contractor other than the one who originally installed the PV system. Beacon Economics Report at 15-16. Thus, but for consumers who make the highly unlikely decision to void their PV system warranties, the Proposed Rule will eliminate the possibility of C-46 retrofits for all 66,000 of these PV systems. *Id.*.

Alternatively, if these pure C-46 contractors decide to obtain a C-10 license, and are actually able to hire certified electricians to perform BESS installations (which may not in fact be possible), the price of those installations will increase. Beacon Economics estimated that the cost will increase by 4.1%, leading many consumers to choose to forgo

battery installations. *Id.* at 10. In fact, Beacon Economics estimated that increased costs and lower demand will result in 7.4% fewer retrofit projects per year. *Id.* at 11.

Further, prohibiting pure C-46 contractors from maintaining or repairing BESS means that they will be prohibited from installing systems that seek an SGIP rebate, or any solar and storage systems that will be connected to the grid, including systems below the proposed 80 kWh threshold. *Self-Generation Incentive Handbook* (Oct. 28, 2022), at 70; California Public Utilities Commission Decision 16-01-44, Conclusion of Law ¶ 28; California Public Utilities Commission Decision 22-12-056: at 137-138.

Again, if these pure C-46 contractors decide to obtain a C-10 license, and are actually able to hire certified electricians to perform BESS installations (which may not in fact be possible), Beacon Economics estimated that increased prices will result in an economic loss of $1.6M in BESS in the year 2024 alone. Beacon Economics Report at 13.

b. Precluding the installation of BESS will increase greenhouse gas emissions and dependence on traditional energy sources.

The CSLB boldly proclaims that there is "no evidence" that the Proposed Regulations may cause significant environmental impacts (ISR at 23), but the ISR itself contains evidence directly undermining this conclusion. For instance, the ISR provides that

- "the pairing of PV systems with BESS will help meet California's clean energy and carbon reduction goals" (ISR at 14)
- "the CSLB regards [the installation of BESS paired with PV systems] as essential to California's clean energy and decarbonization goals" (*id.* at 16)
- "deployment of renewable energy systems in residential and light commercial applications is required by the California Energy Code and is essential for California's clean energy goals" (*id.* at 7)
- "The pairing of BESS with PV systems has expanded in recent years because of laws and policies furthering California's clean energy goals and in response to utility outages in California." (*id.* at 2)

These statements explicitly concede the causal relationship between BESS on the one hand and clean energy and carbon reduction on the other. They therefore directly undermine the CSLB's dismissal of stakeholder arguments that the Proposed Regulations

will, by reducing the number of BESS installations, result in greater dependency on fossil fuel-based energy sources. ISR at 23-25. They likewise undermine the CSLB's conclusion that there is "no evidence" that the Proposed Regulations will cause any environmental impact. ISR at 23.

Ample evidence beyond the ISR supports the conclusion that decreasing BESS installations will increase carbon output and reliance on fossil fuel-based energy sources. As the ISR notes, BESS "store[s] electrical energy for later use when the PV system is not generating electricity—for example, at night or on cloudy days—or provide backup power during a utility outage." ISR at 2. PV systems not paired with BESS must therefore rely on the grid during those times. Every kilowatt hour (kWh) of electricity produced in California releases roughly .503 pounds of CO_2, a greenhouse gas and key contributor to climate change. Beacon Economics Report at 19. Thus, BESS, by reducing reliance on the grid during times when solar energy is not being generated, reduces the output of CO_2. Conversely, each storage system not installed as a result of the Proposed Regulations will result in increased CO_2 output. Indeed, Beacon Economics estimates that, should CSLB adopt the Proposed Regulations, roughly 8.3 million additional pounds of CO_2 would be emitted in 2024 as a result of the resulting reduction in storage capacity. *Id.* at 20. This is simple, not speculative, logic, and is consistent with the CSLB's statements regarding the relationship between BESS on the one hand and clean energy and carbon reduction on the other.

Similarly, any decreased solar storage capability resulting from the Proposed Regulations will increase the use of diesel backup generators during power shutoff events and other power outages, which have become increasingly common in recent years due to climate change and related wildfires. The impacts from this lost storage are especially great due to the Governor's recent emergency proclamation, which waives air pollution restrictions on natural gas plants and diesel generators during such emergency events. July 30, 2021 Proclamation of a State of Emergency.[2]

The direct relationship between BESS and greenhouse gas emissions is well-documented and recognized. For example, the California Public Utility Commission ("CPUC"), in its December 15, 2022 Decision Revising Net Energy Metering Tariff and Subtariffs ("NEM 3.0 Decision" or "NEM 3.0"), explicitly recognized the environmental benefits of BESS, and the necessity of BESS for achieving carbon neutrality.[3] Among

[2] The Proclamation can be found at https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf.
[3] The NEM 3.0 Decision can be found at https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K921/499921246.PDF.

other things, the NEM 3.0 Decision noted that "Today, California's electric grid is significantly powered by clean energy during daytime hours, but peak electricity demands in late afternoon and continuing into the night lead to a greater reliance on greenhouse gas emitting sources." NEM 3.0 at 2. By reducing reliance on traditional power during peak afternoon and evening hours, the Decision continues, the installation of BESS reduces greenhouse gas emissions. *Id.* at 3. The CPUC similarly touted the environmental benefits of BESS in its press release announcing NEM 3.0, noting that NEM 3.0 will "further reduce greenhouse gas emission from electric generation" by "incentivizing customers to install battery storage so they can store solar electricity produced in the daytime and export it in the evening, when the grid needs it most for reliability and displacing fossil fuels."[4]

Similarly, in its 2022 Scoping Plan,[5] the California Air Resources Board (CARB), notes the relationship between solar storage and fossil gas generation:

> Renewable energy is consistent during the middle of the day, but it cannot meet all of the evening demand in the gray area. As illustrated in [an embedded figure], fossil gas generation is currently a resource that is typically ramped up to meet this evening demand as solar production begins to drop and electrical loads increase. To help address this challenge, resource installations that pair solar with batteries, as well as a greater amount of battery build-out, are coming online currently and over the next five years.

2022 Scoping Plan at 198.

The 2022 Scoping Plan also recognizes the necessity of BESS for reducing demand on the grid and alleviating reliability challenges, noting that reliable electricity service was maintained throughout the 10-day September 2022 heat wave in large part due to "the installation of over 3,500 MW of lithium-ion battery storage since summer 2020." 2022 Scoping Plan at 197. CARB similarly notes that climate change "is causing unprecedented stress on California's energy system," and that heat, drought, and wildfires

[4] CPUC Issues Solar Tariff Modernization Proposal to Support Reliability and Decarbonization, November 10, 2022, https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-issues-solar-tariff-modernization-proposal-to-support-reliability-and-decarbonization.

[5] The 2022 Scoping Plan can be found at https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf.

can all increase demand, "especially in the evening hours when solar energy is declining." *Id.*

Thus, the Proposed Regulations, by preventing the installation of BESS that would otherwise have been installed as discussed in section 4.a above, will increase reliance on the grid during off-hours and outage events, thereby also increasing the emission of CO_2 and other pollutants generated by traditional energy sources during those times. As discussed below, this will create numerous CEQA impacts.

c. The Proposed Regulations would have numerous significant CEQA impacts.

i. Greenhouse Gas Impacts

CEQA requires lead agencies to consider whether the proposed project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. CEQA Guidelines, append. G, § VIII(a). Since 2010, it has become clear from a scientific perspective that *any* additional GHG emissions will contribute to a serious and growing climate crisis.[6] Indeed, recognizing this reality, in 2018 Governor Brown signed Executive Order 55-18 calling for the state to achieve carbon neutrality as soon as possible and no later than 2045.[7] "The fact that a [project's] contribution to reducing greenhouse gas emissions is likely to be small on a statewide level is not necessarily a basis for concluding that its impact will be insignificant in the context of a statewide goal." *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 515. Given the state of science and state policy, a project would have a significant GHG impact if it exceeds a net zero threshold for new emissions. *See* e.g., California Air Resources Board 2017 Scoping Plan at 101 ("Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development.")[8] This is particularly true where, as here, there are no economic or safety benefits associated with prohibiting C-46 contractors from installing retrofits of the same BESS systems they may

[6] Summary for Policymakers (SPM) presents key findings of the Working Group I (WGI) contribution to the Intergovernmental Panel on Climate Change (IPCC): https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
[7] Executive Order to Achieve Carbon Neutrality: https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf
[8] California's 2017 Climate Change Scoping Plan: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf?utm_medium=email&utm_source=govdelivery

install when paired initially with a PV system or with prohibiting C-46 contractors from repairing and maintaining the BESS they install. *See* CALSSA letter to CSLB (Aug. 3, 2023), submitted separately; *see also* Beacon Economics Report at 23.

As described above, the relationship between BESS and greenhouse gas emissions is well-documented: fewer BESS systems will mean an increased reliance on greenhouse gas-emitting energy sources. The Proposed Regulations will likely preclude the installation of thousands of BESS systems, each of which would have, absent the Regulations, prevented the production and emission of CO_2 and other greenhouse gases. Beacon Economics Report at 19-20. There is thus a fair argument that this effect will be significant for purposes of CEQA. The CSLB must therefore analyze this potential impact in an EIR.

CEQA likewise requires agencies to consider whether a project conflicts with plans, policies, or regulations "adopted for the purpose of reducing" greenhouse gas emissions. CEQA Guidelines append. G, § VIII(b); *Cleveland National*, 3 Cal.5th at 512-13. The Proposed Regulations, in preventing the installation of GHG-reducing BESS, conflict with numerous such plans, policies, and regulations, including but not limited to:

- **Executive Order 55-18**, issued in 2018, which established a new statewide goal of achieving carbon neutrality as soon as possible, and no later than 2045, and maintaining net negative emissions thereafter.

- **CARB 2022 Scoping Plan**, which identifies a technologically feasible and cost-effective path to achieving carbon neutrality by 2045. Among other things, the Plan notes that "rapidly expand[ing] deployment of clean energy generation and storage sources" is "critical to reducing GHG emissions and addressing the long-term impacts of climate change." 2022 Scoping Plan at 197.

- *See CALSSA letter re Superior Alternative for Battery Energy Storage Systems Regulatory Amendments, Exhibit B (Kammen Letter) for additional conflicting plans, policies, and regulations.*

The Proposed Regulations, which will impede and prevent the installation of BESS exactly when it is needed most, cannot be reconciled with these policies and regulations. Combatting climate change, what CARB calls "humanity's greatest existential threat," requires "*the aggressive reduction of fossil fuels wherever they are currently used in California*." 2022 Scoping Plan at 1 (emphasis added). The Proposed Regulations needlessly obstruct this goal.

ii. Energy Impacts

CEQA requires lead agencies to consider a project's potential energy impacts, including the effects of the project on local and regional energy supplies and on requirements for additional capacity, the effects of the project on peak and base period demands for electricity, and the effects of the project on energy resources. CEQA Guidelines, append. F, § II(C) (Energy Conservation); *see also League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) 75 Cal.App.5th 63, 166-67. Per the CEQA Guidelines, the means of achieving the "goal of conserving energy" include "decreasing reliance on fossil fuels such as coal, natural gas and oil," and "increasing reliance on renewable energy sources." CEQA Guidelines, append. F, § I.

Here, the Proposed Regulations' potential to cause a significant energy impact is difficult to dispute. By significantly decreasing the number of BESS installations, the Proposed Regulations will (1) increase reliance on and demand for local energy supplies; (2) increase demand for electricity during late afternoon and evening peak energy periods; and (3) increase demand on non-solar energy sources. Each are CEQA impacts that the CSLB must analyze. Moreover, the Proposed Regulations are directly contrary to CEQA's stated energy conservation goals. Instead of "decreasing reliance on fossil fuels," they will increase reliance; and instead of increasing reliance on renewable energy sources, they will decrease reliance. The CSLB must analyze these potential energy impacts in an EIR.

***

CEQA is to be interpreted "to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4th 1307, 1315. Consistent with this interpretive standard, the requirement to prepare an EIR is subject to a low threshold requirement which "reflects a preference for resolving doubts in favor of environmental review." *Id.* at 1316. Here, as the CSLB itself notes, the installation of BESS is inextricably intertwined with California's clean energy and GHG-reduction goals. ISR at 16. The Proposed Regulations will disrupt the status quo by preventing C-46 contractors from installing BESS retrofits, which they've been doing with increasing frequency in the last several years, and by effectively preventing the installation of any solar and storage systems by prohibiting pure C-46 contractors from providing required maintenance and repair warranties. By preventing installation of these systems, the CSLB's action will increase GHG emissions, increase demand on energy resources during peak periods, and cause air quality impacts. At the very least, there is substantial evidence supporting a fair argument that the Proposed Regulations will have these impacts. Accordingly, any

contrary evidence provided by the CSLB "is not adequate to support a decision to dispense with an EIR." *Sierra Club*, 6 Cal.App.4th at 1316. The CSLB therefore may not approve the Proposed Regulations until it prepares an EIR that analyzes these and other potentially significant environmental impacts.

5. The CSLB must consider an alternative rule that allows C-46 contractors to retrofit existing PV-systems, repair BESS, and install BESS at higher thresholds.

As described above, the Proposed Regulations may cause numerous significant environmental impacts, namely by prohibiting the installation of thousands of BESS which otherwise would have caused significant reductions in greenhouse gas emissions. There is a clear alternative to the Proposed Regulations: amending the Regulations to allow C-46 contractors to retrofit existing PV-systems, maintain and repair the BESS that they install and install BESS with ratings that do not exceed 280 kWh. CALSSA details this Retrofit & Repair 280 alternative in its August 3, 2024 letter to the CSLB. If adopted, the CSLB will likely avoid the potentially significant environmental impacts identified in this letter.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Heather M. Minner

1661989.7

Examination DEVELOPMENT UNIT
VALIDITY | RELIABILITY | INTEGRITY | SECURITY
CONTRACTORS STATE LICENSE BOARD

Occupational Analysis Report

C-46 Solar Examination

August 2017

CALIFORNIA CONTRACTORS STATE LICENSE BOARD
P.O. BOX 26000
SACRAMENTO, CA 95826

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

Prepared by the Testing Division
Contractors State License Board
9821 Business Park Drive
Sacramento, California 95827

Karl Jaeger, Personnel Selection Consultant
Wendi Balvanz, Testing Division Chief

TABLE OF CONTENTS

LIST OF TABLES

Page

CHAPTER 1: INTRODUCTION

PURPOSE OF OCCUPATIONAL ANALYSIS

The Contractors State License Board (CSLB) conducted an occupational analysis to identify the critical job activities performed by CSLB-licensed C-46 Solar Contractors. The purpose of this occupational analysis was to define the scope of work of Solar Contractors with an emphasis on public protection. The scope is defined in terms of the actual tasks and knowledge/abilities required to perform safe and competent work. The results of this occupational analysis are summarized in a detailed examination outline that will be used to develop licensing examinations and to clarify trade classification issues.

CONTENT VALIDATION STRATEGY

To ensure that this occupational analysis reflects the actual tasks performed by Solar Contractors, the Testing Division staff employed a content validation strategy to develop job task and knowledge/ability statements. The content validation strategy requires the expertise of the licensees who perform the job to develop the content of the job task and knowledge/ability statements, to link knowledge/ability to associated tasks, and to link examination items (questions) to related tasks and required knowledge/ability.

UTILIZATION OF SUBJECT MATTER EXPERTS

The Testing Division staff selected licensed C-46 Solar Contractors to participate in the occupational analysis. These contractors came from diverse demographic categories and held licenses that were in good standing with the CSLB. A sampling of contractors actively working in the solar industry served as the Subject Matter Experts (SMEs) throughout the various phases of the project. This procedure was used to ensure that the results of the occupational analysis will represent the current practice of the CSLB-licensed Solar Contractor population.

The Testing Division staff conducted individual interviews with SMEs at their work sites or offices to obtain the initial content information for the job task and knowledge/ability statements. The Testing Division staff also facilitated SME panel meetings to review the content of the job task and knowledge/ability statements, develop additional statements, approve the criticality ratings of the statements as shown by the survey results, perform appropriate linkages, and develop the examination outline.

ADHERENCE TO LEGAL STANDARDS AND GUIDELINES

A number of statutes and guidelines, as well as case law, set the standards for the basis of licensing and certification programs in the State of California. These include the federal *Uniform Guidelines on Employee Selection Procedures* (1978)*;* the *Principles for the Validation and Use of Personnel Selection Procedures* (2003), Society for Industrial and Organizational Psychology, Inc.; the *Standards for Educational and Psychological Testing* (2014), American Educational Research Association, American Psychological Association, and National Council on Measurement in Education; and Section 12944 of the California Fair Employment and Housing Act. For a licensing or certification program to meet these objectives, the qualifying examination must be based directly upon activities that licensed or certified contractors perform on the job.

DESCRIPTION OF CLASSIFICATION

According to the *California Contractors License Law and Reference Book:*

832.46. Class C-46 Solar Contractor

"A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system."

(Authority Cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.)

CHAPTER 2: OCCUPATIONAL ANALYSIS QUESTIONNAIRE (SURVEY)

SUBJECT MATTER EXPERT INTERVIEWS

Ten SMEs were interviewed at their work site or office by the Testing Division staff. The interviewees were selected to represent the breadth of the trade in terms of their specialty area and location across the state. The interviews were conducted during February and March 2017. During each semi-structured interview, the SMEs were asked to identify major content domains of their practice and the job tasks performed in each domain. The SMEs were also asked to identify specific knowledge/ability needed to perform each job task safely and competently.

TASK AND KNOWLEDGE/ABILITY STATEMENTS

The Testing Division staff transcribed information gathered during the interviews into job-related task and knowledge/ability statements using consistent format and language. Additional task and knowledge/ability statements were developed to ensure that the description of current trade practice was comprehensive. The statements were then organized into content domains of practice.

SMEs were selected to participate in a panel meeting conducted by Testing Division staff in April 2017. The panel evaluated the task and knowledge/ability statements for technical accuracy and comprehensiveness and assigned each statement to the appropriate content domain. The panel also verified that the content domains were independent and non-overlapping. Additional task and knowledge/ability statements were developed as needed to complete the scope of the content domains.

The Testing Division staff then developed the occupational analysis survey, a questionnaire soliciting the licensees' ratings of the job task and knowledge/ability statements for analysis. Surveyed contractors were instructed to rate each job task in terms of how often they performed the task (FREQUENCY), and how important the task was to the performance of their current work (IMPORTANCE). They were also instructed to rate each knowledge/ability statement in terms of how important a specific knowledge/ability statement was to the performance of their current work (IMPORTANCE). The survey also included a demographic section for purposes of developing an accurate profile of the respondents.

A pilot survey was emailed to twenty C-46 Solar Contractors using SurveyMonkey. The pilot survey included a section requesting comments on the clarity of the instructions and the comprehensiveness and accuracy of the task and knowledge/ability statements. All respondents' comments were reviewed, and appropriate additions or corrections were incorporated into the final survey. The pilot survey also requested that respondents provide an estimate of their time spent completing the survey. This data was used in the cover letter of the final online survey.

SAMPLING STRATEGY AND SURVEY FORMAT

Since 2010, the CSLB has been using online surveys for conducting occupational analysis projects to reduce costs and save time.

For the C-46 occupational analysis, there was a total population of 1,171 active licensees. In May 2017, the CSLB sent an email to all of those contractors who had provided their email addresses, informing them of the upcoming survey and its purpose. Subsequently, an email was sent to each of them from the online service provider (SurveyMonkey) providing the link to access the survey. Included at the end of the online survey was a request for contractors to volunteer to participate in future examination development.

Copies of the online cover letter, survey, and solicitation form are included in Appendices A, B, and C, respectively.

RESPONSE RATE

A total of 826 surveys were emailed, however 75 were returned due to incorrect addresses. Of the 751 surveys that were delivered, a total of 138 contractors (18%) returned surveys by the cutoff date. Sixty-four of the returned surveys had incomplete or unusable data, leaving a total of 74 online surveys in the final sample.

DEMOGRAPHIC RESULTS

The demographic characteristics of the respondents are presented in Tables 1 through 9. These tables correspond to the questions from the demographic section of the survey. As indicated in Table 1, 43% of the respondents hold a C-46 classification only. In addition to the C-46 classification, 35% of the respondents hold a “B” General Building classification, 34% hold a C-10 Electrical classification, 7% hold a C-20 Warm Air Heating, Ventilating, and Air Conditioning classification, 7% hold a C-36 Plumbing classification, 5% hold an “A” General Engineering classification, 4% hold a C-39 Roofing classification, 3% hold a C-4 Boiler, Hot Water, and Steam Fitting classification, 3% hold a C-7 Low Voltage Systems, 3% hold a C-61 Limited Specialty classification, and 1% hold a C-12 Earthwork and Paving classification.

Table 2 shows that the highest percentage of the respondents, 47%, work more than 40 hours a week doing tasks related to solar projects. Twenty percent work 31 to 40 hours a week, 14% work less than 10 hours a week, 11% work 10 to 20 hours a week, and 8% work 21 to 30 hours a week doing tasks related to solar projects. Table 3 shows that the respondents are dispersed across years of licensure, with 38% having 6 to 10 years of experience, 35% having 1 to 5 years of experience, 11% having 11 to 15 years of experience, 9% having more than 20 years of experience, 5% having 16 to 20 years of experience, and 1% having less than one year of experience. As seen in Table 4, 34% have 1 to 5 employees, 23% do all of the work themselves, 23% have 6 to 10 employees, 11% have more than 20 employees, and 9% have 11 to 20 employees. Table 5 shows that 62%

hold corporation type licenses, 35% hold sole ownership/partnership type licenses, and 3% hold other licenses.

Table 6 indicates that of the contractors who responded, 70% work in urban areas and 30% work in rural areas. Table 7 shows the type of projects performed by the Solar Contractors who responded to the survey. The respondents indicated that 73% of their time was spent on residential projects, 21% on commercial projects, 4% on industrial projects, 1% on public works projects, and 1% on other projects. Table 8 shows the role of the Solar Contractor respondents within the organization. The amount of supervision the contractors provide is spread over the continuum, with 28% supervising and doing some work, 22% doing most of the work themselves and rarely supervising, 22% supervising work and making many site visits, 14% performing all the work themselves, 9% supervising work and making occasional site visits, 3% supervising work from the office, and 3% performing the business management functions only. Table 9 shows the breakdown by county of where the respondents work. Respondents can list multiple counties.

Table 1. Other License Classifications/Certifications Held (Total=74)

Other Classifications/Certifications	#	% of Total
C46 Only	32	43%
B - General Building	26	35%
C10 - Electrical	25	34%
C20 - Warm-Air Heating, Ventilating and Air-Conditioning	5	7%
C36 - Plumbing	5	7%
A - General Engineering	4	5%
C39 - Roofing	3	4%
C4 - Boiler, Hot Water Heating and Steam Fitting	2	3%
C7 - Low Voltage Systems	2	3%
C61 - Limited Specialty	2	3%
C12 - Earthwork and Paving	1	1%

Table 2. Hours Worked Per Week

Hours Worked Per Week	#	% of Total
Less than 10 hours	10	14%
10 to 20 hours	8	11%
21 to 30 hours	6	8%
31 to 40 hours	15	20%
More than 40 hours	35	47%
TOTAL	74	100%

Table 3. Years Licensed

Years Licensed	#	% of Total
Less than 1 year	1	1%
1 to 5 years	26	35%
6 to 10 years	28	38%
11 to 15 years	8	11%
16 to 20 years	4	5%
More than 20 years	7	9%
Rounding		+1%
TOTAL	74	100%

Table 4. Number of Employees

Number of Employees	#	% of Total
0 (All work is performed by the respondent)	17	23%
1 to 5	25	34%
6 to 10	17	23%
11 to 20	7	9%
More than 20	8	11%
TOTAL	74	100%

Table 5. Type of Organization/License

Type of Organization	#	% of Total
Sole Owner/Partnership	26	35%
Corporation	46	62%
Chain/Franchise	0	0%
Other	2	3%
TOTAL	74	100%

Table 6. Work Location

Location	#	% of Total
Rural	22	30%
Urban	51	70%
TOTAL	73	100%

Table 7. Percentage of Time by Type of Project

Project Type	% of Total
Residential	73%
Commercial	21%
Industrial	4%
Public Works	1%
Other	1%
TOTAL	100%

Table 8. Role in Majority of Contracts

Role	#	% of Total
Did all work myself	10	14%
Did most work myself; rarely did supervise	16	22%
Supervise work, did some work	21	28%
Supervised work, made many site visits	16	22%
Supervised work, occasional site visits	7	9%
Supervised work from office	2	3%
Did business management only	2	3%
Rounding		-1%
TOTAL	74	100%

Table 9. Respondents by County

County	#	*County*	#	*County*	#	*County*	#	*County*	#
Alameda	13	Imperial	4	Modoc	1	San Diego	15	Sonoma	13
Alpine	2	Inyo	1	Mono	1	San Francisco	10	Stanislaus	1
Amador	4	Kern	3	Monterey	3	San Joaquin	6	Sutter	1
Butte	2	Kings	3	Napa	10	San Luis Obispo	3	Tehama	2
Calaveras	4	Lake	4	Nevada	5	San Mateo	11	Trinity	1
Colusa	1	Lassen	2	Orange	16	Santa Barbara	4	Tulare	4
Contra Costa	12	Los Angeles	20	Placer	5	Santa Clara	13	Tuolumne	3
Del Norte	2	Madera	2	Plumas	2	Santa Cruz	4	Ventura	8
El Dorado	8	Marin	11	Riverside	17	Shasta	4	Yolo	5
Fresno	6	Mariposa	1	Sacramento	8	Sierra	3	Yuba	4
Glenn	1	Mendocino	4	San Benito	1	Siskiyou	2		
Humboldt	3	Merced	3	San Bernardino	19	Solano	9		

Respondents can list multiple counties.

CHAPTER 3: EXAMINATION OUTLINE DEVELOPMENT

TASK CRITICAL VALUES

In order to determine the critical values (criticality) of the task statements, each task's frequency (F) rating was multiplied by its importance (I) rating for each rater. These task criticalities were averaged across the raters to yield each task's final critical value.

Task (F) x Task (I) = Task Critical Value

The task statements were then ranked according to the tasks' critical values. The task statements' mean ratings, and associated critical values are presented in Appendix D. In July 2017, a panel of SMEs evaluated the tasks' critical values from the survey results. The Testing Division staff instructed the panel to identify a cut-off value of criticality in order to determine if any tasks did not have a high enough critical value to be retained. The cutoff value was set at 3.97 so seven tasks were dropped from the examination plan. These tasks are shaded in Appendix D.

KNOWLEDGE/ABILITY IMPORTANCE VALUES

In order to determine the importance of each knowledge/ability, each knowledge/ability statement's mean importance (I) rating was calculated. The knowledge/ability statements were then ranked according to mean importance. The knowledge/ability statements and their importance values are presented in Appendix E. The same SME panel that evaluated the task critical values also reviewed the knowledge/ability statement importance values. The nine knowledge/ability statements associated with the deleted tasks were also dropped and are shaded in Appendix E. Two other knowledge statements were dropped at the request of the SME panel – knowledge of risks of hazardous solar components (K11) and concentrating solar technology (K50).

CONTENT DOMAINS AND WEIGHTS

The relative weights of the content domains for the examination outline were calculated by dividing the sum of the task critical values for a content domain by the overall sum of the task critical values for all tasks.

$$\frac{\textit{Sum of Critical Values for Tasks in a Domain}}{\textit{Sum of All Tasks' Critical Values}} = \textit{Weight of a Domain}$$

Preliminary content domain weights calculated from the survey results can be seen in Table 10.

Table 10. Summary of Preliminary Content Domains

Content Domain	Sum of Task Critical Values	# of Tasks Per Domain	Actual Weights (%)
1. Planning and Estimating	195.23	11	21%
2. Solar Collector Installation	143.15	12	15%
3. Solar Thermal Installation	82.01	18	9%
4. Photovoltaic (PV) System Installation and Commissioning	211.30	18	22%
5. Service, Operation, and Maintenance	129.47	18	14%
6. Safety	183.23	12	19%
TOTAL	944.39	89	100%

During the July 2017 panel meeting, the SMEs revised the domain weights to better represent the distribution of activities in their occupation. The panel suggested that the weight of Domain 5 should be higher due to a trend of increased repair and service work. Domain 6 was decreased by 4 points and the weight was redistributed to Domain 5. Other domains remained the same. The adjusted weights can be seen in Table 11 below.

Table 11. Summary of Adjusted Content Domains

Content Domain	Adjusted Weights (%)
1. Planning and Estimating	21%
2. Solar Collector Installation	15%
3. Solar Thermal Installation	9%
4. Photovoltaic (PV) System Installation and Commissioning	22%
5. Service, Operation, and Maintenance	18%
6. Safety	15%
TOTAL	100%

LINKAGE OF KNOWLEDGE/ABILITY STATEMENTS TO TASK STATEMENTS

For an examination to be considered content valid or job-related, the relationship between the examination content, ultimately the examination items, and the content of the actual job must be demonstrated. This is accomplished by a content validation methodology that includes linking the task statements with the knowledge/ability statements, thereby ensuring that there is at least one knowledge/ability statement for each task statement. The task and knowledge/ability statements that appear on the final version of the examination plan demonstrate their job-relatedness as a result of the involvement of SMEs throughout the process. All examination questions that are developed must be linked to both a task and a knowledge/ability statement.

The same SME panel that evaluated the results of the occupational analysis survey performed the task-knowledge/ability statement linkage. The SMEs assigned each knowledge/ability statement to associated task statements within each content domain to ensure that every task statement had at least one knowledge/ability statement associated with it and every knowledge/ability statement was associated with at least one task. The statements were renumbered and the results of the task-knowledge/ability linkage are found in Appendix F.

CHAPTER 4: EXAMINATION OUTLINE

STRUCTURE AND CONTENT

The SME panel further categorized the tasks in each domain into subgroups or sample groups and labeled the groups by their content. The SMEs determined how to distribute each domain's weight across the sample groups. This procedure provides a more detailed examination outline when domains have numerous tasks and ensures sampling consistency across examination versions. The detailed examination outline is used to create a selection matrix for computerized examination version creation. Breaking down domains into sample groups ensures that each examination version samples from the smallest possible content area by the same proportion.

To ensure that all examination candidates answer a similar number of questions based on information supplied to them in a booklet (e.g., blueprints, symbols, and drawings), sample groups were created in the examination outline specifically for booklet questions. These sample groups are referred to in the examination outline as "with booklet." The booklet sample group task and knowledge/ability statements mirror the associated "without booklet" sample groups which were established by the SMEs. The SMEs also determined the appropriate percentages assigned to each of the with/without booklet sample groups.

DESCRIPTION OF CONTENT DOMAINS AND SAMPLE GROUPS

The SME panel operationally defined each of the six content domains. The operationally defined domains with their sample groups are presented in Table 12.

In summary, the examination outline provides the results of the occupational analysis in terms of operationally defined content domains, specific tasks and knowledge/ability statements, and weights of content domains and sample groups. It serves as a comprehensive description of the information a C-46 Solar Contractor is expected to have mastered at the time of licensure. The examination outline is also used by SMEs to write and review examination questions and to create the structure of each examination version. The final examination outline is presented in Appendix G.

Table 12. Content Domain Description Overview

C-46 Domain and Operational Definition	Sample Groups
Domain 1 – Planning and Estimating (21%) *This domain assesses the candidate's ability to determine project needs by analyzing, designing, and estimating proposed solar installation performance.*	1A. Planning (with booklet) 8% 1B. Planning (without booklet) 7% 1C. Estimating (with booklet) 3% 1D. Estimating (without booklet) 3%
Domain 2 – Solar Collector Installation (15%) *This domain assesses the candidate's knowledge of solar collector installation that is safe, structurally sound, and weather-tight.*	2A. Roof Mounts 10% 2B. Non-roof Mounts 5%
Domain 3 – Solar Thermal Installation (9%) *This domain assesses the candidate's knowledge of solar system installation to heat or cool water or air.*	3A. Solar Hot Water 4% 3B. Solar Pools 5%
Domain 4 – Photovoltaic (PV) System Installation and Commissioning (22%) *This domain assesses the candidate's knowledge of the installation of PV components, wiring, and ancillary equipment used in the generation and storage of electricity.*	4A. Grid-tied PV System without Energy Storage 7% 4B. Grid-tied PV System with Energy Storage 4% 4C. Stand Alone PV Systems 3% 4D. PV Labeling 2% 4E. PV Commissioning 6%
Domain 5 – Service, Operation, and Maintenance (18%) *This domain assesses the candidate's knowledge of how to troubleshoot, replace, repair, and maintain solar and energy storage systems.*	5A. Thermal Service and Maintenance 4% 5B. PV and Energy Storage System Service and Maintenance 9% 5C. Collector Inspection 5%
Domain 6 – Safety (15%) *This domain assesses the candidate's knowledge of methods required to prevent injury to workers and the public.*	6A. Safety and Training 8% 6B. Protection 7%

CHAPTER 5: CONCLUSION

The occupational analysis of the CSLB C-46 Solar Contractors described in this report provides a comprehensive description of current trade-related practice. The procedures of the occupational analysis are based upon a content validation strategy to ensure that the results accurately represent the contractors' work in the trade as it is practiced in the State of California. All CSLB-licensed contractors must also pass a Law and Business Examination that is based on a separate occupational analysis. By adopting the examination outline in this report, the CSLB ensures that their examination program is job-related. This report provides all documentation necessary to verify that the analysis has been implemented in accordance with legal, technical, and professional standards.

LIST OF APPENDICES

Page

APPENDIX A – QUESTIONNAIRE COVER LETTER

Email notifying C-46 contractors that the SurveyMonkey link would arrive soon.

Dear C-46 Solar Contractor:

The Contractors State License Board is conducting an online survey to update our Solar (C-46) License examination and we are requesting your participation.

The email containing the link to the survey will have "CSLB Solar (C-46) survey" in the subject line. It should arrive Friday, May 12th. We value your input, so it is important to us that you complete the survey questionnaire. It should take about an hour of your time and will provide important information to us. Please note that the due date is **June 2, 2017**.

If you have any questions or concerns regarding the survey or volunteering to participate in further examination development activities, please call 916-255-4247 and leave a message. I, or one of my colleagues, will get back to you in a timely manner to address your issues.

Thank you in advance for your input.

Sincerely,

Karl Jaeger
California Contractors State License Board
Examination Development Unit

Email sent from SurveyMonkey containing the link to the survey

Subject: CSLB C46 Solar Occupational Analysis Questionnaire

Body: CSLB is conducting an occupational analysis of the C46 Solar trade and your response would be appreciated. Please complete your response before **June 2, 2017**.

Here is a link to the survey:
http://www.surveymonkey.com/s.aspx

This link is uniquely tied to this survey and your email address. Please do not forward this message.

Thanks for your participation!
http://www.surveymonkey.com/optout.aspx

APPENDIX B – OCCUPATIONAL ANALYSIS QUESTIONNAIRE

C 46 Solar Occupational Analysis Questionnaire

Survey Instructions

The Contractors State License Board is conducting an occupational analysis as part of the process to update the C-46 Solar examination. This survey has been developed with the contribution of a small sample of Solar contractors.

By completing the following questionnaire, you will be assisting the CSLB in creating an examination that accurately describes current C-46 Solar work.

Please complete each item in the questionnaire and submit it by **June 2, 2017** so your responses can be included in the analysis. Your participation is very important to the success of this project; your contributions will help ensure that future contractors are qualified to be licensed. This survey is completely voluntary. Your license in no way depends upon your filling out the survey. All data will be aggregated for purposes of public disclosure and will not be identified with you. Thank you in advance for your help.

This questionnaire consists of three sections and should take one hour to complete. It can be completed over multiple sessions or all at once.

SECTION I: This section contains questions that gather background information about you and your job. Information in this section will be used for demographic purposes only.

SECTION II: This section contains statements that describe the different tasks performed by working C-46 Solar contractors. You will be asked to rate each task according to the two statements below:

How frequently you **or the employees you supervise** perform each task compared to other tasks performed in your job.

How important performance of each task is to your current job compared to other tasks you perform.

SECTION III: This section contains descriptions of the knowledge needed to perform the tasks of a C-46 Solar contractor. You will be asked to rate how important each knowledge statement is to your current job.

The last page provides you with a place to list your contact information if you would like to participate further in updating the C-46 Solar examination. Please be sure to fill out the boxes requesting your name, license number, email address, and fax number.

C 46 Solar Occupational Analysis Questionnaire

Section I: Background Information

The information you provide here is voluntary and confidential. It will be treated as personal information subject to the Information Practices Act (Civil Code, Section 1798 et seq.) and will be used only for the purpose of analyzing the ratings from the survey.

What Contractor State License Board classifications and/or certifications do you hold? (Check all that apply.)

- [ ] A
- [ ] B
- [ ] C02
- [ ] C04
- [ ] C05
- [ ] C06
- [ ] C07
- [ ] C08
- [ ] C09
- [ ] C10
- [ ] C11
- [ ] C12
- [ ] C13
- [ ] C15
- [ ] C16
- [ ] C17
- [ ] C20
- [ ] C21
- [ ] C22
- [ ] C23
- [ ] C27
- [ ] C28
- [ ] C29
- [ ] C31
- [ ] C32
- [ ] C33
- [ ] C34
- [ ] C35
- [ ] C36
- [ ] C38
- [ ] C39
- [ ] C42
- [ ] C43
- [ ] C45
- [ ] C46
- [ ] C47
- [ ] C50
- [ ] C51
- [ ] C53
- [ ] C54
- [ ] C55
- [ ] C57
- [ ] C60
- [ ] ASB
- [ ] HAZ
- [ ] C61 (D classes)

How many hours per week do you work as a C-46 Solar contractor?

- ( ) Less than 10 hours
- ( ) 10 to 20 hours
- ( ) 21 to 30 hours
- ( ) 31 to 40 hours
- ( ) More than 40 hours

How many years have you been Licensed as a C-46 Solar contractor in California?

- ◯ Less than 1 year
- ◯ 1 to 5 years
- ◯ 6 to 10 years
- ◯ 11 to 15 years
- ◯ 16 to 20 years
- ◯ More than 20 years

How many employees do you normally have?

- ◯ 0 (I do all the work myself)
- ◯ 1-5
- ◯ 6-10
- ◯ 11-20
- ◯ More than 20

What type of organization is your place of employment?

- ◯ Sole owner/partnership
- ◯ Corporation
- ◯ Chain/franchise
- ◯ Other

Which description best describes the location where you perform most of your work?

- ◯ Rural (fewer than 50,000 people)
- ◯ Urban (greater than 50,000)

What percentage of your C-46 Solar work is performed in each of the following types of projects? (The total for all your responses should add to 100%.)

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Residential	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Commercial	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Industrial	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Public Works	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Other	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

In the last year, how would you describe your role in the majority of contracts in which you were involved?

- ○ Performed all of the work myself
- ○ Performed work myself, supervised others rarely
- ○ Supervised work, performed some work myself
- ○ Supervised work, made many job site visits
- ○ Supervised work, made occasional job site visits
- ○ Supervised work from office only
- ○ Performed business management function only

In what county/counties do you PRIMARILY work? (Select as many responses as apply.)

- ☐ Alameda
- ☐ Alpine
- ☐ Amador
- ☐ Butte
- ☐ Calaveras
- ☐ Colusa
- ☐ Contra Costa
- ☐ Del Norte
- ☐ El Dorado
- ☐ Fresno
- ☐ Glenn
- ☐ Humbolt
- ☐ Imperial
- ☐ Inyo
- ☐ Kern
- ☐ Kings
- ☐ Lake
- ☐ Lassen
- ☐ Los Angeles
- ☐ Madera
- ☐ Marin
- ☐ Mariposa
- ☐ Mendocino
- ☐ Merced
- ☐ Modoc
- ☐ Mono
- ☐ Monterey
- ☐ Napa
- ☐ Nevada
- ☐ Orange
- ☐ Placer
- ☐ Plumas
- ☐ Riverside
- ☐ Sacramento
- ☐ San Benito
- ☐ San Bernardino
- ☐ San Diego
- ☐ San Francisco
- ☐ San Joaquin
- ☐ San Luis Obispo
- ☐ San Mateo
- ☐ Santa Barbara
- ☐ Santa Clara
- ☐ Santa Cruz
- ☐ Shasta
- ☐ Sierra
- ☐ Siskiyou
- ☐ Solano
- ☐ Sonoma
- ☐ Stanislaus
- ☐ Sutter
- ☐ Tehama
- ☐ Trinity
- ☐ Tulare
- ☐ Tuolomne
- ☐ Ventura
- ☐ Yolo
- ☐ Yuba

Section II: Occupational Tasks Instructions

Rate each task according to how frequently you **or the employees you supervise** perform it, and how important it is to your job compared to other tasks you perform. For example, "Read plans and specifications to determine scope of work" may be an important task in your job if considered individually, but only moderately important compared to "Evaluate project site to determine if specifications are sufficient for actual site conditions." Some tasks are performed more frequently or are more important than others. A particular task may be performed frequently but have little importance to your overall work. Similarly, a task may be performed infrequently, but may be very important to overall work. To help you make these distinctions, please briefly read all the task statements before making your frequency and importance ratings. Use the scales defined below to rate each task for frequency and importance.

Rating Task Frequency

This scale is designed to measure how often you and the employees you supervise perform the stated tasks in your current job. When rating the tasks, consider all tasks you perform as a C-46 Solar contractor, and judge how often you perform each task compared to all other tasks you perform. Use the following scale to make your ratings.

0 - **NEVER**: I do not perform this task in my job. (Note: If a task is rated "0" for frequency, it must also be rated "0" for importance.)

1 - **SELDOM**: This is one of the least frequent tasks I perform in my job compared to other tasks I perform.

2 - **NOT OFTEN**: This task is performed less frequently compared to other taks I perform in my job.

3 - **SOMETIMES**: This task is performed somewhat frequently compared to other tasks I perform in my job.

4 - **FAIRLY OFTEN**: This task is performed more frequently compared to most other tasks I perform in my job.

5 - **VERY OFTEN**: This is one of the most frequent tasks I perform in my job compared to other tasks I perform.

Rating Task Importance

This scale is designed to measure how important a task is in the performance of your current job as a C-46 Solar contractor. In making your ratings, consider all tasks you and the employees you supervise perform in your jobs, and judge the importance of each task compared to all other tasks you perform. Use the following scale to make your ratings.

0 - **DOES NOT APPLY TO MY JOB**: I do not perform this task in my job.

1 - **OF MINOR IMPORTANCE**: This task is of minor importance for effective performance compared to other tasks I perform in my job.

2 - **FAIRLY IMPORTANT**: This task is fairly important for effective performance compared to other tasks; however, it does not have the priority of most other tasks I perform in my job.

3 - **MODERATELY IMPORTANT**: This task is moderately important for effective performance compared to other tasks; it has average priority of all tasks I perform in my job.

4 - **VERY IMPORTANT**: This task is very important for effective performance in my job; it has a higher priority compared to most other tasks I perform in my job.

5 - **CRITICALLY IMPORTANT**: This task is one of the most critical tasks I perform; it has the highest priority of all tasks I perform in my job.

Domain 1: Planning and Estimating

Domain 1: Planning and Estimating

	Frequency	Importance
1. Determine client needs and evaluate sites to assess the feasibility of solar and/or energy storage installation.		
2. Analyze building structure for suitability of solar installation.		
3. Evaluate site conditions and placement for ground-mounted solar arrays in accordance with code and regulatory agency requirements.		
4. Determine solar collector location by evaluating sites for solar exposure.		
5. Determine location for solar system components.		
6. Design solar systems by sizing elements to client's needs, project constraints, code and regulatory agency requirements.		
7. Prepare plot plan and electrical/plumbing schematics of solar layout.		
8. Coordinate with other trades, agencies, manufacturers, and suppliers related to solar projects.		
9. Estimate material amounts needed for solar projects based on job site, plans, and specifications.		
10. Estimate equipment, material, and interconnection costs for solar projects based on job site, plans, and specifications.		
11. Estimate time and labor costs for solar projects based on job site, plans, and specifications.		

Domain 2: Solar Collector Installation

	Frequency	Importance
12. Reinforce roof structure to handle extra load of solar energy systems as required by engineering specifications.		
13. Install mounting assemblies at solar collector location on roof according to plans and specifications.		
14. Install solar collectors according to manufacturers' specifications (thermal and PV) onto mounting assemblies.		
15. Install Ground-Fault Detection and Interruption (GFDI), rapid shutdown, and grounding/bonding on rooftop solar collectors to protect personnel, property, and system components.		
16. Install piping or raceways according to codes and manufacturers' specifications.		
17. Seal roof penetrations with manufacturer recommended flashing and sealants.		
18. Install support structure for non-roof mounted solar collectors.		
19. Install mounting assemblies at solar collector location on non-roof structures.		
20. Install solar collectors according to manufacturers' specifications (thermal and PV) on mounting assemblies on non-roof structures.		
21. Install solar tracking systems according to manufacturers' specifications on non-roof structures.		
22. Install Ground-Fault Detection and Interruption (GFDI) and grounding on non-roof solar collectors to protect personnel, property, and system components.		
23. Install Building Integrated Photovoltaic (BIPV) roofing, siding, glazing, etc. according to manufacturers' specifications.		

C 46 Solar Occupational Analysis Questionnaire

Domain 3: Solar Thermal Installation

Domain 3: Solar Thermal Installation

	Frequency	Importance
24. Install plumbing for solar active and passive hot water systems.		
25. Install storage tanks and seismic bracing.		
26. Install expansion systems and safety relief valves to protect the integrity of solar systems.		
27. Install heat and freeze protection devices to prevent damage to solar hot water systems.		
28. Install solar heat exchanger and expansion tanks for closed loop systems.		
29. Install solar water pipe insulation with protection from environmental conditions.		
30. Install pumps to circulate heat transfer fluids between solar collectors and storage units.		
31. Install PV panels, controls, sensors, and valves to regulate solar hot water system operation.		
32. Install electrical wiring for solar hot water system operation.		
33. Install plumbing for solar pool systems according to plans and specifications.		
34. Protect solar pool piping to prevent degradation from UV light.		
35. Prevent freeze damage to solar pool systems by winterizing.		
36. Install controls, sensors, and valves to regulate solar pool system operation.		
37. Install booster pumps and/or diverter valves to circulate water between solar collectors and pools.		
38. Install electrical wiring for solar pool system operation.		
39. Install solar assisted hydronic radiant floor heating.		
40. Install solar assisted passive and active air systems.		
41. Install absorption and adsorption cooling systems.		

Domain 4: Photovoltaic (PV) System Installation and Commissioning

Domain 4: Photovoltaic (PV) System Installation and Commissioning

	Frequency	Importance
42. Install power conditioning units (PCU) to provide grid quality AC power from PV systems.		
43. Install safety switches for PV systems.		
44. Protect PV components by isolating them from damage and unauthorized contact.		
45. Complete wiring for PV systems according to design specifications and codes.		
46. Tie PV systems into point of common coupling (PCC).		
47. Install DC and AC components for PV systems with energy storage (i.e., batteries).		
48. Install grounding and bonding for PV (including energy storage system) according to plans and specifications and codes.		
49. Install battery enclosures with required venting and seismic bracing.		
50. Connect essential AC circuits, including multiple power sources.		
51. Install stand-alone PV systems and associated equipment.		
52. Connect multiple AC (generator and inverter) and DC (solar, wind, and hydro) power sources to energy storage systems and loads.		
53. Install charge controllers for energy charging systems for stand-alone PV systems.		
54. Install stand-alone solar direct systems to power loads according to manufacturers' specifications and applicable codes.		
55. Label AC and DC PV components for identification and safety according to applicable codes.		
56. Install and configure monitoring equipment for energy system production and performance.		

	Frequency	Importance
57. Verify PV installation by inspecting components using as-built plans and specifications.		
58. Commission PV system by verifing voltage, polarity, GFDI/AFCI, rapid shutdown, and current by testing PV and associated systems.		
59. Educate owner/user on operation, monitoring, and maintenance of PV systems.		

Domain 5: Service and Maintenance

Domain 5: Service and Maintenance

	Frequency	Importance
60. Visually inspect solar thermal systems for leakage and component damage.		
61. Perform pressure test to locate leaks in solar thermal systems.		
62. Evaluate solar heat transfer fluids to determine whether function is within design parameters.		
63. Maintain water heaters and solar storage tanks in accordance with manufacturers' recommendations.		
64. Evaluate solar pump performance to identify malfunctions.		
65. Evaluate solar thermal controller, temperature sensors, wiring, and connections to identify malfunctions.		
66. Troubleshoot and repair malfunctioning thermal solar energy system components.		
67. Dispose of solar thermal fluids and components at authorized collection centers as required.		
68. Evaluate PV components to ensure performance according to system design.		
69. Lock out/tag out and de-energize PV systems and isolate individual components for servicing.		
70. Troubleshoot and repair malfunctioning PV solar energy system.		
71. Troubleshoot and repair malfunctioning energy storage systems according to manufacturers' specifications.		
72. Maintain PV system components periodically as required.		
73. Dispose of energy storage systems and PV components at authorized collection centers as required.		

	Frequency	Importance
74. Inspect solar collectors and mounting for structural integrity, delamination, leaks, burn spots, etc.		
75. Inspect solar installations for shading and performance issues.		
76. Clean solar collectors as necessary.		
77. Repair and replace defective solar collectors.		

Domain 6: Safety

Domain 6: Safety

	Frequency	Importance
78. Follow safety procedures when working with solar system components of low, medium, and high voltage to avoid electrical fire, arc-flash, and shock in accordance with Cal/OSHA requirements.		
79. Follow safety procedures when working in and accessing elevated areas in accordance with Cal/OSHA requirements.		
80. Follow safety procedures when working in confined areas in accordance with Cal/OSHA requirements.		
81. Follow safety procedures when working with glass in accordance with Cal/OSHA requirements.		
82. Follow safety procedures when lifting heavy equipment at job sites in accordance with Cal/OSHA requirements.		
83. Follow safety procedures when handling materials, tools, and equipment.		
84. Follow excavating and trenching safety procedures for solar projects.		
85. Wear personal protective equipment (PPE) to prevent injury in accordance with Cal/OSHA requirements.		
86. Handle hazardous material (e.g., battery acid, solder flux fume, caulk, sealants, solvents, and asphalt tar) according to SDS procedures.		
87. Protect the public at job sites by erecting barriers, signage, and traffic control.		
88. Follow safety procedures when working in the elements to prevent sunburn, heat illness, slipping, and electrocution by lightning.		
89. Follow safety procedures when working with or around energy storage systems and components.		

Section III: Knowledge/Ability Descriptions

Instructions

Please rate each of the following knowledge/ability descriptions according to how important it is to C-46 Solar work. In the ratings, consider all knowledge/abilities necessary to perform your job **and the job of the employees you supervise**, and judge the importance of each knowledge/ability description in this section relative to all other knowledge/abilities used in the job. Although the wording of some of the statements is similar to the Task statements above, this section of the questionnaire assesses different information and should also be completed. Use the following scale to make your ratings.

IMPORTANT: Since the importance of each knowledge/ability statement is compared to every other knowledge/ability statement, please read all knowledge/ability descriptions before making your ratings.

0 - **DOES NOT APPLY TO MY JOB**: This knowledge/ability is not required for me to perform my job.

1 - **OF MINOR IMPORTANCE**: This knowledge/ability is of minor importance for performance of my job (relative to all other knowledge/abilities).

2 - **FAIRLY IMPORTANT**: This knowledge/ability is fairly important for performance of my job (relative to all other knowledge/abilities).

3 - **MODERATELY IMPORTANT**: This knowledge/ability is moderately important for performance of my job (relative to all other knowledge/abilities).

4 - **VERY IMPORTANT**: This knowledge/ability is very important for performance of my job (relative to all other knowledge/abilities).

5 - **CRITICALLY IMPORTANT**: This knowledge/ability is essential for performance of my job (relative to all other knowledge/abilities).

Note that there will be six sets of knowledge-related questions as well. Although they may sound similar to some of the tasks above, they are different and need to be answered as well to give us a full picture of your trade.

Domain 1: Planning and Estimating

Domain 1: Planning and Estimating

	Importance Rating
1. Knowledge of solar collector aesthetic issues relating to CC&Rs, the Solar Rights Act, California Coastal Commission, etc.	
2. Knowledge of energy storage ratings for critical operations power systems.	
3. Knowledge of methods to estimate client solar energy needs based on site, load, and budget.	
4. Knowledge of conservation and energy efficient methods for solar systems.	
5. Knowledge of State Fire Marshal requirements related to solar projects.	
6. Knowledge of issues relating to wind and snow loads, seismic concerns, and the dead load of the solar energy system.	
7. Knowledge of solar system selection based on climactic conditions and site-specific conditions.	
8. Knowledge of environmental considerations for inverters, energy storage, and solar systems (e.g. vibration, noise, air flow).	
9. Knowledge of California Electrical, Plumbing, Energy, and Building Code requirements for solar energy systems.	
10. Knowledge of SRCC, IAPMO, and NRTL (Nationally Recognized Testing Laboratories) requirements for solar energy systems and components.	
11. Knowledge of risk when including hazardous components in a solar system design.	
12. Knowledge of interconnection requirements from code and utilities.	
13. Knowledge of advantages and disadvantages of various solar energy systems and configurations.	
14. Knowledge of various PV module and system technologies for residential and commercial applications.	
15. Knowledge of energy storage system theory and technology.	
16. Knowledge of the physics of pool heating and heat loss relating to solar system design.	

	Importance Rating
17. Knowledge of analytical reports for solar projects' performance (e.g. shade analysis, customer usage, energy audit).	
18. Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components.	
19. Knowledge of methods for preparing solar energy system plans and specifications.	
20. Ability to read and interpret solar energy system plans and specifications.	
21. Knowledge of California Energy Commission solar requirements.	
22. Knowledge of permitting processes for solar projects.	
23. Knowledge of solar project interaction with other trades.	
24. Knowledge of mathematics relating to estimating for solar projects.	
25. Knowledge of methods to calculate material, equipment, and labor needs for solar projects.	
26. Knowledge of cost for material, equipment, permits, interconnection, engineering, overhead, and labor for solar projects.	
27. Knowledge of methods to analyze solar system benefits related to utility costs, home/business value, payback, and environmental impact.	
28. Knowledge of cost for material, equipment, permit, interconnection, engineering, overhead, and labor for solar projects.	

Domain 2: Solar Collector Installation

Domain 2: Solar Collector Installation

	Importance Rating
29. Knowledge of roofing conditions and materials required for solar system installation.	
30. Knowledge of different support structures for roofs.	
31. Knowledge of methods and procedures for reinforcing building structures to accommodate increased loads.	
32. Knowledge of free standing ballasted solar systems on roofs.	
33. Knowledge of types of roof mounting hardware and their applications for solar projects.	
34. Knowledge of methods for walking on roofs to prevent damage.	
35. Knowledge of procedures for mounting hardware and solar collectors onto various roof types.	
36. Knowledge of electrical grounding and GFDI code requirements for roof mounted solar systems.	
37. Knowledge of procedures for installing piping or wiring.	
38. Knowledge of sealant and roofing product applications, including compatibility.	
39. Knowledge of roof flashing and sealing techniques to prevent water infiltration.	
40. Knowledge of site preparation and Underground Service Alert (USA) notification requirements.	
41. Knowledge of excavation and trenching methods for non-roof mounted solar installations according to applicable codes.	
42. Knowledge of environmental requirements impacting solar collector non-roof mounts (e.g., dust control, Storm Water Pollution Prevention Plan, archaeological issues, etc.).	
43. Knowledge of methods and procedures for pouring and cutting concrete structures and footings for solar projects.	
44. Knowledge of methods for installing poles, walls, and ground mounts for solar collectors.	
45. Knowledge of soil load capacity and its impact on ground-mounted solar collector installation.	

	Importance Rating
46. Knowledge of methods to make wall penetrations for plumbing and raceways.	
47. Knowledge of methods for installing solar collectors on poles, walls, and ground mounts.	
48. Knowledge of methods for installing free standing ballasted solar systems on the ground.	
49. Knowledge of methods for installing single and dual axis sun tracking devices.	
50. Knowledge of methods for installing concentrating solar technology.	
51. Knowledge of electrical grounding and bonding requirements for solar systems according to California Electrical Code and local codes.	
52. Knowledge of compatibility of Building Integrated Photovoltaic (BIPV) components with other building materials.	
53. Knowledge of interactions with other trades to install Building Integrated Photovoltaic (BIPV) products.	
54. Knowledge of installation methods for specialty PV solar products.	

Domain 3: Solar Thermal Installation

Domain 3: Solar Thermal Installation

	Importance Rating
55. Knowledge of methods and procedures for plumbing and insulating solar thermal collectors and systems.	
56. Knowledge of fire wall penetration requirements.	
57. Knowledge of tools and equipment for installing thermal solar systems.	
58. Knowledge of solar thermal system components and their operational functions.	
59. Knowledge of drain back solar water heating system installation.	
60. Knowledge of closed loop heat transfer solar system installation.	
61. Knowledge of integral collector storage solar system installation.	
62. Knowledge of thermosiphon solar system installation.	
63. Knowledge of drain down solar system installation.	
64. Knowledge of methods and procedures for installing solar storage tanks including seismic bracing.	
65. Knowledge of procedures for installing drip pans under water heaters and solar storage tanks.	
66. Knowledge of requirements for installing solar water heaters including seismic bracing.	
67. Knowledge of procedures for installing and locating control devices, sensors, safety valves, and control valves for solar thermal systems.	
68. Knowledge of thermostatic mixing valve requirements for preventing scalding.	
69. Knowledge of methods to mix and charge the solar system with heat transfer fluids.	
70. Knowledge of methods to install solar thermal expansion tanks.	
71. Knowledge of methods for protecting piping and insulation from degradation.	

	Importance Rating
72. Knowledge of methods for integrating solar thermal systems with conventional water heating systems.	
73. Knowledge of procedures for installing electrical wiring, controls, and timers.	
74. Knowledge of procedures for providing electrical power to controls and pumps.	
75. Knowledge of the hydraulic principles of swimming pools including pumping, filtration, and piping.	
76. Knowledge of anti-vortex code requirements.	
77. Knowledge of methods to install solar pool piping from equipment to collector location.	
78. Knowledge of excavation and trenching methods for solar pool installations according to applicable codes.	
79. Knowledge of pool thermal material compatibility and transition methods.	
80. Knowledge of solar thermal material compatibility with pool chemicals.	
81. Knowledge of methods to mount and secure pool solar thermal equipment.	
82. Knowledge of solar pipe protection methods to prevent degradation and mechanical damage.	
83. Knowledge of methods to install isolation valves and drain ports.	
84. Knowledge of pool solar controls, sensors, and valves.	
85. Knowledge of automated pool control systems, automated pool sanitation devices, and automated pool cleaners.	
86. Knowledge of procedures for installing pool variable speed pumps and solar booster pumps.	
87. Knowledge of pool equipment wiring, grounding, and bonding requirements according to the California Electrical Code.	
88. Knowledge of procedures for installing solar assisted hydronic radiant floor heating.	
89. Knowledge of procedures for installing passive and active air systems.	
90. Knowledge of procedures for installing absorption and adsorption cooling systems.	

Domain 4: Photovoltaic (PV) System Installation and Commissioning

	Importance Rating
91. Knowledge of local building code and inspection procedures for installing grid-tied PV systems without energy storage.	
92. Knowledge of methods for installing grid-tied PV inverters in PV systems without energy storage.	
93. Knowledge of PV micro-inverters and power optimizers.	
94. Knowledge of methods to install ground grid-tied PV systems without energy storage.	
95. Knowledge of methods for installing combiner boxes, fuses, disconnects, circuit breakers, and transformers in grid-tied PV systems without energy storage.	
96. Knowledge of procedures for wiring grid-tied PV systems without energy storage.	
97. Knowledge of methods for installing grid-tied PV inverters with and without cooling fans in PV systems without energy storage.	
98. Knowledge of programming control circuit parameters for grid-tied PV systems without energy storage.	
99. Knowledge of procedures for installing metering and reporting components in grid-tied PV systems without energy storage.	
100. Knowledge of methods for installing grid-tied PV systems with energy storage.	
101. Knowledge of programming control circuit parameters for grid-tied PV systems with energy storage.	
102. Knowledge of multiple power sources and control systems.	
103. Knowledge of procedures for installing wire and conduit between grid-tied PV systems with energy storage and existing components.	
104. Knowledge of methods for installing various battery banks in grid-tied PV systems with energy storage.	
105. Knowledge of methods for installing combiner boxes, fuses, disconnects, transformers, controllers, and circuit breakers in grid-tied PV systems with energy storage.	
106. Knowledge of control parameters for various energy storage systems.	

	Importance Rating
107. Knowledge of methods for installing PV safety disconnects and transfer switches/bypasses (automatic and manual) in grid-tied PV systems with energy storage.	
108. Knowledge of procedures to install electrical panels and enclosures in grid-tied PV systems with energy storage.	
109. Knowledge of procedures for maintaining power in the event of a utility power failure in a grid-tied PV system with energy storage.	
110. Knowledge of methods for installing PV stand-alone systems that will include energy storage.	
111. Knowledge of procedures for installing PV related GFDI, grounding and bonding for stand-alone PV systems that will include energy storage.	
112. Knowledge of methods for installing PV energy storage for stand-alone PV systems.	
113. Knowledge of methods to interface stand-alone PV systems with alternate power sources.	
114. Knowledge of methods for connecting AC and DC loads to stand-alone PV systems.	
115. Knowledge of stand-alone PV components and their operational functions.	
116. Knowledge of manufacturers' specifications for solar direct system installation.	
117. Knowledge of utility and code requirements for labeling PV and existing components.	
118. Knowledge of PV component labeling materials that withstand the elements.	
119. Knowledge of how to activate and commission monitoring equipment including communication interface.	
120. Knowledge of phantom loads and how they affect PV testing procedures.	
121. Knowledge of tools and equipment used to test PV system performance.	
122. Knowledge of monitoring and reporting procedures for PV systems.	
123. Knowledge of new PV system owner warranty, documentation, operation, maintenance, and training requirements.	

Domain 5: Service and Maintenance

	Importance Rating
124. Knowledge of leak detection and repair methods.	
125. Knowledge of testing and repair procedures for controls, valves, pumps, and sensors in solar thermal systems.	
126. Knowledge of testing and replacing solar system fluids based on manufacturer specified freeze point, pH, and specific gravity.	
127. Knowledge of procedures for servicing and maintaining solar water heaters and solar storage tanks.	
128. Knowledge of pump sizing to ensure optimum flow rates in thermal solar systems.	
129. Knowledge of techniques for troubleshooting solar thermal energy systems including evaluating system performance.	
130. Knowledge of solar thermal energy system component function and interaction.	
131. Knowledge of monitoring and data acquisition methods for solar thermal systems.	
132. Knowledge of methods to shade solar thermal collectors during servicing.	
133. Knowledge of methods to recommission solar thermal systems after servicing.	
134. Knowledge of methods to evaluate the performance of PV systems.	
135. Knowledge of I-V curve to test PV systems under load.	
136. Knowledge of PV component testing and repair procedures.	
137. Knowledge of PV system component function and interaction.	
138. Knowledge of techniques for troubleshooting PV energy systems.	
139. Knowledge of causes and effects of PV system degradation.	
140. Knowledge of electrical testing equipment.	

	Importance Rating
141. Knowledge of host utility's impact on PV service and maintenance.	
142. Knowledge of methods to shade PV collectors during servicing.	
143. Knowledge of active and passive PV tracking system testing and repair methods.	
144. Knowledge of methods to recommission PV systems after servicing.	
145. Knowledge of monitoring and data acquisition methods for PV systems.	
146. Knowledge of PV default settings versus designed performance parameters.	
147. Knowledge of battery and electrical equipment recycling requirements.	
148. Knowledge of procedures for inspecting, cleaning, replacing, and repairing solar collectors and associated wiring and plumbing.	
149. Knowledge of the effects shading has on solar system performance.	
150. Knowledge of solar collector mounting apparatus service and repair.	
151. Knowledge of procedures for venting and draining solar collectors.	

Domain 6: Safety

	Importance Rating
152. Knowledge of safety procedures for working on components at high temperature and/or high pressure.	
153. Knowledge of methods of fire prevention on solar projects.	
154. Knowledge of arc flash hazards and labeling requirements.	
155. Knowledge of required clearances from hazards such as cell towers, radar, microwave installations, etc.	
156. Knowledge of safety procedures for performing low, medium, and high voltage electrical work.	
157. Knowledge of Cal/OSHA requirements for working in and accessing elevated areas.	
158. Knowledge of Cal/OSHA requirements for working within confined spaces.	
159. Knowledge of safe glass handling techniques.	
160. Knowledge of Cal/OSHA requirements for safely lifting solar energy system components to elevated areas.	
161. Knowledge of Cal/OSHA requirements for worker and public safety.	
162. Knowledge of solar collector environmental and safety hazards.	
163. Knowledge of Cal/OSHA requirements for excavation.	
164. Knowledge of personal protective equipment (PPE) required for workers on solar projects.	
165. Knowledge of fall protection requirements.	
166. Knowledge of disposal procedures for solar system fluids.	
167. Knowledge of procedures to safely work with hazardous materials.	
168. Knowledge of procedures to erect barriers, signs, and traffic control around solar projects during construction.	
169. Knowledge of procedures to protect workers against dangers of the elements.	
170. Knowledge of safety procedures for working on energy storage systems and components.	

APPENDIX C – SUBJECT MATTER EXPERT SOLICITATION FORM

C 46 Solar Occupational Analysis Questionnaire

SME Volunteer Form

After the questionnaire results have been compiled, the CSLB will be conducting workshops in Sacramento to update the examination. Workshop participants are paid $150 per day and are reimbursed for CSLB-approved travel expenses. If you would be willing to participate in the workshops, please fill out the following information. You must be the license qualifier in order to participate.

Business Name:

Name of License Qualifier:

(Area Code) Phone no.:

(Area Code) Cell Phone no.:

(Area Code) FAX no.:

Street Address/POB:

City, State, Zip:

Email address:

License Number(s):

The Contractors State License Board thanks you for taking the time to fill out this questionnaire.

APPENDIX D – TASK CRITICAL VALUES

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Tasks
In Descending Critical-Task-Importance Order

6/7/2017

	TASK	CTI	Mean of Freq.	Mean of Import.
T1	Determine client needs and evaluate sites to assess the feasibility of solar and/or energy storage installation.	20.66	4.57	4.58
T6	Design solar systems by sizing elements to client's needs, project constraints, code and regulatory agency requirements.	20.45	4.58	4.51
T4	Determine solar collector location by evaluating sites for solar exposure.	19.89	4.47	4.42
T79	Follow safety procedures when working in and accessing elevated areas in accordance with Cal/OSHA requirements.	19.22	4.32	4.59
T17	Seal roof penetrations with manufacturer recommended flashing and sealants.	19.19	4.20	4.55
T78	Follow safety procedures when working with solar system components of low, medium, and high voltage to avoid electrical fire, arc-flash, and shock in accordance with Cal/OSHA requirements.	18.99	4.17	4.48
T11	Estimate time and labor costs for solar projects based on job site, plans, and specifications.	18.89	4.36	4.31
T9	Estimate material amounts needed for solar projects based on job site, plans, and specifications.	18.73	4.36	4.23
T83	Follow safety procedures when handling materials, tools, and equipment.	18.30	4.40	4.17
T45	Complete wiring for PV systems according to design specifications and codes.	18.24	4.17	4.26
T88	Follow safety procedures when working in the elements to prevent sunburn, heat illness, slipping, and electrocution by lightning.	17.97	4.21	4.30
T85	Wear personal protective equipment (PPE) to prevent injury in accordance with Cal/OSHA requirements.	17.95	4.18	4.30
T14	Install solar collectors according to manufacturers' specifications (thermal and PV) onto mounting assemblies.	17.81	4.07	4.24
T5	Determine location for solar system components.	17.78	4.41	4.03
T58	Commission PV system by verifing voltage, polarity, GFDI/AFCI, rapid shutdown, and current by testing PV and associated systems.	17.76	4.15	4.11
T10	Estimate equipment, material, and interconnection costs for solar projects based on job site, plans, and specifications.	17.62	4.15	4.10
T2	Analyze building structure for suitability of solar installation.	17.55	4.15	4.18
T16	Install piping or raceways according to codes and manufacturers' specifications.	17.27	4.01	4.17
T13	Install mounting assemblies at solar collector location on roof according to plans and specifications.	17.08	3.99	4.10
T15	Install Ground-Fault Detection and Interruption (GFDI), rapid shutdown, and grounding/bonding on rooftop solar collectors to protect personnel, property, and system components.	16.58	3.76	4.13
T7	Prepare plot plan and electrical/plumbing schematics of solar layout.	16.32	3.84	4.17
T55	Label AC and DC PV components for identification and safety according to applicable codes.	16.23	4.07	3.81
T59	Educate owner/user on operation, monitoring, and maintenance of PV systems.	16.03	4.13	3.71
T48	Install grounding and bonding for PV (including energy storage system) according to plans and specifications and codes.	15.80	3.81	3.88
T43	Install safety switches for PV systems.	15.62	3.82	3.86

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Tasks
In Descending Critical-Task-Importance Order

6/7/2017

	TASK	CTI	Mean of Freq.	Mean of Import.
T46	Tie PV systems into point of common coupling (PCC).	15.51	3.68	3.84
T80	Follow safety procedures when working in confined areas in accordance with Cal/OSHA requirements.	15.26	3.49	4.20
T82	Follow safety procedures when lifting heavy equipment at job sites in accordance with Cal/OSHA requirements.	15.18	3.69	3.91
T57	Verify PV installation by inspecting components using as-built plans and specifications.	14.43	3.63	3.61
T3	Evaluate site conditions and placement for ground-mounted solar arrays in accordance with code and regulatory agency requirements.	13.78	3.41	3.85
T8	Coordinate with other trades, agencies, manufacturers, and suppliers related to solar projects.	13.54	3.54	3.54
T89	Follow safety procedures when working with or around energy storage systems and components.	13.51	3.23	3.75
T86	Handle hazardous material (e.g., battery acid, solder flux fume, caulk, sealants, solvents, and asphalt tar) according to SDS procedures.	13.43	3.26	3.90
T56	Install and configure monitoring equipment for energy system production and performance.	13.20	3.82	3.29
T68	Evaluate PV components to ensure performance according to system design.	13.16	3.34	3.41
T69	Lock out/tag out and de-energize PV systems and isolate individual components for servicing.	12.49	3.07	3.59
T81	Follow safety procedures when working with glass in accordance with Cal/OSHA requirements.	11.99	3.03	3.41
T50	Connect essential AC circuits, including multiple power sources.	11.91	3.11	3.27
T44	Protect PV components by isolating them from damage and unauthorized contact.	11.76	3.06	3.33
T70	Troubleshoot and repair malfunctioning PV solar energy system.	11.69	3.03	3.63
T75	Inspect solar installations for shading and performance issues.	11.31	3.16	3.46
T20	Install solar collectors according to manufacturers' specifications (thermal and PV) on mounting assemblies on non-roof structures.	10.95	2.81	3.45
T87	Protect the public at job sites by erecting barriers, signage, and traffic control.	10.92	2.73	3.38
T22	Install Ground-Fault Detection and Interruption (GFDI) and grounding on non-roof solar collectors to protect personnel, property, and system components.	10.85	2.74	3.49
T84	Follow excavating and trenching safety procedures for solar projects.	10.53	2.63	3.40
T18	Install support structure for non-roof mounted solar collectors.	10.49	2.68	3.41
T72	Maintain PV system components periodically as required.	9.01	2.63	2.93
T19	Install mounting assemblies at solar collector location on non-roof structures.	8.86	2.47	3.13
T74	Inspect solar collectors and mounting for structural integrity, delamination, leaks, burn spots, etc.	8.27	2.38	2.76
T47	Install DC and AC components for PV systems with energy storage (i.e., batteries).	8.11	2.31	2.97
T51	Install stand-alone PV systems and associated equipment.	7.47	2.04	2.75
T12	Reinforce roof structure to handle extra load of solar energy systems as required by engineering specifications.	7.34	1.99	3.34
T77	Repair and replace defective solar collectors.	7.30	2.18	3.04

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Tasks
In Descending Critical-Task-Importance Order

6/7/2017

	TASK	CTI	Mean of Freq.	Mean of Import.
T49	Install battery enclosures with required venting and seismic bracing.	7.07	1.86	2.84
T27	Install heat and freeze protection devices to prevent damage to solar hot water systems.	6.92	1.61	2.32
T60	Visually inspect solar thermal systems for leakage and component damage.	6.86	1.85	2.03
T71	Troubleshoot and repair malfunctioning energy storage systems according to manufacturers' specifications.	6.69	1.88	2.90
T26	Install expansion systems and safety relief valves to protect the integrity of solar systems.	6.28	1.59	2.14
T76	Clean solar collectors as necessary.	6.15	2.03	2.26
T42	Install power conditioning units (PCU) to provide grid quality AC power from PV systems.	5.88	1.53	2.09
T29	Install solar water pipe insulation with protection from environmental conditions.	5.86	1.58	2.04
T36	Install controls, sensors, and valves to regulate solar pool system operation.	5.73	1.58	1.84
T24	Install plumbing for solar active and passive hot water systems.	5.62	1.49	1.96
T53	Install charge controllers for energy charging systems for stand-alone PV systems.	5.62	1.65	2.35
T65	Evaluate solar thermal controller, temperature sensors, wiring, and connections to identify malfunctions.	5.57	1.56	1.84
T30	Install pumps to circulate heat transfer fluids between solar collectors and storage units.	5.43	1.49	1.94
T73	Dispose of energy storage systems and PV components at authorized collection centers as required.	5.43	1.55	2.59
T54	Install stand-alone solar direct systems to power loads according to manufacturers' specifications and applicable codes.	5.34	1.58	2.32
T52	Connect multiple AC (generator and inverter) and DC (solar, wind, and hydro) power sources to energy storage systems and loads.	5.32	1.57	2.29
T25	Install storage tanks and seismic bracing.	5.27	1.38	1.96
T35	Prevent freeze damage to solar pool systems by winterizing.	5.26	1.33	1.85
T66	Troubleshoot and repair malfunctioning thermal solar energy system components.	5.20	1.50	1.74
T28	Install solar heat exchanger and expansion tanks for closed loop systems.	5.18	1.38	2.00
T33	Install plumbing for solar pool systems according to plans and specifications.	5.04	1.43	1.66
T32	Install electrical wiring for solar hot water system operation.	4.86	1.43	1.93
T64	Evaluate solar pump performance to identify malfunctions.	4.73	1.40	1.72
T38	Install electrical wiring for solar pool system operation.	4.61	1.36	1.79
T21	Install solar tracking systems according to manufacturers' specifications on non-roof structures.	4.59	1.27	2.14
T61	Perform pressure test to locate leaks in solar thermal systems.	4.58	1.29	1.78
T34	Protect solar pool piping to prevent degradation from UV light.	4.45	1.44	1.54
T37	Install booster pumps and/or diverter valves to circulate water between solar collectors and pools.	4.41	1.28	1.78
T63	Maintain water heaters and solar storage tanks in accordance with manufacturers' recommendations.	4.30	1.31	1.56

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Tasks
In Descending Critical-Task-Importance Order

6/7/2017

	TASK	CTI	Mean of Freq.	Mean of Import.
T31	Install PV panels, controls, sensors, and valves to regulate solar hot water system operation.	3.97	1.17	1.56
T67	Dispose of solar thermal fluids and components at authorized collection centers as required.	3.38	0.96	1.85
T62	Evaluate solar heat transfer fluids to determine whether function is within design parameters.	3.35	1.04	1.54
T23	Install Building Integrated Photovoltaic (BIPV) roofing, siding, glazing, etc. according to manufacturers' specifications.	2.14	0.68	1.35
T39	Install solar assisted hydronic radiant floor heating.	1.46	0.56	1.03
T41	Install absorption and adsorption cooling systems.	0.88	0.42	0.70
T40	Install solar assisted passive and active air systems.	0.78	0.36	0.66

Shaded tasks have been deleted from the examination plan.

APPENDIX E – KNOWLEDGE/ABILITY IMPORTANCE VALUES

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Knowledge Items
In Descending Critical-Knowledge-Importance Order

6/7/2017

	KNOWLEDGE ITEM	CKI
K39	Knowledge of roof flashing and sealing techniques to prevent water infiltration.	4.52
K165	Knowledge of fall protection requirements.	4.49
K156	Knowledge of safety procedures for performing low, medium, and high voltage electrical work.	4.37
K157	Knowledge of Cal/OSHA requirements for working in and accessing elevated areas.	4.37
K9	Knowledge of California Electrical, Plumbing, Energy, and Building Code requirements for solar energy systems.	4.34
K20	Ability to read and interpret solar energy system plans and specifications.	4.30
K38	Knowledge of sealant and roofing product applications, including compatibility.	4.24
K164	Knowledge of personal protective equipment (PPE) required for workers on solar projects.	4.24
K51	Knowledge of electrical grounding and bonding requirements for solar systems according to California Electrical Code and local codes.	4.23
K161	Knowledge of Cal/OSHA requirements for worker and public safety.	4.22
K92	Knowledge of methods for installing grid-tied PV inverters in PV systems without energy storage.	4.20
K12	Knowledge of interconnection requirements from code and utilities.	4.16
K28	Knowledge of cost for material, equipment, permit, interconnection, engineering, overhead, and labor for solar projects.	4.14
K37	Knowledge of procedures for installing piping or wiring.	4.13
K29	Knowledge of roofing conditions and materials required for solar system installation.	4.13
K26	Knowledge of cost for material, equipment, permits, interconnection, engineering, overhead, and labor for solar projects.	4.09
K95	Knowledge of methods for installing combiner boxes, fuses, disconnects, circuit breakers, and transformers in grid-tied PV systems without energy storage.	4.08
K22	Knowledge of permitting processes for solar projects.	4.08
K96	Knowledge of procedures for wiring grid-tied PV systems without energy storage.	4.07
K91	Knowledge of local building code and inspection procedures for installing grid-tied PV systems without energy storage.	4.07
K33	Knowledge of types of roof mounting hardware and their applications for solar projects.	4.03
K25	Knowledge of methods to calculate material, equipment, and labor needs for solar projects.	4.03
K3	Knowledge of methods to estimate client solar energy needs based on site, load, and budget.	4.02
K34	Knowledge of methods for walking on roofs to prevent damage.	3.98
K35	Knowledge of procedures for mounting hardware and solar collectors onto various roof types.	3.98
K36	Knowledge of electrical grounding and GFDI code requirements for roof mounted solar systems.	3.98
K169	Knowledge of procedures to protect workers against dangers of the elements.	3.98
K24	Knowledge of mathematics relating to estimating for solar projects.	3.97
K160	Knowledge of Cal/OSHA requirements for safely lifting solar energy system components to elevated areas.	3.97
K5	Knowledge of State Fire Marshal requirements related to solar projects.	3.95

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Knowledge Items
In Descending Critical-Knowledge-Importance Order

6/7/2017

	KNOWLEDGE ITEM	CKI
K27	Knowledge of methods to analyze solar system benefits related to utility costs, home/business value, payback, and environmental impact.	3.95
K140	Knowledge of electrical testing equipment.	3.95
K149	Knowledge of the effects shading has on solar system performance.	3.91
K93	Knowledge of PV micro-inverters and power optimizers.	3.87
K153	Knowledge of methods of fire prevention on solar projects.	3.85
K13	Knowledge of advantages and disadvantages of various solar energy systems and configurations.	3.81
K154	Knowledge of arc flash hazards and labeling requirements.	3.78
K19	Knowledge of methods for preparing solar energy system plans and specifications.	3.77
K158	Knowledge of Cal/OSHA requirements for working within confined spaces.	3.76
K11	Knowledge of risk when including hazardous components in a solar system design.	3.76
K138	Knowledge of techniques for troubleshooting PV energy systems.	3.76
K17	Knowledge of analytical reports for solar projects' performance (e.g. shade analysis, customer usage, energy audit).	3.71
K30	Knowledge of different support structures for roofs.	3.71
K94	Knowledge of methods to install ground grid-tied PV systems without energy storage.	3.68
K7	Knowledge of solar system selection based on climactic conditions and site-specific conditions.	3.67
K121	Knowledge of tools and equipment used to test PV system performance.	3.66
K117	Knowledge of utility and code requirements for labeling PV and existing components.	3.64
K137	Knowledge of PV system component function and interaction.	3.59
K123	Knowledge of new PV system owner warranty, documentation, operation, maintenance, and training requirements.	3.56
K167	Knowledge of procedures to safely work with hazardous materials.	3.56
K40	Knowledge of site preparation and Underground Service Alert (USA) notification requirements.	3.56
K119	Knowledge of how to activate and commission monitoring equipment including communication interface.	3.54
K6	Knowledge of issues relating to wind and snow loads, seismic concerns, and the dead load of the solar energy system.	3.53
K14	Knowledge of various PV module and system technologies for residential and commercial applications.	3.53
K4	Knowledge of conservation and energy efficient methods for solar systems.	3.52
K97	Knowledge of methods for installing grid-tied PV inverters with and without cooling fans in PV systems without energy storage.	3.48
K99	Knowledge of procedures for installing metering and reporting components in grid-tied PV systems without energy storage.	3.48
K134	Knowledge of methods to evaluate the performance of PV systems.	3.47
K122	Knowledge of monitoring and reporting procedures for PV systems.	3.46
K144	Knowledge of methods to recommission PV systems after servicing.	3.41
K8	Knowledge of environmental considerations for inverters, energy storage, and solar systems (e.g. vibration, noise, airflow).	3.39
K136	Knowledge of PV component testing and repair procedures.	3.36

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Knowledge Items
In Descending Critical-Knowledge-Importance Order

6/7/2017

	KNOWLEDGE ITEM	CKI
K41	Knowledge of excavation and trenching methods for non-roof mounted solar installations according to applicable codes.	3.35
K162	Knowledge of solar collector environmental and safety hazards.	3.32
K170	Knowledge of safety procedures for working on energy storage systems and components.	3.32
K118	Knowledge of PV component labeling materials that withstand the elements.	3.29
K98	Knowledge of programming control circuit parameters for grid-tied PV systems without energy storage.	3.28
K21	Knowledge of California Energy Commission solar requirements.	3.23
K139	Knowledge of causes and effects of PV system degradation.	3.21
K18	Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components.	3.17
K163	Knowledge of Cal/OSHA requirements for excavation.	3.17
K168	Knowledge of procedures to erect barriers, signs, and traffic control around solar projects during construction.	3.15
K46	Knowledge of methods to make wall penetrations for plumbing and raceways.	3.15
K107	Knowledge of methods for installing PV safety disconnects and transfer switches/bypasses (automatic and manual) in grid-tied PV systems with energy storage.	3.13
K23	Knowledge of solar project interaction with other trades.	3.13
K105	Knowledge of methods for installing combiner boxes, fuses, disconnects, transformers, controllers, and circuit breakers in grid-tied PV systems with energy storage.	3.12
K100	Knowledge of methods for installing grid-tied PV systems with energy storage.	3.10
K31	Knowledge of methods and procedures for reinforcing building structures to accommodate increased loads.	3.10
K141	Knowledge of host utility's impact on PV service and maintenance.	3.09
K145	Knowledge of monitoring and data acquisition methods for PV systems.	3.07
K108	Knowledge of procedures to install electrical panels and enclosures in grid-tied PV systems with energy storage.	3.07
K152	Knowledge of safety procedures for working on components at high temperature and/or high pressure.	3.05
K146	Knowledge of PV default settings versus designed performance parameters.	3.02
K148	Knowledge of procedures for inspecting, cleaning, replacing, and repairing solar collectors and associated wiring and plumbing.	3.02
K150	Knowledge of solar collector mounting apparatus service and repair.	3.02
K10	Knowledge of SRCC, IAPMO, and NRTL (Nationally Recognized Testing Laboratories) requirements for solar energy systems and components.	3.02
K15	Knowledge of energy storage system theory and technology.	3.02
K102	Knowledge of multiple power sources and control systems.	3.00
K103	Knowledge of procedures for installing wire and conduit between grid-tied PV systems with energy storage and existing components.	3.00
K101	Knowledge of programming control circuit parameters for grid-tied PV systems with energy storage.	2.98
K155	Knowledge of required clearances from hazards such as cell towers, radar, microwave installations, etc.	2.98
K159	Knowledge of safe glass handling techniques.	2.98
K44	Knowledge of methods for installing poles, walls, and ground mounts for solar collectors.	2.92

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Knowledge Items
In Descending Critical-Knowledge-Importance Order

6/7/2017

	KNOWLEDGE ITEM	CKI
K109	Knowledge of procedures for maintaining power in the event of a utility power failure in a grid-tied PV system with energy storage.	2.92
K142	Knowledge of methods to shade PV collectors during servicing.	2.90
K106	Knowledge of control parameters for various energy storage systems.	2.87
K104	Knowledge of methods for installing various battery banks in grid-tied PV systems with energy storage.	2.85
K114	Knowledge of methods for connecting AC and DC loads to stand-alone PV systems.	2.83
K32	Knowledge of free standing ballasted solar systems on roofs.	2.82
K2	Knowledge of energy storage ratings for critical operations power systems.	2.81
K135	Knowledge of I-V curve to test PV systems under load.	2.81
K47	Knowledge of methods for installing solar collectors on poles, walls, and ground mounts.	2.81
K112	Knowledge of methods for installing PV energy storage for stand-alone PV systems.	2.80
K111	Knowledge of procedures for installing PV related GFDI, grounding and bonding for stand-alone PV systems that will include energy storage.	2.78
K1	Knowledge of solar collector aesthetic issues relating to CC&Rs, the Solar Rights Act, California Coastal Commission, etc.	2.74
K115	Knowledge of stand-alone PV components and their operational functions.	2.73
K43	Knowledge of methods and procedures for pouring and cutting concrete structures and footings for solar projects.	2.73
K73	Knowledge of procedures for installing electrical wiring, controls, and timers.	2.69
K56	Knowledge of fire wall penetration requirements.	2.66
K147	Knowledge of battery and electrical equipment recycling requirements.	2.66
K110	Knowledge of methods for installing PV stand-alone systems that will include energy storage.	2.64
K45	Knowledge of soil load capacity and its impact on ground-mounted solar collector installation.	2.61
K113	Knowledge of methods to interface stand-alone PV systems with alternate power sources.	2.59
K42	Knowledge of environmental requirements impacting solar collector non-roof mounts (e.g., dust control, Storm Water Pollution Prevention Plan, archaeological issues, etc.).	2.58
K120	Knowledge of phantom loads and how they affect PV testing procedures.	2.58
K116	Knowledge of manufacturers' specifications for solar direct system installation.	2.56
K54	Knowledge of installation methods for specialty PV solar products.	2.55
K74	Knowledge of procedures for providing electrical power to controls and pumps.	2.44
K87	Knowledge of pool equipment wiring, grounding, and bonding requirements according to the California Electrical Code.	2.39
K124	Knowledge of leak detection and repair methods.	2.28
K81	Knowledge of methods to mount and secure pool solar thermal equipment.	2.27
K58	Knowledge of solar thermal system components and their operational functions.	2.25
K57	Knowledge of tools and equipment for installing thermal solar systems.	2.24
K71	Knowledge of methods for protecting piping and insulation from degradation.	2.24
K68	Knowledge of thermostatic mixing valve requirements for preventing scalding.	2.22
K83	Knowledge of methods to install isolation valves and drain ports.	2.22
K52	Knowledge of compatibility of Building Integrated Photovoltaic (BIPV) components with other building materials.	2.21

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Knowledge Items
In Descending Critical-Knowledge-Importance Order

6/7/2017

	KNOWLEDGE ITEM	CKI
K130	Knowledge of solar thermal energy system component function and interaction.	2.20
K84	Knowledge of pool solar controls, sensors, and valves.	2.17
K166	Knowledge of disposal procedures for solar system fluids.	2.17
K72	Knowledge of methods for integrating solar thermal systems with conventional water heating systems.	2.15
K55	Knowledge of methods and procedures for plumbing and insulating solar thermal collectors and systems.	2.14
K48	Knowledge of methods for installing free standing ballasted solar systems on the ground.	2.11
K67	Knowledge of procedures for installing and locating control devices, sensors, safety valves, and control valves for solar thermal systems.	2.10
K70	Knowledge of methods to install solar thermal expansion tanks.	2.10
K66	Knowledge of requirements for installing solar water heaters including seismic bracing.	2.09
K53	Knowledge of interactions with other trades to install Building Integrated Photovoltaic (BIPV) products.	2.08
K78	Knowledge of excavation and trenching methods for solar pool installations according to applicable codes.	2.07
K133	Knowledge of methods to recommission solar thermal systems after servicing.	2.05
K59	Knowledge of drain back solar water heating system installation.	2.05
K77	Knowledge of methods to install solar pool piping from equipment to collector location.	2.03
K86	Knowledge of procedures for installing pool variable speed pumps and solar booster pumps.	2.03
K129	Knowledge of techniques for troubleshooting solar thermal energy systems including evaluating system performance.	2.02
K64	Knowledge of methods and procedures for installing solar storage tanks including seismic bracing.	2.02
K75	Knowledge of the hydraulic principles of swimming pools including pumping, filtration, and piping.	2.02
K82	Knowledge of solar pipe protection methods to prevent degradation and mechanical damage.	2.02
K60	Knowledge of closed loop heat transfer solar system installation.	2.00
K16	Knowledge of the physics of pool heating and heat loss relating to solar system design.	1.97
K143	Knowledge of active and passive PV tracking system testing and repair methods.	1.97
K125	Knowledge of testing and repair procedures for controls, valves, pumps, and sensors in solar thermal systems.	1.96
K151	Knowledge of procedures for venting and draining solar collectors.	1.95
K128	Knowledge of pump sizing to ensure optimum flow rates in thermal solar systems.	1.95
K69	Knowledge of methods to mix and charge the solar system with heat transfer fluids.	1.93
K76	Knowledge of anti-vortex code requirements.	1.92
K61	Knowledge of integral collector storage solar system installation.	1.90
K85	Knowledge of automated pool control systems, automated pool sanitation devices, and automated pool cleaners.	1.90
K80	Knowledge of solar thermal material compatibility with pool chemicals.	1.88
K79	Knowledge of pool thermal material compatibility and transition methods.	1.85
K132	Knowledge of methods to shade solar thermal collectors during servicing.	1.84

Contractors State License Board
C46 -- Occupational Analysis Survey Results
Statistical Summary – Ratings of Knowledge Items
In Descending Critical-Knowledge-Importance Order

6/7/2017

	KNOWLEDGE ITEM	CKI
K63	Knowledge of drain down solar system installation.	1.83
K62	Knowledge of thermosiphon solar system installation.	1.81
K126	Knowledge of testing and replacing solar system fluids based on manufacturer specified freeze point, pH, and specific gravity.	1.81
K131	Knowledge of monitoring and data acquisition methods for solar thermal systems.	1.75
K127	Knowledge of procedures for servicing and maintaining solar water heaters and solar storage tanks.	1.72
K49	Knowledge of methods for installing single and dual axis sun tracking devices.	1.69
K65	Knowledge of procedures for installing drip pans under water heaters and solar storage tanks.	1.61
K88	Knowledge of procedures for installing solar assisted hydronic radiant floor heating.	1.32
K50	Knowledge of methods for installing concentrating solar technology.	1.31
K89	Knowledge of procedures for installing passive and active air systems.	1.15
K90	Knowledge of procedures for installing absorption and adsorption cooling systems.	0.98

APPENDIX F – TASK AND KNOWLEDGE/ABILITY LINKAGE AND SAMPLE GROUPS

Task - Knowledge Linkage

Domain 1. Planning and Estimating (21%)	
1A. Planning with Booklet	
1	Determine project needs and evaluate sites to assess the feasibility of solar and/or energy storage installation.
1	Knowledge of solar collector aesthetic issues relating to CC&Rs, the Solar Rights Act, California Coastal Commission, etc.
2	Knowledge of energy storage ratings for critical operations power systems.
3	Knowledge of methods to estimate client solar energy needs based on site, load, and budget.
4	Knowledge of conservation and energy efficient methods for solar systems.
2	Analyze building structure for suitability of solar installation.
5	Knowledge of State Fire Marshal requirements related to solar projects.
6	Knowledge of issues relating to wind and snow loads, seismic concerns, and the dead load of the solar energy system.
3	Evaluate site conditions and placement for ground-mounted solar arrays in accordance with code and regulatory agency requirements.
6	Knowledge of issues relating to wind and snow loads, seismic concerns, and the dead load of the solar energy system.
4	Determine solar collector location by evaluating sites for solar exposure.
5	Knowledge of State Fire Marshal requirements related to solar projects.
7	Knowledge of solar system selection based on climactic conditions and site-specific conditions.
5	Determine location for solar system components.
8	Knowledge of environmental considerations for inverters, energy storage, and solar systems (e.g. vibration, noise, air flow).
6	Design solar systems by sizing elements to client's needs, project constraints, code and regulatory agency requirements.
9	Knowledge of California Electrical, Plumbing, Energy, and Building Code requirements for solar energy systems.
10	Knowledge of SRCC, IAPMO, and NRTL (Nationally Recognized Testing Laboratories) requirements for solar energy systems and components.
11	Knowledge of interconnection requirements from code and utilities.
12	Knowledge of advantages and disadvantages of various solar energy systems and configurations.
13	Knowledge of various PV module and system technologies for residential and commercial applications.
14	Knowledge of energy storage system theory and technology.
15	Knowledge of the physics of pool heating and heat loss relating to solar system design.

16	Knowledge of analytical reports for solar projects' performance (e.g. shade analysis, customer usage, energy audit).
7	Prepare plot plan and electrical/plumbing schematics of solar layout.
17	Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components.
18	Knowledge of methods for preparing solar energy system plans and specifications.
19	Ability to read and interpret solar energy system plans and specifications.
8	Coordinate with other trades, agencies, manufacturers, and suppliers related to solar projects.
20	Knowledge of regulatory agency requirements for solar projects (e.g., California Energy Commission).
21	Knowledge of permitting processes for solar projects.
22	Knowledge of solar project interaction with other trades.
1B. Planning without Booklet	
	(same tasks as 1A.)
1C. Estimating with Booklet	
9	Estimate material amounts needed for solar projects based on job site, plans, and specifications.
23	Knowledge of mathematics relating to estimating for solar projects.
24	Knowledge of methods to calculate material, equipment, and labor needs for solar projects.
10	Estimate equipment, material, and interconnection costs for solar projects based on job site, plans, and specifications.
23	Knowledge of mathematics relating to estimating for solar projects.
24	Knowledge of methods to calculate material, equipment, and labor needs for solar projects.
25	Knowledge of cost for material, equipment, permits, interconnection, engineering, overhead, and labor for solar projects.
26	Knowledge of methods to analyze solar system benefits related to utility costs, home/business value, payback, and environmental impact.
11	Estimate time and labor costs for solar projects based on job site, plans, and specifications.
23	Knowledge of mathematics relating to estimating for solar projects.
24	Knowledge of methods to calculate material, equipment, and labor needs for solar projects.
27	Knowledge of cost for material, equipment, permit, interconnection, engineering, overhead, and labor for solar projects.
1D. Estimating without Booklet	
	(Same tasks as 1C.)
Domain 2. Solar Collector Installation (15%)	

2A. Roof Mounts	
12	Reinforce roof structure to handle extra load of solar energy systems as required by engineering specifications.
28	Knowledge of roofing conditions and materials required for solar system installation.
29	Knowledge of different support structures for roofs.
30	Knowledge of methods and procedures for reinforcing building structures to accommodate increased loads.
31	Knowledge of free standing ballasted solar systems on roofs.
13	Install mounting assemblies at solar collector location on roof according to plans and specifications.
32	Knowledge of types of roof mounting hardware and their applications for solar projects.
33	Knowledge of methods for walking on roofs to prevent damage.
14	Install solar collectors according to manufacturers' specifications (thermal and PV) onto mounting assemblies.
17	Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components.
33	Knowledge of methods for walking on roofs to prevent damage.
34	Knowledge of procedures for mounting hardware and solar collectors onto various roof types.
15	Install Ground-Fault Detection and Interruption (GFDI), rapid shutdown, and grounding/bonding on rooftop solar collectors to protect personnel, property, and system components.
35	Knowledge of electrical grounding and GFDI code requirements for roof mounted solar systems.
16	Install piping or raceways according to codes and manufacturers' specifications.
36	Knowledge of procedures for installing piping or wiring.
17	Seal roof penetrations with manufacturer recommended flashing and sealants.
37	Knowledge of sealant and roofing product applications, including compatibility.
38	Knowledge of roof flashing and sealing techniques to prevent water infiltration.
2B. Non-roof Mounts	
18	Install support structure for non-roof mounted solar collectors.
39	Knowledge of site preparation and Underground Service Alert (USA) notification requirements.
40	Knowledge of excavation and trenching methods for non-roof mounted solar installations according to applicable codes.
41	Knowledge of environmental requirements impacting solar collector non-roof mounts (e.g., dust control, Storm Water Pollution Prevention Plan, archaeological issues, etc.).
42	Knowledge of methods and procedures for pouring and cutting concrete structures and footings for solar projects.

43	Knowledge of methods for installing poles, walls, and ground mounts for solar collectors.
44	Knowledge of soil load capacity and its impact on ground-mounted solar collector installation.
19	Install mounting assemblies at solar collector location on non-roof structures.
18	Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components.
45	Knowledge of methods to make wall penetrations for plumbing and raceways.
20	Install solar collectors according to manufacturers' specifications (thermal and PV) on mounting assemblies on non-roof structures.
46	Knowledge of methods for installing solar collectors on poles, walls, and ground mounts.
47	Knowledge of methods for installing free standing ballasted solar systems on the ground.
21	Install solar tracking systems according to manufacturers' specifications on non-roof structures.
48	Knowledge of methods for installing single and dual axis sun tracking devices.
22	Install Ground-Fault Detection and Interruption (GFDI) and grounding on non-roof solar collectors to protect personnel, property, and system components.
49	Knowledge of electrical grounding and bonding requirements for solar systems according to California Electrical Code and local codes.
Domain 3. Solar Thermal Installation (9%)	
3A. Solar Hot Water	
23	Install plumbing for solar active and passive hot water systems.
18	Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components.
50	Knowledge of methods and procedures for plumbing and insulating solar thermal collectors and systems.
51	Knowledge of fire wall penetration requirements.
52	Knowledge of tools and equipment for installing thermal solar systems.
53	Knowledge of solar thermal system components and their operational functions.
54	Knowledge of drain back solar water heating system installation.
55	Knowledge of closed loop heat transfer solar system installation.
56	Knowledge of integral collector storage solar system installation.
57	Knowledge of thermosiphon solar system installation.
58	Knowledge of drain down solar system installation.
24	Install storage tanks and seismic bracing.
59	Knowledge of methods and procedures for installing solar storage tanks including seismic bracing.
60	Knowledge of requirements for installing solar water heaters including seismic bracing.

25	Install expansion systems and safety relief valves to protect the integrity of solar systems.
61	Knowledge of procedures for installing and locating control devices, sensors, safety valves, and control valves for solar thermal systems.
62	Knowledge of thermostatic mixing valve requirements for preventing scalding.
26	Install heat and freeze protection devices to prevent damage to solar hot water systems.
63	Knowledge of methods to mix and charge the solar system with heat transfer fluids.
27	Install solar heat exchanger and expansion tanks for closed loop systems.
64	Knowledge of methods to install solar thermal expansion tanks.
28	Install solar water pipe insulation with protection from environmental conditions.
50	Knowledge of methods and procedures for plumbing and insulating solar thermal collectors and systems.
65	Knowledge of methods for protecting piping and insulation from degradation.
29	Install pumps to circulate heat transfer fluids between solar collectors and storage units.
61	Knowledge of procedures for installing and locating control devices, sensors, safety valves, and control valves for solar thermal systems.
30	Install electrical wiring for solar hot water system operation.
66	Knowledge of procedures for installing electrical wiring, controls, and timers.
67	Knowledge of procedures for providing electrical power to controls and pumps.
3B. Solar Pools	
31	Install plumbing for solar pool systems according to plans and specifications.
68	Knowledge of the hydraulic principles of swimming pools including pumping, filtration, and piping.
69	Knowledge of anti-vortex code requirements.
70	Knowledge of methods to install solar pool piping from equipment to collector location.
71	Knowledge of excavation and trenching methods for solar pool installations according to applicable codes.
72	Knowledge of pool thermal material compatibility and transition methods.
73	Knowledge of solar thermal material compatibility with pool chemicals.
74	Knowledge of methods to mount and secure pool solar thermal equipment.
32	Protect solar pool piping to prevent degradation from UV light.
75	Knowledge of solar pipe protection methods to prevent degradation and mechanical damage.
33	Prevent freeze damage to solar pool systems by winterizing.
70	Knowledge of methods to install solar pool piping from equipment to collector location.
76	Knowledge of methods to install isolation valves and drain ports.

34	Install controls, sensors, and valves to regulate solar pool system operation.
77	Knowledge of pool solar controls, sensors, and valves.
35	Install booster pumps and/or diverter valves to circulate water between solar collectors and pools.
78	Knowledge of procedures for installing pool variable speed pumps and solar booster pumps.
36	Install electrical wiring for solar pool system operation.
79	Knowledge of pool equipment wiring, grounding, and bonding requirements according to the California Electrical Code.
Domain 4. Photovoltaic (PV) System Installation and Commissioning (22%)	
4A. Grid-tied PV System without Energy Storage	
37	Install power conditioning units (PCU) to provide grid quality AC power from PV systems.
80	Knowledge of local building code and inspection procedures for installing grid-tied PV systems without energy storage.
81	Knowledge of methods for installing grid-tied PV inverters in PV systems without energy storage.
82	Knowledge of PV micro-inverters and power optimizers.
83	Knowledge of methods to install ground grid-tied PV systems without energy storage.
38	Install safety switches for PV systems.
84	Knowledge of methods for installing combiner boxes, fuses, disconnects, circuit breakers, and transformers in grid-tied PV systems without energy storage.
39	Protect PV components by isolating them from damage and unauthorized contact.
85	Knowledge of procedures for wiring grid-tied PV systems without energy storage.
40	Complete wiring for PV systems according to design specifications and codes.
86	Knowledge of methods for installing grid-tied PV inverters with and without cooling fans in PV systems without energy storage.
85	Knowledge of procedures for wiring grid-tied PV systems without energy storage.
41	Tie PV systems into point of common coupling (PCC).
87	Knowledge of programming control circuit parameters for grid-tied PV systems without energy storage.
88	Knowledge of procedures for installing metering and reporting components in grid-tied PV systems without energy storage.
4B. Grid-tied PV System with Energy Storage	
42	Install DC and AC components for PV systems with energy storage (i.e., batteries).
89	Knowledge of methods for installing grid-tied PV systems with energy storage.
90	Knowledge of programming control circuit parameters for grid-tied PV systems with energy storage.
81	Knowledge of multiple power sources and control systems.

43	Install grounding and bonding for PV (including energy storage system) according to plans and specifications and codes.
92	Knowledge of procedures for installing wire and conduit between grid-tied PV systems with energy storage and existing components.
44	Install battery enclosures with required venting and seismic bracing.
93	Knowledge of methods for installing various battery banks in grid-tied PV systems with energy storage.
45	Connect essential AC circuits, including multiple power sources.
92	Knowledge of procedures for installing wire and conduit between grid-tied PV systems with energy storage and existing components.
94	Knowledge of methods for installing combiner boxes, fuses, disconnects, transformers, controllers, and circuit breakers in grid-tied PV systems with energy storage.
95	Knowledge of control parameters for various energy storage systems.
96	Knowledge of methods for installing PV safety disconnects and transfer switches/bypasses (automatic and manual) in grid-tied PV systems with energy storage.
97	Knowledge of procedures to install electrical panels and enclosures in grid-tied PV systems with energy storage.
98	Knowledge of procedures for maintaining power in the event of a utility power failure in a grid-tied PV system with energy storage.
4C. Stand Alone PV Systems	
46	Install stand-alone PV systems and associated equipment.
99	Knowledge of methods for installing PV stand-alone systems that will include energy storage.
100	Knowledge of procedures for installing PV related GFDI, grounding and bonding for stand-alone PV systems that will include energy storage.
47	Connect multiple AC (generator and inverter) and DC (solar, wind, and hydro) power sources to energy storage systems and loads.
101	Knowledge of methods for installing PV energy storage for stand-alone PV systems.
102	Knowledge of methods to interface stand-alone PV systems with alternate power sources.
103	Knowledge of methods for connecting AC and DC loads to stand-alone PV systems.
48	Install charge controllers for energy charging systems for stand-alone PV systems.
104	Knowledge of stand-alone PV components and their operational functions.
49	Install stand-alone solar direct systems to power loads according to manufacturers' specifications and applicable codes.
104	Knowledge of stand-alone PV components and their operational functions.
105	Knowledge of manufacturers' specifications for solar direct system installation.
4D. PV Labeling	

50	Label AC and DC PV components for identification and safety according to applicable codes.
106	Knowledge of utility and code requirements for labeling PV and existing components.
107	Knowledge of PV component labeling materials that withstand the elements.
4E. PV Commissioning	
51	Install and configure monitoring equipment for energy system production and performance.
108	Knowledge of how to activate and commission monitoring equipment including communication interface.
52	Verify PV installation by inspecting components using as-built plans and specifications.
109	Knowledge of phantom loads and how they affect PV testing procedures.
53	Commission PV system by verifing voltage, polarity, GFDI/AFCI, rapid shutdown, and current by testing PV and associated systems.
109	Knowledge of phantom loads and how they affect PV testing procedures.
110	Knowledge of tools and equipment used to test PV system performance.
54	Educate owner/user on operation, monitoring, and maintenance of PV systems.
111	Knowledge of monitoring and reporting procedures for PV systems.
112	Knowledge of new PV system owner warranty, documentation, operation, maintenance, and training requirements.
Domain 5. Service, Operation, and Maintenance (18%)	
5A. Thermal Service and Maintenance	
55	Visually inspect solar thermal systems for leakage and component damage.
113	Knowledge of leak detection and repair methods.
56	Perform pressure test to locate leaks in solar thermal systems.
113	Knowledge of leak detection and repair methods.
114	Knowledge of testing and repair procedures for controls, valves, pumps, and sensors in solar thermal systems.
57	Maintain water heaters and solar storage tanks in accordance with manufacturers' recommendations.
115	Knowledge of procedures for servicing and maintaining solar water heaters and solar storage tanks.
58	Evaluate solar pump performance to identify malfunctions.
116	Knowledge of pump sizing to ensure optimum flow rates in thermal solar systems.
117	Knowledge of techniques for troubleshooting solar thermal energy systems including evaluating system performance.
59	Evaluate solar thermal controller, temperature sensors, wiring, and connections to identify malfunctions.

114	Knowledge of testing and repair procedures for controls, valves, pumps, and sensors in solar thermal systems.
117	Knowledge of techniques for troubleshooting solar thermal energy systems including evaluating system performance.
118	Knowledge of solar thermal energy system component function and interaction.
119	Knowledge of monitoring and data acquisition methods for solar thermal systems.
60	Troubleshoot and repair malfunctioning thermal solar energy system components.
120	Knowledge of methods to shade solar thermal collectors during servicing.
121	Knowledge of methods to recommission solar thermal systems after servicing.
5B. PV Service and Maintenance	
61	Evaluate PV components to ensure performance according to system design.
122	Knowledge of methods to evaluate the performance of PV systems.
123	Knowledge of I-V curve to test PV systems under load.
124	Knowledge of PV component testing and repair procedures.
125	Knowledge of PV system component function and interaction.
126	Knowledge of techniques for troubleshooting PV energy systems.
127	Knowledge of causes and effects of PV system degradation.
128	Knowledge of electrical testing equipment.
129	Knowledge of host utility's impact on PV service and maintenance.
62	Lock out/tag out and de-energize PV systems and isolate individual components for servicing.
130	Knowledge of methods to shade PV collectors during servicing.
63	Troubleshoot and repair malfunctioning PV solar energy system.
125	Knowledge of PV system component function and interaction.
128	Knowledge of electrical testing equipment.
131	Knowledge of PV tracking system testing and repair methods.
64	Troubleshoot and repair malfunctioning energy storage systems according to manufacturers' specifications.
132	Knowledge of methods to recommission PV systems after servicing.
65	Maintain PV system components periodically as required.
133	Knowledge of monitoring and data acquisition methods for PV systems.
134	Knowledge of PV default settings versus designed performance parameters.
66	Dispose of energy storage systems and PV components at authorized collection centers as required.
135	Knowledge of battery and electrical equipment recycling requirements.
5C. Collector Inspection	
67	Inspect solar collectors and mounting for structural integrity, delamination, leaks, burn spots, etc.

136	Knowledge of procedures for inspecting, cleaning, replacing, and repairing solar collectors and associated wiring and plumbing.
68	Inspect solar installations for shading and performance issues.
137	Knowledge of the effects shading has on solar system performance.
69	Clean solar collectors as necessary.
136	Knowledge of procedures for inspecting, cleaning, replacing, and repairing solar collectors and associated wiring and plumbing.
70	Repair and replace defective solar collectors.
138	Knowledge of solar collector mounting apparatus service and repair.
139	Knowledge of procedures for venting and draining solar collectors.
Domain 6. Safety (15%)	
6A. Safety and Training	
71	Follow safety procedures when working with solar system components of low, medium, and high voltage to avoid electrical fire, arc-flash, and shock in accordance with Cal/OSHA requirements.
140	Knowledge of safety procedures for working on components at high temperature and/or high pressure.
141	Knowledge of methods of fire prevention on solar projects.
142	Knowledge of arc flash hazards and labeling requirements.
143	Knowledge of required clearances from hazards such as cell towers, radar, microwave installations, etc.
144	Knowledge of safety procedures for performing low, medium, and high voltage electrical work.
72	Follow safety procedures when working in and accessing elevated areas in accordance with Cal/OSHA requirements.
145	Knowledge of Cal/OSHA requirements for working in and accessing elevated areas.
73	Follow safety procedures when working in confined spaces in accordance with Cal/OSHA requirements.
146	Knowledge of Cal/OSHA requirements for working within confined spaces.
74	Follow safety procedures when working with glass in accordance with Cal/OSHA requirements.
147	Knowledge of safe glass handling techniques.
75	Follow safety procedures when lifting heavy equipment at job sites in accordance with Cal/OSHA requirements.
148	Knowledge of Cal/OSHA requirements for safely lifting solar energy system components to elevated areas.
76	Follow safety procedures when handling materials, tools, and equipment.
149	Knowledge of Cal/OSHA requirements for worker and public safety.
150	Knowledge of solar collector environmental and safety hazards.

77	Follow excavating and trenching safety procedures for solar projects.
151	Knowledge of Cal/OSHA requirements for excavation.
6B. Protection	
78	Wear personal protective equipment (PPE) to prevent injury in accordance with Cal/OSHA requirements.
152	Knowledge of personal protective equipment (PPE) required for workers on solar projects.
153	Knowledge of fall protection requirements.
79	Handle hazardous material (e.g., battery acid, solder flux fume, caulk, sealants, solvents, and asphalt tar) according to SDS procedures.
154	Knowledge of disposal procedures for solar system fluids.
155	Knowledge of procedures to safely work with hazardous materials.
80	Protect the public at job sites by erecting barriers, signage, and traffic control.
156	Knowledge of procedures to erect barriers, signs, and traffic control around solar projects during construction.
81	Follow safety procedures when working in the elements to prevent sunburn, heat illness, slipping, and electrocution by lightning.
157	Knowledge of procedures to protect workers against dangers of the elements.
82	Follow safety procedures when working with or around energy storage systems and components.
158	Knowledge of safety procedures for working on energy storage systems and components.

APPENDIX G – FINAL EXAMINATION OUTLINE

403

404

C-46
Solar
Examination Outline

Exam Plan - 'C-46' Exam g.4

Domain #1 - Planning and Estimating (21%)

This domain assesses the candidate's ability to determine project needs by analyzing, designing, and estimating proposed solar installation performance.

Sample Group	Task Statements	Knowledge Statements
1A. Planning with Booklet (8%) 405	**T1.** Determine project needs and evaluate sites to assess the feasibility of solar and/or energy storage installation. **T2.** Analyze building structure for suitability of solar installation. **T3.** Evaluate site conditions and placement for ground-mounted solar arrays in accordance with code and regulatory agency requirements. **T4.** Determine solar collector location by evaluating sites for solar exposure. **T5.** Determine location for solar system components. **T6.** Design solar systems by sizing elements to client's needs, project constraints, code and regulatory agency requirements. **T7.** Prepare plot plan and electrical/plumbing schematics of solar layout. **T8.** Coordinate with other trades, agencies, manufacturers, and suppliers related to solar projects.	**K1.** Knowledge of solar collector aesthetic issues relating to CC&Rs, the Solar Rights Act, California Coastal Commission, etc. **K2.** Knowledge of energy storage ratings for critical operations power systems. **K3.** Knowledge of methods to estimate client solar energy needs based on site, load, and budget. **K4.** Knowledge of conservation and energy efficient methods for solar systems. **K5.** Knowledge of State Fire Marshal requirements related to solar projects. **K6.** Knowledge of issues relating to wind and snow loads, seismic concerns, and the dead load of the solar energy system. **K7.** Knowledge of solar system selection based on climactic conditions and site-specific conditions. **K8.** Knowledge of environmental considerations for inverters, energy storage, and solar systems (e.g. vibration, noise, air flow). **K9.** Knowledge of California Electrical, Plumbing, Energy, and Building Code requirements for solar energy systems. **K10.** Knowledge of SRCC, IAPMO, and NRTL (Nationally Recognized Testing Laboratories) requirements for solar energy systems and components. **K11.** Knowledge of interconnection requirements from code and utilities. **K12.** Knowledge of advantages and disadvantages of various solar energy systems and configurations. **K13.** Knowledge of various PV module and system technologies for residential and commercial applications.

Exam Plan - 'C-46' Exam g.4

Domain #1 - Planning and Estimating (21%)

This domain assesses the candidate's ability to determine project needs by analyzing, designing, and estimating proposed solar installation performance.

Sample Group	Task Statements	Knowledge Statements
406		**K14.** Knowledge of energy storage system theory and technology. **K15.** Knowledge of the physics of pool heating and heat loss relating to solar system design. **K16.** Knowledge of analytical reports for solar projects' performance (e.g. shade analysis, customer usage, energy audit). **K17.** Knowledge of material compatibility to avoid dielectric reactions and corrosion on solar collectors and components. **K18.** Knowledge of methods for preparing solar energy system plans and specifications. **K19.** Ability to read and interpret solar energy system plans and specifications. **K20.** Knowledge of regulatory agency requirements for solar projects (e.g., California Energy Commission). **K21.** Knowledge of permitting processes for solar projects. **K22.** Knowledge of solar project interaction with other trades.
1B. Planning without Booklet (7%)	**Same Task List As Sample Group Above**	**Same Knowledge List As Sample Group Above**
1C. Estimating with Booklet (3%)	**T9.** Estimate material amounts needed for solar projects based on job site, plans, and specifications. **T10.** Estimate equipment, material, and interconnection costs for solar projects based on job site, plans, and specifications. **T11.** Estimate time and labor costs for solar projects based on job site, plans, and specifications.	**K23.** Knowledge of mathematics relating to estimating for solar projects. **K24.** Knowledge of methods to calculate material, equipment, and labor needs for solar projects. **K25.** Knowledge of cost for material, equipment, permits, interconnection, engineering, overhead, and labor for solar projects. **K26.** Knowledge of methods to analyze solar system benefits related to utility costs, home/business value, payback, and environmental impact.

Exam Plan - 'C-46' Exam g.4

Domain #1 - Planning and Estimating (21%)

This domain assesses the candidate's ability to determine project needs by analyzing, designing, and estimating proposed solar installation performance.

Sample Group	Task Statements	Knowledge Statements
		K27. Knowledge of cost for material, equipment, permit, interconnection, engineering, overhead, and labor for solar projects.
1D. Estimating without Booklet (3%)	**Same Task List As Sample Group Above**	**Same Knowledge List As Sample Group Above**

407

Exam Plan - 'C-46' Exam g.4

Domain #2 - Solar Collector Installation (15%)

This domain assesses the candidate's knowledge of solar collector installation that is safe, structurally sound, and weather-tight.

Sample Group	Task Statements	Knowledge Statements
2A. Roof Mounts (10%) 408	**T12.** Reinforce roof structure to handle extra load of solar energy systems as required by engineering specifications. **T13.** Install mounting assemblies at solar collector location on roof according to plans and specifications. **T14.** Install solar collectors according to manufacturers' specifications (thermal and PV) onto mounting assemblies. **T15.** Install Ground-Fault Detection and Interruption (GFDI), rapid shutdown, and grounding/bonding on rooftop solar collectors to protect personnel, property, and system components. **T16.** Install piping or raceways according to codes and manufacturers' specifications. **T17.** Seal roof penetrations with manufacturer recommended flashing and sealants.	**K28.** Knowledge of roofing conditions and materials required for solar system installation. **K29.** Knowledge of different support structures for roofs. **K30.** Knowledge of methods and procedures for reinforcing building structures to accommodate increased loads. **K31.** Knowledge of free standing ballasted solar systems on roofs. **K32.** Knowledge of types of roof mounting hardware and their applications for solar projects. **K33.** Knowledge of methods for walking on roofs to prevent damage. **K34.** Knowledge of procedures for mounting hardware and solar collectors onto various roof types. **K35.** Knowledge of electrical grounding and GFDI code requirements for roof mounted solar systems. **K36.** Knowledge of procedures for installing piping or wiring. **K37.** Knowledge of sealant and roofing product applications, including compatibility. **K38.** Knowledge of roof flashing and sealing techniques to prevent water infiltration.
2B. Non-roof Mounts (5%)	**T18.** Install support structure for non-roof mounted solar collectors. **T19.** Install mounting assemblies at solar collector location on non-roof structures. **T20.** Install solar collectors according to manufacturers' specifications (thermal and PV) on mounting assemblies on non-roof structures. **T21.** Install solar tracking systems according to manufacturers' specifications on non-roof structures.	**K39.** Knowledge of site preparation and Underground Service Alert (USA) notification requirements. **K40.** Knowledge of excavation and trenching methods for non-roof mounted solar installations according to applicable codes. **K41.** Knowledge of environmental requirements impacting solar collector non-roof mounts (e.g., dust control, Storm Water Pollution Prevention Plan, archaeological issues, etc.).

Exam Plan - 'C-46' Exam g.4

Domain #2 - Solar Collector Installation (15%)

This domain assesses the candidate's knowledge of solar collector installation that is safe, structurally sound, and weather-tight.

Sample Group	Task Statements	Knowledge Statements
409	**T22.** Install Ground-Fault Detection and Interruption (GFDI) and grounding on non-roof solar collectors to protect personnel, property, and system components.	**K42.** Knowledge of methods and procedures for pouring and cutting concrete structures and footings for solar projects. **K43.** Knowledge of methods for installing poles, walls, and ground mounts for solar collectors. **K44.** Knowledge of soil load capacity and its impact on ground-mounted solar collector installation. **K45.** Knowledge of methods to make wall penetrations for plumbing and raceways. **K46.** Knowledge of methods for installing solar collectors on poles, walls, and ground mounts. **K47.** Knowledge of methods for installing free standing ballasted solar systems on the ground. **K48.** Knowledge of methods for installing single and dual axis sun tracking devices. **K49.** Knowledge of electrical grounding and bonding requirements for solar systems according to California Electrical Code and local codes.

Exam Plan - 'C-46' Exam g.4

Domain #3 - Solar Thermal Installation (9%)

This domain assesses the candidate's knowledge of solar system installation to heat or cool water or air.

Sample Group	Task Statements	Knowledge Statements
3A. Solar Hot Water (4%) 410	**T23.** Install plumbing for solar active and passive hot water systems. **T24.** Install storage tanks and seismic bracing. **T25.** Install expansion systems and safety relief valves to protect the integrity of solar systems. **T26.** Install heat and freeze protection devices to prevent damage to solar hot water systems. **T27.** Install solar heat exchanger and expansion tanks for closed loop systems. **T28.** Install solar water pipe insulation with protection from environmental conditions. **T29.** Install pumps to circulate heat transfer fluids between solar collectors and storage units. **T30.** Install electrical wiring for solar hot water system operation.	**K50.** Knowledge of methods and procedures for plumbing and insulating solar thermal collectors and systems. **K51.** Knowledge of fire wall penetration requirements. **K52.** Knowledge of tools and equipment for installing thermal solar systems. **K53.** Knowledge of solar thermal system components and their operational functions. **K54.** Knowledge of drain back solar water heating system installation. **K55.** Knowledge of closed loop heat transfer solar system installation. **K56.** Knowledge of integral collector storage solar system installation. **K57.** Knowledge of thermosiphon solar system installation. **K58.** Knowledge of drain down solar system installation. **K59.** Knowledge of methods and procedures for installing solar storage tanks including seismic bracing. **K60.** Knowledge of requirements for installing solar water heaters including seismic bracing. **K61.** Knowledge of procedures for installing and locating control devices, sensors, safety valves, and control valves for solar thermal systems. **K62.** Knowledge of thermostatic mixing valve requirements for preventing scalding. **K63.** Knowledge of methods to mix and charge the solar system with heat transfer fluids. **K64.** Knowledge of methods to install solar thermal expansion tanks. **K65.** Knowledge of methods for protecting piping and insulation from degradation.

Exam Plan - 'C-46' Exam g.4

Domain #3 - Solar Thermal Installation (9%)

This domain assesses the candidate's knowledge of solar system installation to heat or cool water or air.

Sample Group	Task Statements	Knowledge Statements
		K66. Knowledge of procedures for installing electrical wiring, controls, and timers. **K67.** Knowledge of procedures for providing electrical power to controls and pumps.
3B. Solar Pools (5%) 411	**T31.** Install plumbing for solar pool systems according to plans and specifications. **T32.** Protect solar pool piping to prevent degradation from UV light. **T33.** Prevent freeze damage to solar pool systems by winterizing. **T34.** Install controls, sensors, and valves to regulate solar pool system operation. **T35.** Install booster pumps and/or diverter valves to circulate water between solar collectors and pools. **T36.** Install electrical wiring for solar pool system operation.	**K68.** Knowledge of the hydraulic principles of swimming pools including pumping, filtration, and piping. **K69.** Knowledge of anti-vortex code requirements. **K70.** Knowledge of methods to install solar pool piping from equipment to collector location. **K71.** Knowledge of excavation and trenching methods for solar pool installations according to applicable codes. **K72.** Knowledge of pool thermal material compatibility and transition methods. **K73.** Knowledge of solar thermal material compatibility with pool chemicals. **K74.** Knowledge of methods to mount and secure pool solar thermal equipment. **K75.** Knowledge of solar pipe protection methods to prevent degradation and mechanical damage. **K76.** Knowledge of methods to install isolation valves and drain ports. **K77.** Knowledge of pool solar controls, sensors, and valves. **K78.** Knowledge of procedures for installing pool variable speed pumps and solar booster pumps. **K79.** Knowledge of pool equipment wiring, grounding, and bonding requirements according to the California Electrical Code.

Exam Plan - 'C-46' Exam g.4

Domain #4 - Photovoltaic (PV) System Installation and Commissioning (22%)

This domain assesses the candidate's knowledge of the installation of PV components, wiring, and ancillary equipment used in the generation and storage of electricity.

Sample Group	Task Statements	Knowledge Statements
4A. Grid-tied PV System without Energy Storage (7%) 412	**T37.** Install power conditioning units (PCU) to provide grid quality AC power from PV systems. **T38.** Install safety switches for PV systems. **T39.** Protect PV components by isolating them from damage and unauthorized contact. **T40.** Complete wiring for PV systems according to design specifications and codes. **T41.** Tie PV systems into point of common coupling (PCC).	**K80.** Knowledge of local building code and inspection procedures for installing grid-tied PV systems without energy storage. **K81.** Knowledge of methods for installing grid-tied PV inverters in PV systems without energy storage. **K82.** Knowledge of PV micro-inverters and power optimizers. **K83.** Knowledge of methods to install ground grid-tied PV systems without energy storage. **K84.** Knowledge of methods for installing combiner boxes, fuses, disconnects, circuit breakers, and transformers in grid-tied PV systems without energy storage. **K85.** Knowledge of procedures for wiring grid-tied PV systems without energy storage. **K86.** Knowledge of methods for installing grid-tied PV inverters with and without cooling fans in PV systems without energy storage. **K87.** Knowledge of programming control circuit parameters for grid-tied PV systems without energy storage. **K88.** Knowledge of procedures for installing metering and reporting components in grid-tied PV systems without energy storage.
4B. Grid-tied PV System with Energy Storage (4%)	**T42.** Install DC and AC components for PV systems with energy storage (i.e., batteries). **T43.** Install grounding and bonding for PV (including energy storage system) according to plans and specifications and codes. **T44.** Install battery enclosures with required venting and seismic bracing. **T45.** Connect essential AC circuits, including multiple power sources.	**K89.** Knowledge of methods for installing grid-tied PV systems with energy storage. **K90.** Knowledge of programming control circuit parameters for grid-tied PV systems with energy storage. **K91.** Knowledge of multiple power sources and control systems. **K92.** Knowledge of procedures for installing wire and conduit between grid-tied PV systems with energy storage and existing components.

Exam Plan - 'C-46' Exam g.4

Domain #4 - Photovoltaic (PV) System Installation and Commissioning (22%)

This domain assesses the candidate's knowledge of the installation of PV components, wiring, and ancillary equipment used in the generation and storage of electricity.

Sample Group	Task Statements	Knowledge Statements
413		**K93.** Knowledge of methods for installing various battery banks in grid-tied PV systems with energy storage. **K94.** Knowledge of methods for installing combiner boxes, fuses, disconnects, transformers, controllers, and circuit breakers in grid-tied PV systems with energy storage. **K95.** Knowledge of control parameters for various energy storage systems. **K96.** Knowledge of methods for installing PV safety disconnects and transfer switches/bypasses (automatic and manual) in grid-tied PV systems with energy storage. **K97.** Knowledge of procedures to install electrical panels and enclosures in grid-tied PV systems with energy storage. **K98.** Knowledge of procedures for maintaining power in the event of a utility power failure in a grid-tied PV system with energy storage.
4C. Stand-alone PV Systems (3%)	**T46.** Install stand-alone PV systems and associated equipment. **T47.** Connect multiple AC (generator and inverter) and DC (solar, wind, and hydro) power sources to energy storage systems and loads. **T48.** Install charge controllers for energy charging systems for stand-alone PV systems. **T49.** Install stand-alone solar direct systems to power loads according to manufacturers' specifications and applicable codes.	**K99.** Knowledge of methods for installing PV stand-alone systems that will include energy storage. **K100.** Knowledge of procedures for installing PV related GFDI, grounding and bonding for stand-alone PV systems that will include energy storage. **K101.** Knowledge of methods for installing PV energy storage for stand-alone PV systems. **K102.** Knowledge of methods to interface stand-alone PV systems with alternate power sources. **K103.** Knowledge of methods for connecting AC and DC loads to stand-alone PV systems. **K104.** Knowledge of stand-alone PV components and their operational functions. **K105.** Knowledge of manufacturers' specifications for solar direct system installation.

Exam Plan - 'C-46' Exam g.4

Domain #4 - Photovoltaic (PV) System Installation and Commissioning (22%)

This domain assesses the candidate's knowledge of the installation of PV components, wiring, and ancillary equipment used in the generation and storage of electricity.

Sample Group	Task Statements	Knowledge Statements
4D. PV Labeling (2%)	**T50.** Label AC and DC PV components for identification and safety according to applicable codes.	**K106.** Knowledge of utility and code requirements for labeling PV and existing components. **K107.** Knowledge of PV component labeling materials that withstand the elements.
4E. PV Commissioning (6%)	**T51.** Install and configure monitoring equipment for energy system production and performance. **T52.** Verify PV installation by inspecting components using as-built plans and specifications. **T53.** Commission PV system by verifing voltage, polarity, GFDI/AFCI, rapid shutdown, and current by testing PV and associated systems. **T54.** Educate owner/user on operation, monitoring, and maintenance of PV systems.	**K108.** Knowledge of how to activate and commission monitoring equipment including communication interface. **K109.** Knowledge of phantom loads and how they affect PV testing procedures. **K110.** Knowledge of tools and equipment used to test PV system performance. **K111.** Knowledge of monitoring and reporting procedures for PV systems. **K112.** Knowledge of new PV system owner warranty, documentation, operation, maintenance, and training requirements.

414

Exam Plan - 'C-46' Exam g.4

Domain #5 - Service, Operation, and Maintenance (18%)

This domain assesses the candidate's knowledge of how to troubleshoot, replace, repair, and maintain solar and energy storage systems.

Sample Group	Task Statements	Knowledge Statements
5A. Thermal Service and Maintenance (4%) 415	**T55.** Visually inspect solar thermal systems for leakage and component damage. **T56.** Perform pressure test to locate leaks in solar thermal systems. **T57.** Maintain water heaters and solar storage tanks in accordance with manufacturers' recommendations. **T58.** Evaluate solar pump performance to identify malfunctions. **T59.** Evaluate solar thermal controller, temperature sensors, wiring, and connections to identify malfunctions. **T60.** Troubleshoot and repair malfunctioning thermal solar energy system components.	**K113.** Knowledge of leak detection and repair methods. **K114.** Knowledge of testing and repair procedures for controls, valves, pumps, and sensors in solar thermal systems. **K115.** Knowledge of procedures for servicing and maintaining solar water heaters and solar storage tanks. **K116.** Knowledge of pump sizing to ensure optimum flow rates in thermal solar systems. **K117.** Knowledge of techniques for troubleshooting solar thermal energy systems including evaluating system performance. **K118.** Knowledge of solar thermal energy system component function and interaction. **K119.** Knowledge of monitoring and data acquisition methods for solar thermal systems. **K120.** Knowledge of methods to shade solar thermal collectors during servicing. **K121.** Knowledge of methods to recommission solar thermal systems after servicing.
5B. PV and Energy Storage System Service and Maintenance (9%)	**T61.** Evaluate PV components to ensure performance according to system design. **T62.** Lock out/tag out and de-energize PV systems and isolate individual components for servicing. **T63.** Troubleshoot and repair malfunctioning PV solar energy system. **T64.** Troubleshoot and repair malfunctioning energy storage systems according to manufacturers' specifications. **T65.** Maintain PV system components periodically as required. **T66.** Dispose of energy storage systems and PV components at authorized collection centers as required.	**K122.** Knowledge of methods to evaluate the performance of PV systems. **K123.** Knowledge of I-V curve to test PV systems under load. **K124.** Knowledge of PV component testing and repair procedures. **K125.** Knowledge of PV system component function and interaction. **K126.** Knowledge of techniques for troubleshooting PV energy systems. **K127.** Knowledge of causes and effects of PV system degradation. **K128.** Knowledge of electrical testing equipment.

Exam Plan - 'C-46' Exam g.4

Domain #5 - Service, Operation, and Maintenance (18%)

This domain assesses the candidate's knowledge of how to troubleshoot, replace, repair, and maintain solar and energy storage systems.

Sample Group	Task Statements	Knowledge Statements
416		**K129.** Knowledge of host utility's impact on PV service and maintenance. **K130.** Knowledge of methods to shade PV collectors during servicing. **K131.** Knowledge of PV tracking system testing and repair methods. **K132.** Knowledge of methods to recommission PV systems after servicing. **K133.** Knowledge of monitoring and data acquisition methods for PV systems. **K134.** Knowledge of PV default settings versus designed performance parameters. **K135.** Knowledge of battery and electrical equipment recycling requirements.
5C. Collector Inspection (5%)	**T67.** Inspect solar collectors and mounting for structural integrity, delamination, leaks, burn spots, etc. **T68.** Inspect solar installations for shading and performance issues. **T69.** Clean solar collectors as necessary. **T70.** Repair and replace defective solar collectors.	**K136.** Knowledge of procedures for inspecting, cleaning, replacing, and repairing solar collectors and associated wiring and plumbing. **K137.** Knowledge of the effects shading has on solar system performance. **K138.** Knowledge of solar collector mounting apparatus service and repair. **K139.** Knowledge of procedures for venting and draining solar collectors.

Exam Plan - 'C-46' Exam g.4

Domain #6 - Safety (15%)

This domain assesses the candidate's knowledge of methods required to prevent injury to workers and the public.

Sample Group	Task Statements	Knowledge Statements
6A. Safety and Training (8%) 417	**T71.** Follow safety procedures when working with solar system components of low, medium, and high voltage to avoid electrical fire, arc-flash, and shock in accordance with Cal/OSHA requirements. **T72.** Follow safety procedures when working in and accessing elevated areas in accordance with Cal/OSHA requirements. **T73.** Follow safety procedures when working in confined spaces in accordance with Cal/OSHA requirements. **T74.** Follow safety procedures when working with glass in accordance with Cal/OSHA requirements. **T75.** Follow safety procedures when lifting heavy equipment at job sites in accordance with Cal/OSHA requirements. **T76.** Follow safety procedures when handling materials, tools, and equipment. **T77.** Follow excavating and trenching safety procedures for solar projects.	**K140.** Knowledge of safety procedures for working on components at high temperature and/or high pressure. **K141.** Knowledge of methods of fire prevention on solar projects. **K142.** Knowledge of arc flash hazards and labeling requirements. **K143.** Knowledge of required clearances from hazards such as cell towers, radar, microwave installations, etc. **K144.** Knowledge of safety procedures for performing low, medium, and high voltage electrical work. **K145.** Knowledge of Cal/OSHA requirements for working in and accessing elevated areas. **K146.** Knowledge of Cal/OSHA requirements for working within confined spaces. **K147.** Knowledge of safe glass handling techniques. **K148.** Knowledge of Cal/OSHA requirements for safely lifting solar energy system components to elevated areas. **K149.** Knowledge of Cal/OSHA requirements for worker and public safety. **K150.** Knowledge of solar collector environmental and safety hazards. **K151.** Knowledge of Cal/OSHA requirements for excavation.
6B. Protection (7%)	**T78.** Wear personal protective equipment (PPE) to prevent injury in accordance with Cal/OSHA requirements. **T79.** Handle hazardous material (e.g., battery acid, solder flux fume, caulk, sealants, solvents, and asphalt tar) according to SDS procedures. **T80.** Protect the public at job sites by erecting barriers, signage, and traffic control.	**K152.** Knowledge of personal protective equipment (PPE) required for workers on solar projects. **K153.** Knowledge of fall protection requirements. **K154.** Knowledge of disposal procedures for solar system fluids. **K155.** Knowledge of procedures to safely work with hazardous materials. **K156.** Knowledge of procedures to erect barriers, signs, and traffic control around solar projects during construction.

Exam Plan - 'C-46' Exam g.4

Domain #6 - Safety (15%)

This domain assesses the candidate's knowledge of methods required to prevent injury to workers and the public.

Sample Group	Task Statements	Knowledge Statements
	T81. Follow safety procedures when working in the elements to prevent sunburn, heat illness, slipping, and electrocution by lightning. **T82.** Follow safety procedures when working with or around energy storage systems and components.	**K157.** Knowledge of procedures to protect workers against dangers of the elements. **K158.** Knowledge of safety procedures for working on energy storage systems and components.

418

3500 Deer Creek Road, Palo Alto CA 94304
P 650 681 5100 F 650 681 5101

August 2, 2023

Diana Godines
CA Contractor State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.Godines@cslb.ca.gov

Subject: Comment on Notice Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines:

Thank you for the opportunity to provide comment on the Proposed Rulemaking Concerning Battery Energy Storage Systems, which would set a threshold of 80 kWh for battery storage systems installed by C-46 contractors.

Tesla holds both a C-46 and a C-10 license, and we install battery storage systems at all scales, from small 5 kW systems on detached homes to 100+ MW grid-scale systems, including the 182.5 MW Elkhorn battery we recently commissioned with PG&E at Moss Landing.

While we hold both licenses, Tesla feels that deploying small, modular "plug and play" batteries like our 13.5 kWh Powerwall system is work that can be done – and has been for years in California without incident – under the C-46 license by well-trained Tesla employees and C-46 contractors that are trained in Powerwall installation through our certified installer program.

While Tesla appreciates the Staff's intention to allow C-46 contractors to continue to do this work on single-family homes, we are concerned the proposal would drastically impair the ability of solar contractors to continue serving their solar customers who installed batteries in the past, or who wish to add a battery to a previously installed solar array. This in turn will hinder the state's goal of carbon neutrality by 2045, which calls for 37 GWs of battery storage to be added to the grid.[1]

To correct this problem, the proposal should be modified in the following ways:

- Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing solar array, within the size limit established by the board

- Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.

[1] CA Air Resources Board 2022 Scoping Plan for Achieving Carbon Neutrality, Nov. 16, 2022, p. 202

3500 Deer Creek Road, Palo Alto CA 94304
P 650 681 5100 F 650 681 5101

In addition, we feel the 80 kWh threshold is too low, and does not fully capture the residential market for lithium ion batteries. Tesla and other contractors currently install battery energy storage systems above the proposed 80 kWh limit on residential homes under the C-46 license. These types of installations typically differ from smaller residential projects only in the number of Powerwall units installed – not in voltage, complexity or other factors that would increase safety risk and justify a different contractor requirement.

Therefore, we urge the board to adopt the following additional change to the proposal:

- Raise the size limit for battery energy storage systems to 280 kWh, the limit allowed within the residential code.

Finally, we urge the board to consider the impact the proposed changes will have on small solar contractors who currently install systems under the C-46 license. These businesses will need to get their workers certified as electricians, which will take time. Since most new residential solar PV systems will be paired with battery storage under the CPUC's Net Billing Tariff, imposing new labor requirements too quickly will harm the ability of solar installers to continue doing business in California.

For this reason, we urge the board to make the following change to the implementation schedule of the proposal:

- Make the effective date of these new regulations January 1, 2028, to give the industry and its workforce time to adjust.

In light of the state's aggressive climate goals and the changes to solar policy recently enacted at the CPUC, we urge the board to allow solar contractors to retrofit and repair batteries to existing PV arrays within the size limit; raise the limit to 280 kWh, and to make the effective date of the regulation January 1, 2028.

Sincerely,

Damon Franz
Policy Manager, Tesla

August 2nd, 2023

Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95821

Re: Battery Energy Storage Systems Proposed Regulatory Action

GRID Alternatives ("GRID") respectfully submits these comments in response to the CSLB's proposed language to the California Code of Regulations (CCR), Title 16, Division 8 regarding battery energy storage systems (BESS).

GRID is a mission-based, direct service provider that builds community-powered solutions to advance economic and environmental justice through renewable energy. GRID is the Program Administrator (PA) of leading low-income solar programs statewide, including the Single-Family Affordable Solar Homes (SASH) program since 2009, the Disadvantaged Communities – Single-Family Solar Homes (DAC-SASH) since 2019. GRID has also been providing BESS to eligible households since 2020 through programs like the Self-Generation Incentive Program (SGIP), given the critical need for energy resiliency across the state.

We appreciate the Board's attention to this matter, and its efforts to clearly define the licensing requirements for BESS. We are mainly concerned that the proposed language does not allow C-46 contractors to retrofit BESS to existing solar PV systems: "(2) the C-46 installation of a BESS is incidental and supplemental to the work of a C-46 Solar Contractor when the BESS is installed at the same time as PV system and the BESS rating does not exceed 80 kWh."[1]

This issue affects thousands of low to moderate income Californians who have increasingly high resiliency needs as climate-change fueled disasters become more frequent. SASH and DAC-SASH customers who have obtained solar through GRID stand to benefit greatly from pairing their existing systems with storage, especially as equity-centered storage incentives become more available. While GRID has both a C-46 and C-10 license, requiring C-10 for small storage retrofit installations would significantly slow down our ability to provide storage solutions to our 14,000 low-income

[1] CSLB Notice of Proposed Action, Battery Energy Storage System

solar clients in California due to the shortage of certified electricians who work in the single-family market.

GRID does not believe that retrofitting BESS to existing solar PV systems is markedly different from installing BESS at the same time as solar PV systems up to 80 kWh. As such, we recommend that the code be changed to “the C-46 installation of a BESS is incidental and supplemental to the work of a C-46 Solar Contractor when the BESS is installed **in connection with** a PV system and the BESS rating does not exceed 80 kWh”

Thank you very much for your consideration.

August 2, 2023

Via Electronic Mail Only

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
E-Mail: Diana.godines@cslb.ca.gov

Re: Comments on the Contractors State License Board's Proposed Rulemaking Concerning Solar Battery Energy Storage Systems

Dear Ms. Godines:

I am writing to provide comments on the Contractors State License Board's (Board) proposed rulemaking concerning solar Battery Energy Storage Systems (BESS). This rule would prevent solar contractors with only a C-46 license from installing solar BESS over 80 kWh, retrofitting existing PV systems to add BESS, or doing maintenance work on previously installed Solar BESS. The rule will harm solar businesses, our employees, our customers, and the solar industry.

Luminalt is a majority women-owned solar BESS specialty design-build construction company based in San Francisco, California. For the last 19 years, we have designed and built rooftop solar and solar BESS for single and multi-family homes, non-profits and businesses throughout the Bay Area. According to San Francisco Department of Building Inspection's permit data, Luminalt installed 60% of the solar BESS systems in San Francisco in 2022.

I am the majority shareholder, co-founder and CEO of Luminalt. My husband and I co-founded Luminalt in 2004. I became the C-46 license qualifier for Luminalt in May 2011. My husband is the license qualifier for Luminalt's C-10 electrical license and general contractor's B license. A dedicated solar BESS craftsperson, he joined the trades as a teenager and installed his first solar system in 1981. Like many of my colleagues, I did not begin my solar career when I joined the workforce, my solar career began after the birth of my daughters and before the birth of my son.

1

California Needs Diverse Career Pathways to Ensure a Professional Diverse Workforce

This proposed rulemaking would use licensing to create additional barriers to career and professional progression for individuals whose life experiences precluded them from enrolling in traditional construction apprenticeships when they joined the workforce. To meet the workforce needs of the 21st century and beyond, we need to provide additional and diverse career pathways to ensure talented women and others are included in the good jobs our trade creates. We need to ensure these individuals are provided with training and career development opportunities to ensure their financial and professional success. The proposed rulemaking will operate to foreclose these diverse career pathways.

In 2008, San Francisco launched the GoSolarSF certified workforce development program under then Mayor Gavin Newsom. Luminalt was the first San Francisco based solar contractor to become workforce development certified under that program. GoSolarSF was designed to recruit individuals with barriers to employment into careers in the growing solar industry. To this end, Luminalt worked with the City and County of San Francisco, Goodwill Industries and a variety of community based non-profit organizations to employee such individuals.[1]

In December 2010, like every other contractor with a C-10, Luminalt received the Zero Tolerance for Uncertified Electricians memo from the CSLB. Concerned that Luminalt retaining its C-10 would prevent our continued participation in GoSolarSF's workforce development and our commitment to career progression of those individuals we hired through the program, I called Brian Gedney of the CSLB to whom the memo directed contractors with questions to call. I explained to Mr. Gedney that Luminalt had a C-46, B and C-10 license and workforce development trainees were learning solar on the job. I understood from our conversation that so long as Luminalt performed its work under the scope of its C-46 licensing, it could continue to hire, train and develop GoSolarSF trainees to do our work. Luminalt did just that.

The success of this is in its results. Today, Luminalt counts its VP of Operations, a certified-electrician and foreperson as seasoned career tradespeople who began their careers as GoSolarSF workforce development trainees. These individuals, all women

[1] Luminalt guest taught at and recruited from GoSolarSF workforce development qualifying organizations such as Asian Neighborhood Design, Young Community Developers (www.ycdjobs.org) and San Francisco Conservation Corps (www.sfcc.org). Luminalt employees have taught solar and solar battery system courses at City College of San Francisco and PG&E's Pacific Energy Center.

and/or people of color are seasoned solar BESS subject matter experts and leaders in their industry.

Luminalt has 50 employees over half of whom work directly in the field, most in installation of solar and solar BESS systems and a small core team doing service, workmanship and manufacturer warranty work to keep our systems in peak performance.

We are contractually and ethically bound to perform under these warranties, which are or were required by (1) the California Solar Incentive, a solar incentive program under SB1 signed into law by Governor Schwarzennegger in 2006; (2) the New Solar Homes Partnership; (3) GoSolarSF, a San Francisco based solar and workforce development incentive program launched in 2007 and 2008, respectively; (4) CPUC and investor owned utility requirements to interconnect solar systems to the electrical grid; and (5) the Self Generation Incentive Program for battery energy storage systems.

C-46 Contractors Have the Expertise to Install Solar BESS – The Proposed Rule Would Prevent Them from Doing Work They Do Today Harming them, Luminalt, and Consumers

C-46 contractors are uniquely qualified to install solar BESS. Up to this point, all of Luminalt's solar and solar BESS installation, repair, maintenance and warranty work has been performed under Luminalt's C-46 license. We have installed thousands of rooftop solar systems and hundreds of solar BESS. To comply with Zero Tolerance requirements, Luminalt's use of its C-10 license has been limited to a few discrete projects over the years that could only be done under the C-10 license, such as a main service panel upgrade for a homeowner that did not install a solar system.

A C-46 solar contractor's license has historically been rooted in the understanding that solar installation is a multi-craft practice. A solar contractor performs numerous types of work, including but not limited to, roofing, carpentry, metal work, trenching, and electrical work. Solar installers also have special expertise around fall protection and fall arrest systems, Direct Current (DC) power systems, batteries, and interconnecting back-feeding power systems to the electrical grid. Solar panels generate DC electricity, and solar installers must understand how to string the panels, wire the array, wire up the inverter, and connect to the main service distribution panel. Solar installers must make a number of highly specialized decisions and calculations, including what breakers can be adapted to the existing service panel because solar and solar BESS backfeed electricity into an electrical panel and the grid.

General and residential certified electricians typically do not have experience with DC systems unless they have worked on solar, solar BESS or elevators, trains, or submarines, some of which also rely on DC systems. Furthermore, electricians often do not have specific training on installing equipment that can backfeed to the grid. A

certified electrician should not be required for solar BESS installation. BESS technology for grid-tied solar systems has shifted from lead acid batteries to UL listed rapid cycle lithium ion batteries with control systems that are easier and safer to install. The UL listed systems consist of manufactured components that are integrated into the battery pack before the battery is shipped to installers like Luminalt. This is unlike the earlier lead acid battery-based systems, which required an installer to string individual batteries together in a box with high current DC wiring, wire to a charge control, wire to an inverter, move select customer electrical circuits to a back-up loads panel, and connect to the customer's distribution panel. Today, the solar installer connects an integrated UL listed battery system to the customer's distribution panel for a whole house or partial back-up of the customer's electrical loads.

Solar BESS Hours Worked Under C-46 License Do Not Count Towards Electrical Certification Thus the Rule Will Prevent Solar Workers from Doing Work They Do Today Without Offering a Path to Take the Certified Electrician Exam

Luminalt employees roughly 50 workers, only one of which is a certified electrician. The remaining employees who currently perform Luminalt's solar and solar BESS installations and service and warranty work are not certified electricians (CEs) or electrical trainees (ETs). If the Board's proposed rule goes into effect, these employees will no longer be considered qualified to install solar BESS over 80 kWh, to retrofit existing systems with solar BESS, or to do maintenance work on solar BESS they have previously installed. This could have disastrous impacts on Luminalt's productivity and ability to complete its existing contractual obligations and to obtain new work. Luminalt will not be able to fulfill obligations for the work for which it is currently under contractual warranty obligation if the rule goes into effect. In short, under the proposed rule, Luminalt and its workforce as it exists today would not be viable.

The proposed rule would also undermine the way that Luminalt trains and develops its workforce. As noted, Luminalt is dedicated to a diverse workforce. If the Board's proposed rule were adopted, it would prohibit Luminalt from being able to use its trained diverse workforce on precisely the type of projects it has successfully been building as a core part of that business.

Furthermore, it is extremely difficult for our existing workforce to become certified electricians because to qualify hours need to be worked under the C-10 in compliance with Zero Tolerance. Luminalt has one certified electrician and training supervision must occur on a 1:1 basis. Based on my experience with workforce training and my years running a solar BESS design build construction company, this limited pathway forward discourages and creates a barrier for women and men who do not go through the traditional construction apprenticeship when they joined the workforce and those who have the type of family structure or financial stability to enroll in a multi-year after-hours training program and work full-time. The proposed ruling would specifically

impede Luminalt's ability to attract women who are mothers or who have other commitments outside of work to do solar BESS installations. Such individuals' life circumstances would interfere with them being able to maintain uninterrupted enrollment in an ET program at a community college.

Even if the certified electricians are trained elsewhere, it is very difficult to find a certified electrician to hire. Given the high demand and ongoing construction labor shortages, we have not had success in hiring any additional certified electricians, despite repeated attempts. The Board's proposed rule would only make this worse as solar companies scramble to find certified electricians to help with their solar BESS work.

Not only will the employees suffer, but Luminalt, our clients, and California will lose a highly trained and qualified solar BESS workforce. In place of my existing, qualified workforce, certified electricians who may never have worked on a solar BESS will be required to do the work that my colleagues have done safely and successfully for 19 years.

Proposed 80kWh limit for C-46 contractors not based on documented safety considerations

The Board's proposed rule would prohibit C-46 contractors from installing any battery systems above 80 kWh, but this limit is not based on documented safety concerns. In the August 2021 Code Interpretation 21-004,[2] the California Fire Marshall set the maximum energy rating for a residential system at 280 kWhs, with each location being maxed out at 80 kWh (40 kWh for a utility closet). The 20 kWh refers to each individual unit. To make an analogy, the individual unit is like a single solar panel. Each unit is designed to be put together in a system. For safety reasons, the Fire Marshall has set backs for solar panels on roofs to provide fire fighters with sufficient space on the roof to walk and vent the roof. If one roof face is insufficient, solar installers put panels on another roof facet. Similarly, the Fire Marshall has said, an installer can stack up to 80 kWh in each of these locations, up to a maximum of 280kWhs. Luminalt mostly installs Powerwalls with each stackable unit at 13.5 kWhs. The fact that the Fire Marshall set the maximum energy rating for a residential system at 280 kWhs, but the Board is trying to bar C-46 contractors from installing anything above 80 kWhs shows how unfounded and arbitrary this limit is.

[2] Available at https://osfm.fire.ca.gov/media/x5hicdji/21-004-code-interpretation-21-11-final.pdf.

Conclusion

California has created policies to dramatically increase the installation of solar BESS. The December 2022 California Public Utility Commission's Net Billing Tariff decision structures the program to encourage solar BESS.

At a time when the solar market needs to be fortified to meet growing battery demand, this rule would harm consumers, small solar companies, their existing trained workforce and undermine their ability to do the work for which they have trained and are qualified. The Board's proposed rule would prevent C-46 contractors and their workforce from doing work they do today without a pathway for them to do the work in the future. Even for businesses with additional licenses, the solar and battery installation workforce structure is such that this rule will cause significant economic harm. I strongly urge the Board to withdraw its proposed rulemaking before the harms described above due to its passage comes to fruition.

Very truly yours,

Luminalt

Jeanine Cotter
Co-Founder and CEO

CC: Bernadette Del Chiaro
Executive Director
California Solar & Storage Association
1107 9th Street, Suite 820
Sacramento, CA 95814
E-Mail: bernadette@calssa.org

1673335.1

July 31, 2023

Registrar of Contractors, David Fogt
Diana Godines
Yeaphana La Marr
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Re: Comments on Proposed Rulemaking Concerning Battery Energy Storage Systems (California Code of Regulations Title 16, Division 8)

Dear Honorable Members of the Contractors State License Board:

On behalf of the California State Council of Laborers, which represents Laborers Union members throughout the state of California, many of whom work in the solar and renewable energy industry, I write to submit our comments on the proposed rulemaking regarding Battery Energy Storage Systems.

The proposed regulations concerning the installation of battery energy storage systems (BESS) purport to address a problem that does not exist. The Board has discussed for years the licensing requirements for the installation of BESS, which has been historically performed by C-10 and C-46 contractors and continues to be performed by these contractors *to this day*. The proposed regulations address supposed safety concerns that have no legitimate basis in fact; do not benefit consumers; and adversely and unjustly harm C-46 contractors *and their employees*. While rules regarding this solar and battery storage industry may need to be formulated, there is no urgency, and we urge the Board not to adopt the proposed regulations in their current form.

In particular, we object to proposed regulations that would allow a C-46 contractor to install BESS only if "it is incidental and supplemental to the work of a C-46 Solar Contractor when the BESS is installed at the same time as PV system and the BESS rating does not exceed 80 kWh."

The Proposed Regulations are Based on Inaccurate Premises

The Statement of Reasons ("SOR") underlying the proposed regulations questions whether C-46 contractors are permitted to install BESS under the wording of the C-46 license, which the Board notes "does

not expressly include BESS." That is news to hundreds of C-46 contractors and the tens of thousands of their hard-working employees that install these systems now, have been doing so for many years, and should be allowed to continue to perform this work under a C-46 license. The Board itself has issued guidance in the past that a C-46 Solar Contractor may install BESS as part of the installation of a PV system.

There have been no changes in the industry to warrant years of debate before this Board on these licensing requirements, especially in light of the SOR, in which the Board concedes **"As far as the Board is aware, C-46 and C-10 contractors have installed PV systems paired with BESS in accordance with [our] views over the years without demonstrated harm to the public."** In light of the Board's acknowledgement that the status quo has caused no harm to the public, we do not believe it is safety concerns that have prompted the Board's interest to regulate an issue that it could have left alone. Rather, years of time and expense have been exerted because the "Board has faced *questions*" and "the Board's longstanding interpretations of its own regulations have been *questioned*." See SOR, at 2 and 3. While we are confident the Board will decide the regulations on their merits, it is not unreasonable for the public to look at who is raising these "questions." There has been no outcry from the construction industry or consumers for a change, nor is any evidence of harm caused by C-46 contractors installing BESS. The "questions" have been raised only by those who have the opportunity for financial gain in prohibiting C-46 contractors and their employees from performing this work.

As the SOR makes clear, the Board has always allowed C-46 Contractors to install BESS as part of the installation of a PV system. Nevertheless, in response to "questions," the Board retained the Labor Center at the University of California, Berkeley in 2020, to determine whether "there is an existing or prospective harm to public safety, and if so, what is the likelihood of the existing or prospective harm occurring and/or will that harm be fixed by enacting a regulation?" There has been much debate over the genesis and value of this Report, but certain points are seemingly uncontested:

- The Labor Center could <u>not</u> document any safety incidents at customer locations where a C-46 contractor had installed BESS. Rather, it largely cited incidents that occurred on utility projects of at testing or manufacturing sites *outside of California*.
- The Labor Center's report ignores that the majority of solar storage systems in California have been installed by C-46 contractors and incorrectly minimizes the cost to contractors and their employees, and the cost to consumers (who would have their warranties associated with C-46 contractor installation deemed, in effect, null and void).

While the Board may feel it is too late to commission a study conducted by an unbiased expert in the industry rather than an institution with no working knowledge of the technical side of the industry, the Board can, and should look at the Labor Center's report with skepticism. Indeed, it appears that the Board has done just that. In November 2021, the Board *rejected* staff's regulatory language to adopt the Labor Center's recommendation to prohibit C-46 licensed contractors from installing BESS entirely. Contrary to the Labor Center's recommendation, the Board has proposed regulations that allow C-46 contractors to install BESS under an 80 kWh threshold.

<u>The Appropriate Threshold for C-46 Contractors to Install BESS is Under 1 million kWh</u>

Having correctly rejected the Labor Center's recommendation to prohibit C-46 contractors from installing BESS as they have done for decades, the Board has proposed a threshold of 80 kWh, above which C-46 contractors could not install BESS even as part of the installation of solar panels. It seems this number was derived in part by trying to find a threshold where the least number of C-46 contractors would be put out of business and workers would lose their jobs. If that was part of the Board's reasoning, the threshold fails in

this regard. Over the past few years, CALSSA has submitted voluminous documentation and argument to the Board to demonstrate such a low threshold would adversely impact C-46 contractors *and their workers*. To the extent that this threshold is proposed for safety reasons, there is no basis for this particular 80 kWh number. The "Battery Energy Storage Systems, CSLB Staff Report in Consultation with Expert Consultants" ("Report"), which was released on June 3, 2022, justifies this threshold by finding that "within an 80 kWh threshold, the available evidence does not demonstrate increased incidents of consumer harm based on the classification type of the installer." The reasoning ignores the fact that in California there is also no evidence that larger BESS projects installed by C-46 contractors, far above 80 kWh, have not caused consumer harm either.

The Report also states that projects over 80 kWh would more typically tie into a more complicated "three phase" electrical system that would exceed the knowledge and skill of C-46 contractors. This is just not accurate. C-46 contractors routinely and safely connect PV solar systems alone to three-phase systems; and so, they have skill and ability to connect BESS into the same systems.

We have no issue with the Board's attempt to establish more stringent requirements for utility scale solar projects. However, the proposed 80 kWh threshold should be replaced with a number that is commonly used in the industry as the dividing line between utility scale solar projects and other solar projects, specifically 1million kWh. The federal government, the California Energy Commission and large trade associations all use the 1kWh threshold in defining utility scale projects and we urge the Board to do so here. There is no sound basis for this Board to establish an arbitrary threshold and deviate from this industry standard.

The Proposed Regulations are Harmful to the Consumer and Employees

There is no logical or legitimate safety justification for the proposed regulations to allow the installation of BESS only at the same time as the installation of solar panels, but prohibit the same work if it is performed later. Not only will this severe restriction have a devastating impact on C-46 contractors and their employees by depriving them of work that they have performed for decades, but it will adversely affect consumers, who need to hire the same contractor to install and connect a BESS to maintain the warranty on their solar panels.

The proposed regulations, as drafted, should not be adopted. Any proposed regulations should be revised to allow C-46 solar contractors to *install and maintain* BESS within an appropriate C-46 threshold (we propose 1 million kWh), whether the installation or maintenance of the BESS is done at the time that a solar system is installed or subsequently on existing solar panels that a C-46 contractor has installed.

Sincerely,

Jos. R. Cruz

Joseph Cruz
Executive Director

CC: Honorable Members of the Contractors State License Board
Oscar De La Torre – LiUNA, Vice President and NCDCL Business Manager
Jon P. Preciado – SCDCL, Business Manager
Ernesto Ordonez – LiUNA, Vice President and PSW Regional Manager
David Fogt, CSLB Registrar of Contractors
Yeaphana La Marr- Contractors State License Board

sunrun

August 3, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: Comments on Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to amend its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations will impede the ability of solar contractors to perform their livelihoods, serve customers, and execute on the state's energy goals, thereby hindering the growth of energy storage in California.

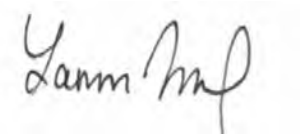
Sunrun is the nation's leading home solar, battery storage, and energy services company. For the past 15 years, we have been at the forefront of providing households with affordable and sustainable energy solutions. Our innovative home solar and storage solutions bring families affordable, resilient, and reliable energy. With close to 900,000 customers nationally, we can manage and share solar energy from storage devices to provide benefits to households, utilities, and the electric grid while reducing our reliance on polluting energy sources. In addition to providing solar and battery solutions to hundreds of thousands of Californians, Sunrun also proudly employs thousands of workers at our branches throughout the state

Residential energy storage is critical to achieving California's clean energy goals. Placing unnecessary limits on California contractors and our clean energy workforce will lead to unintended consequences. Specifically, Sunrun is concerned that the proposed regulation will prohibit a C46 licenseholder from performing retrofit or repair work. As proposed, a C46 license can be used to install an energy storage system under 80 kWh, but only a C10 license can be used to perform retrofit or repair work on that same system.

Accordingly, Sunrun respectfully requests that the CSLB allow solar contractors holding a C46 license to install, connect, modify, maintain, or repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.

We appreciate your thoughtful consideration of our comments and concerns.

Sincerely,



Lauren Nevitt
Senior Director, Public Policy
Sunrun

From:	Martin E. Herzfeld
To:	Godines, Diana@CSLB
Cc:	Martin Herzfeld
Subject:	Comment/Suggestion: Specify for (1) "for each location type." & (2) Definitions 2022 California Electrical Code 706.2 and the 2023 National Electrical Code (NEC) do not match / Initial Comments? / Draft | Are public comments to be sent to you?
Date:	Friday, June 16, 2023 9:12:50 AM
Attachments:	CSLB - BESS - Initial Text.pdf

Suggest specify "for each location type."

1. "For purposes of Section 7059 of the Code and this division, a licensee classified in this section may install a battery energy storage system as "incidental and supplemental" to the installation of a photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 80 kilowatt-hours (kWh)" **'for each location type.'** Simply, suggest specifying and underline for **'each location type**.'

2. Comment: "For purposes of this division, "battery energy storage system" means one or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time." Simply, the defintion does not match the defintion for the 2022 California Electrical Code (CEC) 706.2 Definitions or the 2023 National Electrical Code (NEC) Article 100 Definitions. Specifically, does not match the definition of "Energy Storage System (ESS)."

All the best, Martin

Martin Herzfeld, Interstate Renewable Energy Council (IREC) Certified Master Trainer™ Emeritus
California Solar & Electrical Contractor License #00833782 C-46, C-10, C-7, C-61 - D-56, D-31
Solar, Electrical, Trenching, Pole Installation & Maintenance, Instrumentation

Underwriters Laboratories (UL) Certified PV Systems Installer #17, OSHA 30 Certificate
OSHA-Authorized Construction Safety Trainer #32-0106614
CompTIA® Certified Technical Classroom Trainer (CTT+™ Certified)
#T3NSZCNBBKB4QTQG
Solar & Electrical Construction Consultant - 2nd Party Evaluations

International Code Council® (ICC) Certified Residential Electrical Inspector - E1 #8343181
International Association of Electrical Inspectors (IAEI) Member - #7035507
Electric Vehicle Infrastructure Training Program (EVITP™) Certification #4039206
Contract Solar (PV) Technical Inspector - 3rd Party Inspections

Certificate - Stanford | Center for Professional Development - Energy Innovation and Emerging Technologies (EIET)

Contact: Herzfeld.Energy
Email: [redacted]

CONTRACTORS STATE LICENSE BOARD

PROPOSED LANGUAGE

California Code of Regulations (CCR)
Title 16, Division 8

Legend:	Added text is indicated with an underline. Deleted text is indicated by ~~strikeout~~.

Amend Section 810, Article 1, Division 8, Title 16, CCR, as follows:

§ 810. Definitions

(a) For purposes of this division, "battery energy storage system" means one or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time.

(b) For the purposes of this ~~chapter~~ division, "Board" means the Contractors State License Board and "Code," unless otherwise defined, means the Business and Professions Code.

Note: Authority cited: Section 7008, Business and Professions Code. Reference: Section 7008, Business and Professions Code.

Amend Section 832.10, Article 3, Division 8, Title 16, CCR, as follows:

§ 832.10. Class C-10 - Electrical Contractor

An electrical contractor places, installs, erects or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, battery energy storage systems, ~~solar~~ photovoltaic solar energy systems ~~cells~~ or any part thereof, which generate, transmit, transform or utilize electrical energy in any form or for any purpose.

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

Amend Section 832.46, Article 3, Division 8, Title 16, CCR, as follows:

§ 832.46. Class C-46 - Solar Contractor

(a) A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

(b) For the purposes of this section, a battery energy storage system, as defined in section 810, shall not be considered part of a photovoltaic solar energy system or required to install a photovoltaic solar energy system. Except as provided in subdivision (c), a licensee classified in this section shall not install, connect, modify, maintain, or repair a battery energy storage system.

(c) For purposes of Section 7059 of the Code and this division, a licensee classified in this section may install a battery energy storage system as "incidental and supplemental" to the installation of a photovoltaic solar energy system if the battery energy storage system does not exceed a rating of 80 kilowatt-hours (kWh).

Note: Authority cited: Sections 7008 and 7059, Business and Professions Code. Reference: Sections 7058 and 7059, Business and Professions Code.

From: Deleted Per Request of Sender
Sent: Friday, June 16, 2023 10:37 AM
To: Fogt, David@CSLB <David.Fogt@cslb.ca.gov>
Subject: Fw: Notice of Proposed Rulemaking

REDACTED

CAUTION: This email originated from outside of CSLB. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Looks like the Board is moving ahead with the BESS regs. I still contend there is no reference what so ever to off grid installations. That's how this whole industry started close to 50 years ago. And as I mentioned, that's all I do anymore. So the contention that off grid is not viable or getting more and more limited is not true. Just the opposite. More and more people are going off grid. Problem with the statistics used to substantiate the Boards decisions is they do not take into account off grid installations. Because there are no methods in place to verify or substantiate most of these systems. You'll never see any reference to the systems I have installed in any list of statistics and I've installed hundreds of thousands of them. Seems, in my humble opinion, the Board is putting way too much emphasis on grid tied systems. In Mendocino County there are more people living off grid then on. I think same with Humboldt. It's a mute point to me because I'm also a C-10 but I think it diminished the C-46 historic domain and tasks. Personally, I think this was just a union ploy to write rules and regs to dominate an industry because they can't seem to compete on merit. All involved know the history of the 3 union board members that initiated this whole fiasco.

From: Contractors State License Board@CSLB
Sent: Friday, June 16, 2023 7:50 AM
To: CSLB-MEET@SUBSCRIBE.DCALISTS.CA.GOV
Subject: Notice of Proposed Rulemaking

The Contractors State License Board (CSLB) is seeking proposed rulemaking to amend Sections 810, 832.10 and 832.46 of Title 16, Division 8 of the California Code of Regulations relating to the battery energy storage systems.

No public hearing will be held unless requested in accordance with the Notice of Proposed Rulemaking but written comments will be accepted no later than Wednesday, August 2, 2023.

For more information about this rulemaking proposal, please visit CSLB's website and view the following documents for the proposal:

- Notice of Proposed Rulemaking
- Initial Statement of Reasons
- Proposed Language

Interested parties' written comments must be received by CSLB at its office no later than Wednesday, August 2, 2023.

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Al C. Rich

Al C. Rich
President

ADT Solar LLC
1501 Yamato Road
Boca Raton, FL 33431
Tele: 561-981-4505
Fax: 561-988-7455

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm ADT's business, harm consumers, and hinder the growth of energy storage in California. ADT has served over 6 million customers in its 150-year history. ADT Solar, a division of ADT Security Services, has a trusted brand and reputation for providing safe, smart, and sustainable customer solutions, and we owe that reputation to the thousands of highly trained and qualified people we employ. We provide residential solar and energy storage solutions to our customers as a package to ensure customers receive products that address their needs in a safe and efficient manner. This proposed regulation will inhibit customer satisfaction.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

ADT Solar LLC
1501 Yamato Road
Boca Raton, FL 33431
Tele: 561-981-4505
Fax: 561-988-7455

Thank you for considering these comments.

Sincerely,

/s/Nakhia Crossley
Director, Regulatory Affairs

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: PLEASE CONSIDER THE PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Aeterna Energy, is based in Simi Valley. We have been in business since 2015 and support 8 jobs here in California. Our company designs and constructs large and small custom solar and energy storage systems and Aeterna Energy is well known by multiple battery manufacturers in the state as knowledgeable and reliable. Here is some of our history. Flip The Switch Event with Energport @ the Pickford Theatre of a larger scale project.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board. It is the C-46 licensed contractors and NABCEP (North American Board of Certified Energy Practitioners) educated that have spent years of training and installing these systems. This is where our industry experts are held to an accountable standard.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS (Battery Energy Storage Systems) size limit to 280 kWh, the limit allowed within the residential code. We have had multiple custom homes in the desert

communities that require these larger systems since their electrical needs are greater than other areas.

4. Make the effective date of these new regulations January 1, 2028, to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Aeterna ENERGY

Ronald Harris,
CEO/Managing member

Cal lic.# 1009773
Lic.- B, C-46, C-7, C-20, C-43

CALIFORNIA SOLAR + STORAGE ASSOCIATION MEMBER

BBB ACCREDITED BUSINESS

NABCEP CERTIFIED PV Installation Professional

RISE

Aeterna Energy, LLC 2645Nutmeg circle, Simi Valley, CA 93065 Ph (805) 823-3232

Aguillon Enterprises LLC

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My consulting firm, Aguillon Enterprises, based in San Diego has been in business since 2017. I help local solar installers connect with project developers and procure equipment, including energy storage, which is helping California achieve its climate goals and avoid blackouts.

Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Cecilia Aguillon
President

AltSys Solar Inc.
559.688.2544
www.altsyssolar.com

Aug, 01, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, AltSys Solar Inc, is based in Tulare, CA. We've been in business since 2009 and support 18 jobs here in California. We support a few thousand installes in the Central San Joaquin Valley, most of them orphan customers that will need storage in the next few years.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Jack V Ramsey

AltSys Solar Inc.
1434 E Tulare Ave
Tulare, CA 93274

559-688-2544 sales
559-799-7283 cell

www.altsys.net
www.altsyssolar.com

07/26/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Optional Paragraph: My business, AMN Solar, is based in Corona, A. We've been in business since 2019 and support 40 jobs here in California. We do solar installs aas a contractor and through our own personal sales.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

- Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
- Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
- Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.

- Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Jessica Nungaray
AMN Solar Corp
CFO

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm our customers' business, harm consumers, and hinder the growth of energy storage in California.

Aurora Solar is a San Francisco-based company that provides software to businesses that design and build solar and storage systems. We support over 7,000 of solar organizations big and small, with the majority of them in the state of California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Sarah Kim
VP of Marketing
Aurora Solar

July 29, 2023

Diana Godines
Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Aztec Solar Inc., is based in Rancho Cordova. We've been in business since 1980 and support 75 jobs here in California. Aztec Solar Inc. installs Solar Electricity, Solar Water and Solar pool heating systems for homes and businesses.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Edmond L. Murray

President

11370 Trade Center Drive STE. #3 · Rancho Cordova, CA 95742 · T. 916/853-2700 · F. 916/853-2745

07/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

I have been in the solar business since 1977, from the very beginning. Solar finally has the technology, valid estimating programs and trained C-46 contractors to provide competently installed solar+storage for Californians. This proposal can erase some 46 years of my experience and leave my customers at the mercy of less trained, experienced and competent contractors.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments; Robert Gumm B&B Solar Inc

BayWa r.e. Solar Systems LLC | 196 Pacheco Street Suite 103 | NM 87505 Santa Fe

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Contact person	Email	Phone	Date
Robert Wolff	robert.wolff@baywa-re.com	(916) 413 3156	8/1/2023

Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.

2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Yours sincerely,

Robert Wolff, VP of Strategy

BayWa r.e. Solar Systems LLC

July, 26th 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Brighten Solar Construction, is based in Santa Barbara, CA. We've been in business since 2015 and support 14 jobs here in California. We are a solar and energy storage installations company serving the Santa Barbara and Ventura Counties. We strive to educate our customers about solar and storage and strive to provide unparallel customer service. Our customers always come first, and that's why we are a 5-star rated company with almost all of our business coming from word of mouth and repeat customers.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Marine Schumann
CEO, Brighten Solar Construction

CORE ENERGY GROUP

7-27-2023

Diana Godines
Contractors State License Board

9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Our business, Core Energy Group, Inc, is based in San Jose & San Diego. We've been in business since 2018 and support 15 jobs in California. Service the multifamily housing market so new homes built in California will be clean and Energy Resilient.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and a clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.

2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.

3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.

4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Andrew Campbell

DIABLO SOLAR SERVICES
Established 1984

July 24, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

This letter is intended to dramatically urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As I understand the current language, the proposed regulations would harm our end customers and my business and will most likely hinder the growth of energy storage in California at a time where this industry has already been decimated by recent policy changes with both the PUC and Utilities. This is absolutely the worst time to make it harder, and more expensive, to install solar and energy storage.

As the owner of Diablo Solar Services, Inc. in Martinez, California, we are in a constant battle with the PUC, Utilities, AHJs, and yes even the CSLB, on how to best protect the end customers from future problems stemming from our solar and energy storage installations. After almost 40 years of installing solar in Northern California, and after over 25,000 solar installations, we have a highly trained and dedicated staff of installers and service technicians that are fully capable of installing and servicing battery storage systems correctly and safely. I will put our quality, installation skills and safety record against anyone in the business.

Energy storage is VITAL to California's clean energy goals and the economic prosperity of our hard-working citizens. Placing unnecessary limits on us California contractors through poorly designed regulations will cause much more harm than good. Requiring us to use a C-10 license when installing energy storage will force up system prices, and make it that much harder for the average California family to afford the system. Our 50 employee staff have been installing solar and storage safely and correctly for decades under our C-46 license, and we have had nothing but tremendous success, happy customers, and a state that is moving closer and closer to true energy independence.

To summarize, I am asking the following:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board, under a Solar C-46 contractors license.

2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.

3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.

4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Bryan Raymond
President
Diablo Solar Services, Inc.
925.839.2536 (direct)
925.313.0600 (main office)
bryanr@diablosolar.com
39 years...25,000+ Solar Systems Installed...1 Local Company...Diablo Solar!

EARTH ELECTRIC
Plug Into The Sun

July 26, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to request that the Contractor State License Board (CSLB) modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my company, my employees, consumers, and hinder the growth of energy storage in California.

My company is a woman-owned, small solar contracting business based out of San Jose. We've been focusing on quality work and taking care of customers since 2009.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect small, California businesses like mine.

Thank you for considering these comments.

Sincerely,

Sheryl Lane

Digitally signed by Sheryl Lane
DN: cn=Sheryl Lane, o=Earth Electric Inc, ou, email=sheryl@earth-electric.com, c=US
Date: 2023.07.26 13:44:28 -07'00'

Sheryl Lane
CEO
Earth Electric Incorporated

August 1st, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, EcoDirect, Inc., is based out of Carlsbad, CA. We have been in business since 2009 and support dozens of jobs here in California. We focus on battery storage applications for residential and commercial applications that range from 10kWh-MWH+. Our mission is to provide support, design, and guidance for independent energy systems for our customers.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Renee Donaldson
CEO
EcoDirect, Inc
5900 Sea Lion Place, Suite 100
Carlsbad, CA 92010

FIRST RESPONSE SOLAR

7/26/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Dylan Mathias, Owner

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Optional Paragraph: My business, (insert name), is based in (insert city). We've been in business since (insert year your business began) and support (insert number) jobs here in California. Briefly describe what you do through your business (e.g. design and build solar and storage systems or manufacture batteries).

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

YOUR NAME, YOUR TITLE

www.fortresspower.com
2010 Cabot Blvd W Suite L, Langhorne, PA 19047
(877) 497-6937
sales@fortresspower.com

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My company, GoodLeap, is currently the largest financier of residential solar systems in the nation. We are headquartered in Roseville and have over 650 employees located across the Golden State. Through our point-of-sale technology, we connect homeowners with carefully vetted local installers to deploy a wide range of sustainable home improvement products, including solar panels and battery storage systems. We've been in business since 2003 and in the solar industry since 2018. Today, our fintech platform is actively used by over 120 solar contractors in California who have deployed clean energy solutions for over 100,000 customers in the state. As a financier that continues serve these customers for the lifetime of their solar and battery storage loan, we pay close attention to system installation quality.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good for the environment and consumers. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Julia Pyper

Julia Pyper
Vice President, Public Affairs

Hot Purple Energy
810 N Farrell Dr., Palm Springs, CA 92262
(760) 322-4433 | www.HotPurpleEnergy.com

August 1st, 2023

To: Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Re: Comments on Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My name is Nate Otto, and I serve as the President and CEO of Hot Purple Energy in Palm Springs. Our company is a leading energy provider, offering reliable and sustainable solutions to the Coachella Valley and surrounding Desert Cities. With a decade of experience in the industry, we have created over 60 jobs in Palm Springs, California. Our focus is on integrating alternative energy sources with exceptional design and installation techniques. We believe that solar and battery technologies are more than just a commodity; they present an opportunity to tackle rising electricity costs and preserve our planet's ecosystem while maintaining our daily routines. Our primary commitment is to the well-being of our community, and we strive to inspire smarter energy choices through innovative outreach and education, ensuring a sustainable and healthy future for all.

Energy storage plays a pivotal role in achieving California's clean energy objectives. However, imposing unnecessary restrictions on California contractors and the clean energy workforce through poorly designed regulations could cause more harm than good. Therefore, I kindly request that you consider implementing the following changes, in line with the language submitted by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair battery energy storage devices connected to existing photovoltaic solar energy systems, within the size limit established by the Board.
2. Permit solar contractors to install, connect, maintain, modify, and repair battery energy storage systems of any size, provided they are connected to one or more other components of a solar energy system, and as long as the solar contractor installed either the solar and/or the battery prior to January 1, 2024

Hot Purple Energy
810 N Farrell Dr., Palm Springs, CA 92262
(760) 322-4433 | www.HotPurpleEnergy.com

3. Increase the BESS size limit to 280 kWh, aligning it with the limit allowed within the residential code.
4. Set the effective date of these new regulations as January 1, 2028, providing ample time for the industry and its workforce to adapt.

Implementing these amendments is crucial to safeguarding California businesses, especially small enterprises, promoting the continued growth of energy storage, and ensuring consumer protection and warranties.

Thank you for taking the time to consider these suggestions.

Sincerely,

President & CEO of Hot Purple Energy

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Infinity Energy Inc., is based in Rocklin, CA. We've been in business since 2014 and support 500 jobs here in California. At Infinity Energy, we specialize in designing and installing solar systems, including energy storage.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Bryson Solomon, CEO

3825 Atherton Rd. Rocklin CA 95765 | 888.244.2513 | infinityenergy.com

JKBENERGY
LEADER IN AG & COMMERCIAL SOLAR

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to strongly urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations will cause irreparable harm to my business, harm consumers, and hinder the growth of energy storage in California.

JKB Energy has been in business over 30 years and over 15 years in solar and storage business. We serve farmers and the agribusiness industry. They face substantial regulatory requirements and expense such as electrification and SGMA. The proposed changes add additional time, costs and expense.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Modify C-46 training and requirements to address potential concerns.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

The industry struggles daily to find employees. **It is imperative the CSLB recognize we must expand the pool of qualified employees, this proposal does the opposite**. Changes are necessary to protect California businesses, particularly farms & small businesses, if the state is to meet its goals for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

James Brenda

James K. Brenda
Owner, CEO JKB Energy

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Lumin (www.luminsmart.com), is based in Charlottesville, Virginia but very active in California. We've been in business since 2016 and support multiple jobs and companies in California by manufacturing and selling an energy management system that pairs with solar and battery backup to manage energy during a power outage, improving the homeowner's experience while expediting the installation process.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Stephen Linkous, Director of Sales

08/01/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Michael & Sun Solar, is based in Graton, CA. We've been in business 2011 and support 9 jobs here in California. My company designs and builds solar and storage systems.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

- Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
- Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
- Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
- Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Michael Ingram
President/Founder

July 26, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Natron Resources, Inc., is based in Moraga, CA. We've been in business since 2008 and support 10 jobs here in California. We design solar and storage systems for our clients who do the installation.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Sincerely yours,

Jeffrey D. Ansley

President, PE
510-847-9041

26 July 2023,

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My Company, NeoVolta Inc., in Poway, California manufactures Energy Storage Systems. We have been in business since 2019 and have more than 1,000 installations in California. Constant regulatory changes are putting enormous pressure on our business. In fact, we are shifting business out of California as fast as we can.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Brent Willson
President and CEO

08/02/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Optional Paragraph: My business,O&M Solar Services, LLC, is based in Los Angeles. We've been in business since 2018 and support 35 jobs here in California. Briefly describe what you do through your business O&M Solar contracts, develop, install and maintain solar and storage systems across California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Ken Wells, CEO

OptionOneSolar

13581 John Glenn Rd. Ste. A
Apple Valley, CA 92308
(855) 502-6363

Aug 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Option One Solar, is based in Apple Valley. We've been in business since 2013 and support 150 jobs here in California. At Option One Solar, we design, build and install solar and storage systems for residential, commercial and government projects. We also provide operations and maintenance for solar and storage systems.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Scott Thomas CEO/President

Pivot Energy

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, negatively impact consumers, and hinder the growth of energy storage in California.

My business, Pivot Energy, is based in Denver, Colorado. We've been in business since 2009 and have a dedicated California-based team. We develop, finance, build, and manage distributed solar energy and energy storage projects that decarbonize our nation's electricity and increase equitable access to clean energy for local communities.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through these proposed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.
Thank you for considering these comments.

Sincerely,

Tyler Lis, Policy Manager

07-31-2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business Planet Plan Sets is based in Anaheim was founded in 2018 and support two jobs in CA. We draft permitting plan sets for solar contractors in CA and help contractors design solar plus storage projects throughout the state.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,
Jeff Spies - president
Planet Plan Sets

PYCEM, INC.

7/27/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business PYCEM INC is based in San Diego; We've been in business since 2009 and support jobs here in California building and maintaining solar and storage systems.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Carlos Mejia, CEO.

July 26, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Quality Home Services, is based in Fresno. We've been in business since 1985 and support over 250 jobs here in California. We market and sell PV solar and storage projects as well as design and build these projects for both residential and commercial customers.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Most Sincerely,

Mark Dorman, VP Operations

07-27-2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, QuickBOLT, is based in Livermore. We've been in business since 2009 and support 28 jobs here in California. We supply rooftop solar mounting solutions to installers.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Michael Wiener, QuickBOLT Board Member

Call us today! (619) 561-3110
Raneri & Long
Roofing and Solar
Windows · Aluminum Patios · Gutters
www.rlroofing.com

08/01/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Raneri & Long Roofing and Solar, is based in El Cajon,Ca. We've been in business since 1986 and support upwards of 50 jobs at any given time here in California. We've strived to make sure our customers receive a good service and product for their homes and businesses so they don't have to worry about future leaks, performance issues, and so on. We offer our Roofing and Solar+ESS services without sub-contractors so homeowners don't have to worry about calling multiple entities and being embroiled in conflict between multiple contractors, just good old fashioned service under one roof.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Richard Massey | Solar & Office Manager

July 25, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive, Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm consumers and hinder the growth of energy storage in California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Paul Woodworth, President

Joshua Ponce, Vice President

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, San Diego County Solar, is based in Carlsbad, CA. We've been in business since 2010 and support 10 jobs here in California. We design, sell and install PV solar electric and energy storage systems.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Michael Davidson
President
San Diego County Solar

Shade Power LLC
100 S. Murphy Avenue, Suite 200
Sunnyvale, CA 94086

August 2nd, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Shade Power LLC is based in Sunnyvale, CA. We've been in business since 2019. We design and build solar and storage systems.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

Shade Power LLC
100 S. Murphy Avenue, Suite 200
Sunnyvale, CA 94086

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Jen Helms
Co-Owner

SIERRA PACIFIC
Est. 1984
"The Guys in the Big Red Trucks"
SOLAR • HEATING & AIR • SERVICE

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

7-31-2023

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Sierra Pacific Home & Comfort, is based in Rancho Cordova. We've been in business since 1984 and support 122 jobs here in California. We design and build solar and storage systems to be added to existing homes to help homeowners have consistent, reliable energy for their life's essentials.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and the warranties.

Thank you for considering these comments.

Sincerely,
Jason Hanson
Jason Hanson
President

SIERRA
Roofing and Solar

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Sierra Roofing and Solar has been in business since 1976. We installed our first residential solar system in 2008 and our first residential solar/battery system in 2018. We've been going strong and growing ever since. As you are aware, the new NEM 3.0 rule almost makes it inevitable that a homeowner who wants to go solar will also need a battery in order for the system to make financial sense. Energy storage is the future of solar in CA and will help decrease greenhouse gases which we desperately need to do now! If we lose the ability to install batteries with solar systems, it will cripple the solar part of our business. It would be a 1-2 punch to solar contractors. We currently employ 55 people and we do fantastic work. Homeowner's rave about the quality of our work and the quality of our people. Most AHJ's also rave about our work. When an inspector sees it's Sierra Roofing and Solar installing the system, they know that we have done it correctly and to the highest standards.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Jeff Basch
President
Sierra Roofing and Solar

Simmitri, Inc

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Simmitri, is based in the Gilroy and San Jose areas. We've been in business since 1995 and support over 25 jobs here in California. We design and install solar panels and battery storage and roofing systems for our clients.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, like mine, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Pamela Garcia, Founder/CFO

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

7/26/2023

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My company, Six Rivers Solar, is based in Eureka. We've been in business since 1981 and support 20 high-value jobs here in California. We are a C-46 solar contractor, and we design and install photovoltaic systems across the North Coast with a specialty in battery systems. In addition to the C-46 license, I am also one of only 162 NABCEP Board Certified PV Installation Professionals in the state of California. Energy storage and battery technology are my lifeblood.

We see exactly what is happening – you are being lobbied by IBEW to build a moat for them, and it appears that you are caving to their demands. Rather than competing fairly and learning how to excel in a new industry, they will rely on their might and money to carve out a significant chuck of California's growing clean energy sector for themselves. But you already know the most important reasons why we cannot allow this:

1. Because claims that C-46 contractors cannot build energy storage safely are completely unfounded; a study by CALSSA found no significant increase in safety risk when accounting for license classifications;
2. That currently only about 20% of energy storage systems of all sizes are being built by C-10 contractors, meaning that these rule changes would severely limit the State of California's ability to meet its clean energy goals and distributed energy resource (DER) needs;
3. The C-46 license exam has significantly more energy storage and DC energy test questions than any other license exam, including the C-10 electrical license exam. The average C-10 is required to know less about batteries, DC energy, and solar energy systems in general than a C-46, and that is a fact.

C-46 license holders in the State of California are pioneers in energy storage system design and installation. Before this industry had regulations, C-46 license holders were innovating and developing the skills required for an emerging demand for battery storage and safe DC systems. C-10 license holders are not automatically qualified to install energy storage or DC systems; in fact, if the CSLB are wise, they will update the C-10 exams to include more DC and energy storage questions before considering such drastic changes.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and the clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.
5. Protect once and for all the right of a C-46 license holder to install and maintain battery energy storage systems in both residential and commercial settings. We are MORE qualified to install energy storage than a C-46, not less.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties. Please don't cower to the demands of powerful partisan interests when deciding on the future of our industry.

Thank you for considering these comments.

Sincerely,

Daniel Johnson,
Six Rivers Solar

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

I am the Owner of Solar Technologies and we employee 90 full-time employees across the Bay Area and have been installing solar and energy storage systems for nearly two decades without incident.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Jeff Parr

Jeff Parr, Owner
Solar Technologies

July 26, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Optional Paragraph: SolarCraft is a 100% employee-owned business based in Novato, CA. We've been in business since 1984, almost 40 years ago. SolarCraft supports 45 jobs here in California. We are the most prominent regional solar contractor in the San Francisco NorthBay region and install solar and battery storge systems. An essential part of our business is supporting our customers with a great service team following installation.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Phil Alwitt | Partner, CEO

SolarCraft Services, Inc.
8 Digital Dr., Ste 10, Novato, CA 94949
Direct 415-985-8395
Mobile 415-244-7033

SolarInsure 7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Solar Insure, Inc., is based in Costa Mesa, CA. We've been in business since 2006 and support 25 jobs here in California and an additional 45 around the country. Solar Insure provides software monitoring and warranty protection for consumers who install solar energy systems. We are passionate about energy independence and slowing climate change.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Ara Agopian
CEO

July 27th, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would hurt our clients and leave them stranded without help, hurt our business directly, and hinder the growth of energy storage at a time people are clamoring for it as PG&E is a dumpster fire with many of our clients having had significant prolonged power outages this year. A client I just visited this morning was out for 9 days straight.

Applied Solar Energy, licensed as Solex, has been designing and installing solar and energy storage systems in Monterey County since the Jimmy Carter era, <1980. We support dozens of jobs, and provide great value to our clients. We got our start doing small scale off-grid solar, something this current legislation would make impossible. Under this legislation, our company never could have even gotten a start!

We are a geographically large county, residents have a hard enough time getting help withour further restricting who can do what. Our 40+ years of experience should not be discounted, disregarded, and discredited by shortsighted legislation such as has been proposed. Our base of existing clients will be left without help, this is not fair and will be dangerous.

Energy storage is vital to our clients. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more

other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.

3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.

4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering changing this seemingly ill-considered proposal.

Sincerely,

Rolf J. Ridge
Education, Outreach, and Sales
Solex / Applied Solar Energy

July 31, 2023
Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Solirvine, is based in Irvine. We've been in business since 2016 and support over 30 jobs here in California. Through my company, we cater to the commercial and residential market with turnkey solutions on solar and storage systems throughout California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

David Gyllenhammer, Owner
Solirvine LLC
(925) 548 4924
david@solirvine.com

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

I founded Sun Light & Power in 1976. From our headquarters in Berkeley California we employ over 80 people designing and installing residential and commercial solar electric, solar hot water and battery energy storage systems (BESS). Unlike most of the C-10 electrical contractors who currently install solar in California, Sun Light & Power specializes in solar and BESS and our employees are specifically trained to design and install these specialized systems. We don't wire up homes and install lighting systems and swimming pool pumps; we just do solar, and we have designed and built thousands of solar and BESS systems over the past 47 years without a single battery safety incident or fire. But now we are being told that we are unqualified to do this work. We need MORE competent solar installers serving California's consumers, not FEWER.

Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Gary T. Gerber, PE
CEO, Sun Light & Power

August 2nd

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Sun First Solar, is based in San Rafael. We've been in business since 1984 and support thousands of jobs here in California. We design and build solar and storage systems for both residential and small to medium sized businesses.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Aran Moore
President/Owner

Sungenia Solar Solutions
14256 High Valley Rd.
Poway, CA 92064
844-786-4364
www.sungenia.com

8/2/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Sungenia Solar Solutions, is based in San Diego. We've been in business for almost 10 years and it supports my family and seven others. We are veteran-owned and family-operated, the epitome of the American dream. We design and install solar and storage systems as well as solar service and repairs for systems that were abandoned by the many companies that have gone out of business. This proposition will further destroy the solar industry and the many customers and employees that rely on businesses like ours to maintain their systems and keep their families fed.

With the Net Billing Tariff now taking over, batteries will be part of almost every solar energy system in California moving forward. If you take away the ability for contractors to install energy storage systems, many solar companies, including ours, would likely go under. Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Please reconsider making the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Michael Snell, President

Sunlight Solar Inc.

1300 N. JOHNSON AVE, SUITE 104
EL CAJON, CAIFORNIA ,92020
PHONE: (858) 564-8032
FACSIMILE: (858) 437-9889
WWW.SUNLIGHTSOLARINC.COM

WRITER'S E-MAIL:
JC@SUNLIGHT4SOLAR.COM

September 5, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,
I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Sunlight Solar Inc, is based in San Diego. We've been in business since 2014 and support over 40 to 50 jobs here in California. We have our own engineers on staff, and recently hired another head technician to support all of the storage systems we install monthly. We do not subcontract any of our work as it's all completed in house.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.

2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.

3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.

4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Jeff Carelli, President

Sunnova Energy Corporation
20 Greenway Plaza, Suite 540
Houston, TX 77046
sunnova.com

August 3, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

The proposed CSLB regulations regarding battery energy storage systems are deeply problematic for our customers, our business and meeting California's clean energy goals.

Sunnova Energy International is a leading residential rooftop solar and storage company. We work with hundreds of local installers throughout California and serve over 340,000 customers across the U.S. We are opposed to the proposed restrictions of C-46, solar contractors. Making it more difficult and expensive for customers to install and repair solar-power batteries is moving backward - not forward - in our urgent quest to combat the climate crisis. Deployment of customer-sited batteries is imperative for resiliency and reliability, especially as we approach hot summer months and prepare for electrification mandates. Energy storage is also increasingly important for California customers under the new Solar Billing Plan (also knowns as NEM 3.0). It is short sighted to restrict the licenses that can deploy batteries, especially given the aforementioned.

There is no evidence that restricting C-46 licenses will protect customers. Your Board is acutely aware of the existing shortage of C-10 licenses. The proposed regulations would prohibit licensed solar contractors (C-46) from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system they previously installed. The impact of these draft rules is significant and harmful to customers – forcing customers to hire a different contractor to do the work and potentially voiding the warranty in the process. Equally as troubling, the proposed regulations would also remove experienced battery installers from the market, thereby limiting choices for customers and driving up the cost of solar-powered batteries.

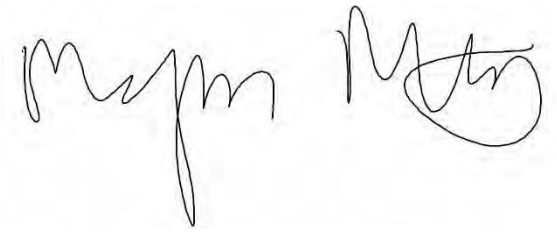
We suggest the following critically important amendments be adopted (as proposed by CALSSA):

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028, to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,



Meghan Nutting

EVP Government & Regulatory Affairs

Sunnova Energy International, Inc

SUNPOWER®

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My company, SunPower Corporation, is based in Richmond. We've been in business since 1984 and support over 10,000 jobs here in California. We design, manufacture, and install batteries and solar PV systems, and these proposed regulations would be needlessly harmful to our ability to deploy the solar-charged batteries that the state desperately needs more of. Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board. It does not make any sense that a C46 could install, but not retrofit or maintain a battery.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

Thank you for considering these comments.

Sincerely,

Patrick Sterns
Director, SunPower Corporation

SUNTEGRITY SOLAR
SMART ENERGY SOLUTIONS

8/1/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Suntegrity Solar, is based in Santa Rosa, CA. We've been in business since 2009 and support 12 jobs here in California. We sell, design, install, and maintain solar and energy storage systems in Sonoma, Napa and Marin Counties.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Keith Kruetzfeldt, President

July 27, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Optional Paragraph: My business, Sustineo Construction, is based in San Diego. We've been in business since 2014 and support 46 jobs here in California. We are a design-build solar energy company that specializes in the design and installation of solar, EV chargers, and battery projects that bring grid stability to hundreds of thousands of customers. This proposed rule change will damage our ability to hire qualified sub-contractors with C-46 licenses when we install battery systems for our clients.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other

components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.

3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Sincerely,

Dave Handman
Found and CEO

Aug 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Symmetric Energy, is based in Sausalito. We've been in business since 2018 and support dozens of jobs here in California. Since we founded Symmetric Energy, we have been on the cutting edge of solar and battery storage installation.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

M. Elliott Jessup, CEO

the climate center

Contact
theclimatecenter.org
1275 4th Street #191
Santa Rosa, CA 95404
707–525-1665

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Via email: Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm solar and battery businesses, harm consumers, and hinder the growth of energy storage in California.

The Climate Center is a California nonprofit organization founded in 2001 with a mission to rapidly reduce climate pollution at scale, starting in California. We are long-time supporters of solar energy and energy storage as key technologies that can enable achieving our mission. In fact, energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good.

Specifically, we ask that you make the following changes in alignment with language submitted to you by the California Solar & Storage Association (CALSSA):

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board;
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024;
3. Raise the battery energy storage system size limit to 280 kWh, the limit allowed within the residential code;
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, protect consumers and consumer warranties, and allow for the continued growth of energy storage.

Thank you for considering these comments.

Sincerely,

Woody Hastings,
Phase Out Polluting Fuels Program Manager,
The Climate Center

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Upstart Energy has been in business since 2016. We are a solar sales company, helping California homeowners make the decision to go solar.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Carol Cole-Lewis
Owner

8/1/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

My business, Valley Solar Solutions, is based in Fresno. We've been in business since 2010 and support 6-9 jobs here in California. We are a Residential and Commercial Solar & Battery installer.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Todd Bauer, President

825 S Topeka Ave. Fresno, CA 93721 (559) 281-6947
Todd@valleysolarsolutions.net License #960571

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Carolann Alt
Valta Energy, LLC
Director of Government Affairs

C-46 608260

17150 Newhope St #403, Fountain Valley, CA 92708
Office: (714) 968-8845
vascosolar.com info@vascosolar.com

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Vasco Solar is based in Fountain Valley, CA. We've been in business since 1990 (and I have personally been in the solar industry since 1978). We install, service and repair all types of solar systems.

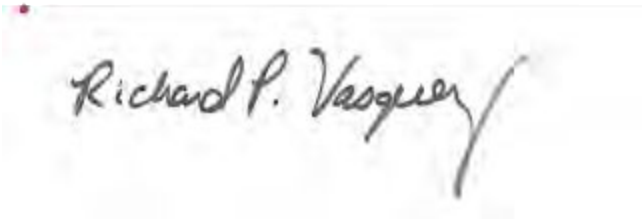
Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board. There is a tremendous amount of service needed on existing current systems - it would be a hardship for homeowners with the current proposed regulations.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024. There is no valid reason why solar contractors should not be able to work on solar systems with batteries.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,



Richard Vasquez
Contractor, Owner

Wallace G. McOuat
[redacted]

July 26, 2023

Ms. Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: PROPOSED RULEMAKING FOR BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I urge the Contractor State License Board (CSLB) to modify its proposed regulations for battery energy storage systems. As currently drafted, the proposed regulations are completely illogical and will without doubt severely hinder the growth of energy storage in California.

Energy storage is a key component in reaching California's clean energy goals. Placing unjustified and unnecessary restrictions on California's solar contractors through poorly designed regulations will hamper the adoption of energy storage by California's consumers and businesses.

I respectfully request that you modified the proposed regs as follows:

1. Allow solar contractors to undertake all reasonable activities for battery storage devices that are connected to any photovoltaic solar energy system within a size range typical of residential (including multi-family), business entities and governmental agencies.
2. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
3. Provide for a reasonable transition period.

These amendments are necessary for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for your consideration.

Sincerely,

8/1/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to urge the Contractor State License Board (CSLB) to modify its proposed regulations concerning battery energy storage systems. As currently drafted, the proposed regulations would harm my business, harm consumers, and hinder the growth of energy storage in California.

Yotta Energy is the manufacturer of a modular 1kWh battery that collocates beneath solar modules on rooftops. About the size of a briefcase, our core value proposition is the simplicity of installation and the fact that no additional training is required to install the product. It literally plugs into the solar module with the same connectors and outputs directly to a solar microinverter.

Energy storage is a cornerstone to California's clean energy goals. Placing unnecessary limits on California contractors and clean energy workforce through poorly designed regulations will cause far more harm than good. Specifically, I ask that you make the following changes in alignment with language submitted to you by CALSSA:

1. Allow solar contractors to install, connect, modify, maintain, and repair a battery energy storage device that is connected to an existing photovoltaic solar energy system within the size limit established by the Board.
2. Allow solar contractors to install, connect, maintain, modify, and repair a battery energy storage system of any size provided it is connected to one or more other components of a solar energy system and provided that the solar contractor installed either the solar and/or the battery prior to January 1, 2024.
3. Raise the BESS size limit to 280 kWh, the limit allowed within the residential code.
4. Make the effective date of these new regulations January 1, 2028 to give the industry and its workforce time to adjust.

These amendments are necessary to protect California businesses, particularly small businesses, allow for the continued growth of energy storage, and protect consumers and consumer warranties.

Thank you for considering these comments.

Sincerely,

Andrew Tanner, VP Product & Strategy

From: AJ [redacted]
Subject: Comments on battery energy storage systems
Date: July 28, 2023 at 9:35 PM America/Los_Angeles
To: info@solarrights.org

Hi there,

Please accept my copmments on the proposed regulations for battery systems in California. Thank you.

7/28/2023 Fri

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposed regulations could force most solar consumers to hire a different contractor from the one who originally added or serviced batteries in their homes. In most cases, this will void warranties through no fault of consumers, who would no longer have a warranty to cover the cost of maintaining or repairing their systems. In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar or a battery, by extension disincentivizing consumers who would otherwise install solar or push for solar systems in their landlord-owned residences.

Thank you for considering my views.

Sincerely,

AJ Cho, [redacted]

From: **Alan Crook** [redacted]
Subject: Comments on Proposed Rulemaking Concerning Battery Energy Storage Systems
Date: July 31, 2023 at 8:36 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

07/31/23

Dear Ms. Godines,
I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning hom
systems.
The CSLB does important work protecting consumers and maintaining contractor standards. Unf
this proposal will harm rather than help consumers.
The proposal would put most solar users like me in an impossible situation. The regulations could
consumers to hire a different contractor than the one who did the original work to either add or ser
battery at my home. In most cases, this will void our warranties.
In addition, these rules would reduce the number of solar contractors available to install or service
battery. The would limit choices for consumers and drive up the cost of getting solar and or a batt
Thank you for considering my views.
Sincerely,
Alan Crook, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

In 2020 I installed 14 solar panels and a backup power generator. My installation including planning and wiring with my solar company to install a battery later. Prices for Batteries were too high and my Solar Contractors certified solar engineers planned and wired everything with me. They came with many recommendations and I trust them because of the seamless installation that works perfectly. I saw the depth and skill of certified solar engineers in person. I plan to use them for my battery when the price /performance comes down. On the other side, I had a licensed electrician install ceiling fans 20 years ago. He charged a fortune, took forever and 2 fans never worked. I had to hire a second electrician to fix it.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. I will not do this. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. In my case, it would bar my trusted contractor. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Alan Manewitz, [redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My home has a 5kW solar system without battery and the rental home has a 4kW solar system without battery. Though both systems together are a significant financial risk, this would offset the rising future cost of electrical energy especially for the renter. Though assuring there is sufficient electrical energy is the responsibility of the state, generating electrical energy is a safeguard if the state fails in this trust.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Moreover, the utilities should be required to disclose the nature of the safety concern(s). Ratepayers should not be victims for the utilities non-disclosure by paying for liability judgments. The disclosure would allow corrective building codes and/or practices to be implemented and checked by city and/or county inspectors during permit inspection work. The limit on the maximum size of a battery system should be addressed with the CPUC to determine if it is contrary to the state's clean energy goals and abating consumers from deciding to use much more affordable gas/natural gas generators. It is understandable a large battery system could be created as a community micro-grid and be a financial threat to the utilities if there is a free enterprise, open market.

Thank you for considering my views.

Sincerely,

Alan Ouye, [redacted]

From: **Alec Patton** [redacted]
Subject: Written comment to CSLB
Date: August 02, 2023 at 5:01 PM America/Los_Angeles
To: info@solarrights.org

Hi Folks

Hoping this isn't too late!

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My family just got a rooftop solar system, and it feels amazing knowing that when we charge the car, run the dryer, or turn on the air conditioning (as we're unfortunately needing to do more and more often), nobody's burning fossil fuels so we can do it—which means nobody's lungs are being damaged by air pollution, and more carbon isn't being pumped into the atmosphere. Seeing solar panels popping up on roofs all over San Diego is one of the only things giving me any hope right now that our city will be able to survive the climate crisis.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Alec Patton, [redacted]

Alicia Gilbert
[redacted]

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We are homeowners with rooftop solar and are considering purchase of battery backups in the near future. We are committed to utilizing renewable energy systems and supporting the expansion and availability of solar in California.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Alicia Gilbert, [redacted]

From: amy umpleby [redacted]
Subject:
Date: July 30, 2023 at 8:28 AM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have a 20 year old solar system and were able to add Tesla batteries last year thanks to a statewide incentive program. Now we don't have to run a gas generator to our refrigerator when the power goes out - we can enjoy all the comforts of home with an automatic power switch. This is a HUGE advantage to an aging couple who struggle with managing the noisy, smelly generator, or might not be home to make the switch, putting our pets in danger of overheating.
To complicate and disincentivize people from improving their solar system, which this rule would do, is illogical, backwards and unkind to the consumer and the environment.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Amy Umpleby
[redacted]

7/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I recently had a 13.8 Kw solar system installed and it is my intention to have a battery backup system installed.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Andre Ricaud,
[redacted]

July 30, 2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@calb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. After many years of saving up I was able to make the arrangements for purchase and installation of my rooftop solar array, although without battery storage to begin with. Even so, there is already a beneficial return in some monthly electrical utility savings, as well as the satisfaction of knowing I am contributing to further “greening” of our planet. My plans had been to add battery storage/backup when my finances allowed.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Andrew Partos. [redacted]

From: **Anita Tenley** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 7:00 AM America/Los_Angeles
To: info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.
Sincerely,

Anita Tenley
[redacted]

Sent from my iPhone

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

July 29, 2023

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We are writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
We are a small business General Contractor company in Marin County, California. We purchased a solar system and battery for our home a couple of years ago and are currently benefiting from lower electrical energy costs. It was a large investment for us, but in order to help the environment, lower our utility bill, and use solar power we decided to incur the upfront expense.
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.
The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.
In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Sincerely,
ANN and Michael Roggenbuck
[redacted]
Small business owners

From: **Anne B Wright** [redacted]
Subject: My take on the letter to the CSLB
Date: July 28, 2023 at 3:55 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS and THE EFFECT OF RISING COSTS and DELAYS ON THE HOMEOWNER

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems, and to protest the Utilities' lobbying CSLB to bring down the Solar Contractors and their customers.

It would add expenses$$$ and delays for the average homeowner to hire electricians instead of using their already-hired solar companies whose expertise it is to do the work!!! Every time a new actor enters Solar, it causes the costs to climb. The homeowner isn't a well of dollar bills to be plucked whenever a State Board or Regional Utility wants to get more revenue!

The CSLB needs to stick to their current important work protecting consumers and maintaining contractor standards.
Unfortunately for me and my neighbors, this proposal will harm rather than help consumers, and consumers are tired of the same old money grasping. It seems like the State and Regional providers are out of touch with the consumers' reality.

In addition, the proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties as well as drive up costs for the homeowner and consumer.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Anne B Wright
[redacted]

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We recently bought a brand-new home, in which our only choice on the mandatory solar system was: Lease or Own. The entire solar system was specified and installed by the developers, in conjunction with a solar company chosen by the developers for the entire subdivision. We could only make changes AFTER installation, and we had purchased the house with their minimal system installed. We are looking forward to adding batteries to this system, to help ease the energy drain on the grid – thus helping all of our communities.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Anne Lair, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed a 15KW solar array in May 2022 and plan to install batteries in the near future.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Anthony Quaglietta
[redacted]

From: Tony Soule
To: Godines, Diana@CSLB
Subject: Solar rights
Date: Friday, July 28, 2023 2:07:28 PM

07.28.2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a roof top solar system installed 6 years ago. I did this to lower my utility bill, help reduce my foot print on the environment and to stop the greed from the utility company.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Anthony Soule, [redacted]

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to express my strong opposition to the recent proposal by the Contractor State License Board (CSLB) concerning home battery systems. As an advocate for solar and battery systems in our community, I urge you to carefully consider the implications of this rule on consumers and the solar industry as a whole.

I recognize the crucial role that the CSLB plays in safeguarding consumers and upholding contractor standards. However, I believe that this proposal, instead of benefiting consumers, will have adverse effects and cause harm to us as solar users.

The proposed regulations could place many solar users, including myself, in an impossible situation. If implemented, these rules may compel us to engage a different contractor for installing or servicing a battery at our homes, even if a reputable and reliable contractor carried out the original work. This situation could lead to the voiding of warranties and leave consumers with limited options for ensuring proper installation and maintenance of their solar battery systems.

Moreover, the potential reduction in the number of solar contractors authorized to install or service solar batteries would significantly limit the choices available to consumers. This limitation in options will likely drive up the overall cost of obtaining solar and/or a battery system, making it less accessible for homeowners and impeding the growth of renewable energy adoption.

I implore you to reconsider this proposal and explore alternative solutions that maintain consumer protection while fostering a competitive and innovative solar industry. Collaborative efforts involving solar sector stakeholders can lead to more effective regulations that balance consumer interests and industry growth.

Thank you for considering my views on this matter. Open dialogue and thoughtful deliberation are essential to developing policies that benefit all stakeholders. Please contact me if you require any additional information or wish to discuss this matter further.

Sincerely,
Ara Agopian
[redacted]

From: **Arch McCulloch** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 11:42 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am opposed to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My wife and I installed a grid-tied photovoltaic system on our home about eight years ago. We did this for a couple of reasons. First of all, we wanted to contribute to the solution of energy shortages in California. Second, as retirees, we wanted to shelter ourselves from the rising cost of energy as we grow older. We didn't (and don't) want to be in a position of having to be too hot or cold because we can't afford our electric bills. At this point, we are considering adding battery backup to our system.

We understand that the CSLB does a great deal of important work protecting consumers and maintaining contractor standards. However, this proposal will harm rather than help many of us.

If enacted, this proposal will put many of us in a difficult position, by forcing us to hire a different contractor than the one who installed our system to add and service our batteries. In most cases, this will void our warranties.

In addition, these rules would necessarily reduce the number of solar contractors available to install or service solar batteries. This would limit choices for consumers, drive up the cost of getting solar and/or batteries, and add delays to system installations and upgrades.

Please do not approve the CSLB proposal. Thank you for considering my views.

Sincerely,

....Arch & Nelda McCulloch, [redacted]

From: **Armen Balmanoukian** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 1:44 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Armen Balmanoukian, [redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 3.06kWDC (3300-watt DC) system installed in 2019 which has been performing great and everything is working per spec. This has helped to reduce my home's electricity bill. I am happy that I'm contributing to the environment by lowering my energy footprint and reducing carbon emissions.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Armstrong Hong, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had my Solar System installed in 2011 by a licensed contractor. If I needed repair of my equipment or wanted to upgrade my system with a battery backup, I would contact my solar contractor for support. Why should I be forced to hire a different, unknown contractor for repairs or upgrades. Makes no sense.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Arthur Kung
[redacted]

From: barbara landy [redacted]
Subject: CLSB letter
Date: July 28, 2023 at 9:56 PM America/Los_Angeles
To: info@solarrights.org

Juy 28, 2923.

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Here is another attempt by the utilities to kill rooftop solar, which is eating into their profits. I had a solar and battery system installed in 2021 by an excellent solar installation company. They were completely competent to install a battery, and solar technicians are arguably better qualified to do so than many electricians. This new proposal, coming on the heels of Nem 3.0, is a transparent attack on rooftop solar. Given the recent evidence of climate change catastrophes this year, we should be making it easier for people to own rooftop solar and battery systems as one means of combating climate change, but the utilities have a stranglehold on California. I ask that the CLSB not be complicit in this shameless corporate attack on consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Barbara Landy
[redacted]

Dear Ms Godines,

I am opposed to the CSLB proposal regarding solar battery systems.

I wasn't the first to go solar because I couldn't afford it. These new rules will harm me. I went solar to help against climate change and reduce my electric cost. I couldn't afford the system and a battery backup at the same time. I'd planned to add a battery later, but now it may never happen if these proposed rules are accepted. Our world needs us to have complete solar systems. Texas learned this the hard way with complete grid failure. Solar saved them this summer.

I appreciate the work the CSLB does to protect consumers, but from what I understand of the proposal, it would void my warranty because my original contractor couldn't install my battery. What is the benefit to consumers by requiring electricians to install batteries rather than the licensed solar contractors who have a lot more training than electricians to do so and who have been doing so successfully without incidents for the last 40 years? What and where is the proof solar contractors aren't skilled and competent to continue to do so?

What is the consumer's benefit in reducing the number of the more qualified solar contractors to install/service/modify solar batteries thus a reduction in consumers' choices which will increase both the cost of getting solar and/or batteries? Again, what is the consumers' benefit?

Why limit the amount of storage? Storage should be based on intended need/use. If I want to live off the grid, then I should be able to buy and install the appropriate battery storage using the more trained and skilled professional, a solar contractor.

All in all, this proposal is anti-consumer/solar and the consumer and world lose.

Sincerely,

Barbara Morton

Barbara T. Brunell
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed 10 solar panels on my roof two summers ago but did not get a battery. However, when I get an electric car, I will certainly need one in order to make the most use of the electricity my panels produce. I want to have my solar installer furnish and install a battery which they know is the most compatible with their system and my needs. Potentially voiding my warranty is not an option!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. This would void my solar installer's performance guarantee and thus affect my warranty.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit my choice and drive up the cost of getting more solar and/or a battery.

Thank you for considering my views.

Sincerely,

Barbara Brunell

From: [redacted]
Subject: Letter to Diana Godines
Date: August 01, 2023 at 6:21 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

August first, 2023

To: Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE-MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am a senior citizen living on a small fixed monthly income I was able to afford both a solar and Battery system due to PG&E's SGIP incentive program which did not cost me much extra income-Thank goodness. My solar and battery system have been life saving during power shut-offs as I live in a zone 2 fire area.

I see no logic or any safety reasons why the two companies who installed my two systems could-not or should not be able to make repairs or additions to my system should I desire or need it. Makes no sense at all.

Lets keep Solar competitive and not make it impossible or extra expensive to make additions or repairs.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties and for no good reason!

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Barry C. Lawrence

[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We should be supporting and encouraging people to install solar systems and batteries now more than at any time in the past to take pressure off California's power grid and transition to renewable energy as fast as possible.

For this reason, I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. We have watched as policies (note the CPUC NEM 3 transition & movement towards electricity charges not based upon use) recently put in place, (and this proposal) that will make solar and battery systems less accessible and affordable.

In this case, my understanding is that:

- The CSLB has not found any evidence of a problem or safety or quality of work by licensed solar contractors.
- The CSLB acknowledges that licensed solar contractors study more extensively for solar battery installations than licensed electricians.

There simply is no need for this proposal, it is not correcting a problem. The implementation of this proposal will only make installing batteries for solar systems more costly with fewer choices of solar contractors available to install or service solar batteries. This would reduce the number systems installed because fewer people will be able to afford it.

This also puts existing solar battery users in impossible situation because the regulations could force consumers to hire a different contractor than the one who installed their system for service, which, in most case would void their existing warranties.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. My personal suspicion is that the CSLB is under pressure from utilities. Regardless if this is true or not, approving this proposal is simply a bad choice.

Please do the good work of deciding against bad proposal, one that moves our state in the opposite direction than we need to be going by making it harder on people who are trying to do the right thing.

Thank you for considering my views.

Sincerely,

Berj Amir,
[redacted]

From: **Bertha Guzman** [redacted]
Subject: CSLB on the solar battery issue
Date: August 02, 2023 at 1:34 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

Date: August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am installing roof solar panels right now. I am including a battery that will fit my needs. This battery, is going to allow me to manage my power production and usage needs. This battery is very, very, important because it will give me the benefit of having power at all times when I need it. It will be producing power for my own consumption, and others; therefore, my community will be benefited. Furthermore, it will help on avoiding black outs.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Bertha Guzman, [redacted].

From: **Beth Riedel** [redacted]
Subject: Re Aug. 3rd letters to CSLB
Date: August 02, 2023 at 2:58 PM America/Los_Angeles
To: info@solarrights.org

August 2,2023
Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My solar system is amazing and has helped me survive the power outages that have happened during local fires, and power shutdowns since 2019. During several of the fires, I have had people come to stay here and it has been very helpful for us all.
At some point in the future I will need to add more batteries to this system. The proposal would not make this viable because it would then destroy my warranties.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Elizabeth Riedel

--
Beth Riedel
[redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I purchased a solar unit several years ago and have been happy with my company and service. I am hoping that I will be able to add a solar battery and perhaps another panel to cover an eclectic vehicle. I find it outrageous that this rule will prohibit me from choosing and dealing with my solar company or any other qualified provider. You are also prohibiting me to purchase services and equipment I need in a free market. By limiting my options you are giving a "sweetheart" deal to one group of providers who will then take away competitors and there will be no competitive price control. I see no reason or basis to take my options away

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Beverly Joy-Karno
[redacted]

[redacted] Bill Hilton

[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views

Sincerely yours,

Bill Hilton

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have 16 Solar Panels which help power our EV cars avoiding further fossil fuel emissions as we face an existential threat from climate change. There have been no problems with the solar contractor's quality installation.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Bill Kuni
[redacted]

From: Bill [redacted]
Subject: Proposed rule making
Date: July 28, 2023 at 7:56 PM America/Los_Angeles
To: info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The only people who are advocating this are the utilities which do not want the competition from solar. If solar users cannot hire the original contractors to make repairs, add larger batteries, or make improvements, all of their original investments and warranties will be lost. You can't seriously be considering this proposal. It lacks any logic and wipes out any benefits to solar users for their investments in solar panels.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Bill Woodbridge
[redacted]

From: Bob Delaney
To: Godines, Diana@CSLB
Subject: Upcoming vote on rulemaking for battery storage systems
Date: Wednesday, August 2, 2023 4:45:30 PM

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: OPPOSING PROPOSED RULEMAKING FOR BATTERY STORAGE SYSTEMS

Dear Ms. Godines,

We oppose the CSLB proposal concerning home battery systems.

Usually the CSLB does great and important work protecting consumers and maintaining contractor standards.
This proposal will harm rather than help consumers.

The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties, increase costs and generally make things more difficult in California.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery -- that will likely cause harm to most everyone eventually. This would limit choices for consumers and drive up the costs of getting and maintaining solar and/or a battery.

We've made good progress in California -- let's make things better (not worse)

Sincerely,
Bob DeLaney
[redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had an 11-panel solar system installed on my home by Solar Optimum in 2020. My wife and I are retired on a fixed income, so I am grateful I made the decision to go solar when I did. With inflation, including for utilities, at an all-time high, it is reassuring that my PG&E bill is manageable so far. While batteries continue to be too expensive to cost justify, I am sure this will change in the next few years and when it does, I plan to install one for peace of mind from the increasing number and duration of PG&E outages.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. I am extremely pleased with the solar installation and ongoing support provided by Solar Optimum.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Brad & Pei-Lin Van't Hul
[redacted]

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had a solar/battery installation last year that was installed by Sunrun and thru Costco. I am planning to add a 2nd battery next year. I only want Sunrun to do this, not a electrician. I have already experienced that an electrician is not as qualified and my warranty would be affected if anyone but sunrun does their install. They have the design specs as they designed the system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Brad Hammett
[redacted]

From: **Brandon Jones** [redacted]
Subject: Written comment on proposed new rules
Date: July 30, 2023 at 9:11 AM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

08/01/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY EI
STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I hope that you do not vote for this latest assault on my home solar and battery syster

The CSLB does important work protecting consumers and maintaining contractor sta Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regu could force consumers to hire a different contractor than the one who did the original either add or service a battery at my home. In most cases, this will void our warrantie

In addition, these rules would reduce the number of solar contractors available to inst service a solar battery. This would limit choices for consumers and drive up the cost getting solar and/or a battery.

Thank you for considering my views.

Brandon Jones, [redacted]

Brandon
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed solar panels on my home in 2015. It has helped me offset the costs of an air-conditioning system I thought I'd never need, but did as local temperatures continue to rise. It also helps charge my two EV's. Distributed solar is a vital part of dealing with climate change.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. It also stupid-local electricians don't know anything about solar-the solar contractor's are specialist.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

It all sounds like a scam, and I suspect the electric companies are the source of it. There has been an on-going effort to make home solar less popular. Please don't fall for this.

Thank you for considering my views.

Sincerely,

Carl Yaeckel
[redacted]

From: **Carol Haberberger** [redacted]
Subject: cslb
Date: July 29, 2023 at 7:56 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

C

July 30, 2023

Diana Godines et al
Contractors State License Board 9821 Business Park Drive Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed our first solar panels in a previous home over 50 years ago. I have added sets of panels over the past 21 years to my current house and made sure that the most recent ones could interconnect with a battery in the future. I wouldn't have hired solar contractors to deal with all the electricity changes involved without believing they are competent at the battery hook up, as well.

The CSLB does important work protecting consumers and maintaining contractor standards. We count on it to protect us. Yet this proposal will harm rather than help consumers. It isn't in line with PG&E's push for homeowners to install battery backups when it ups the costs and adds confusion. Plus more unknown PG&E changes seem to loom over us solar enthusiasts.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Carol Haber

Attachments:
page2image56669184.png (7.14 kB)

From: **Carol Sionkowski** [redacted]
Subject: Battery Energy Storage Systems
Date: July 31, 2023 at 4:44 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/31/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am planning to install a system later this year and plan to add a battery backup when San Francisco allows add the battery now due to the restrictions posed by the SF Regulations. I understand we all want to be safe, but solar contractors are better trained to install these systems than most electricians.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Carol Sionkowski
[redacted]

From: **Carolyn Mahoney** [redacted]
Subject: COMMENT ON PROPOSED RULEMAKING CONCERNING BATTERY STORAGE ENERGY SYSTEMS
Date: July 28, 2023 at 1:42 PM America/Los_Angeles
To: info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I own a roof top solar system. I did not install a battery at the time of original purchase due to my economic situation as I am a senior citizen. I intend to retrospectively purchase and install a battery to power an electric car. I have discovered that if I use another contractor besides the original installer, Complete Solar, I will void my warranty on the solar system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

CAROLYN MAHONEY
[redacted]

From:	C Whittle
To:	Godines, Diana@CSLB
Subject:	Vote No on Proposal to Prohibit Licensed Solar Contractors
Date:	Tuesday, August 1, 2023 2:39:43 PM

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I own 17 panels and two Powerwalls and am amazed at the continual roadblocks California puts up against consumers and people advocating solar. This proposal is pure protectionism for electricians. It adds no new protection for consumers. It would void my warranty and will raise prices and barriers for people like me.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Carolyn Whittle
[redacted]

[redacted]

Cary Hitsman
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I purchased and had installed a roof top solar system in January of this year. I believe that I am doing my part to reduce the strain on our aging electrical grid. Living in the Ojai Valley, I was personally affected by the Thomas Fire. The cause of the fire was poorly maintained electrical wiring by Southern California Edison, which sparked and began a devastating, and tragic fire. This fire also played a key role in the Montecito debris flow that caused loss of life. I believe that roof top solar is a great addition to any home. I currently do not have a battery backup system because I feel the cost is too high at this time. I plan to purchase a battery system I the future, as I believe that the prices will come down as the technology and production advances.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Cary Hitsman

[redacted]

Casey McCarty
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. No, I'm not a resident of California but we both know what happens in California is most likely going to happen in Washington State. And yes: It's another boilerplate letter from them/us.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

I'm also one of those people that believe it is the order of governments to help the people and not serve the CEOs of large government sheltered businesses. As the rules and regulations come down the pike continuingly reducing the freedoms of people in the street we also witness reductions in the tools that help fight fossil fuel use. Please oppose the profit only seeking businesses that labor with a three to five year vision for humanity.

Sincerely,

Casey McCarty

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We recently made a major investment for a large solar system and one battery. After only a couple of months it is evident that we should invest in another battery when we can afford it as we are at high risk of power failure in our area. Past outages cost us a lot of money in spoiled food, loss of income as I work from home, etc. I trust the local, family-owned, fully licensed, insured and bonded contractor who did the work and would be very annoyed to have to use someone else who might be less of a specialist.

The CSLB does important work protecting consumers and maintaining contractor standards. I am in the construction industry myself and appreciate the work you do. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Catherine McGroarty

[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed my solar system in 2021 and it has helped me immensely. I have electricity when I need it and I no longer need to suffer through endless summer heat. But, the largest benefit, has been the decrease in cost. I have always been interested in solar because I am very interested in doing what I can to save this precious planet. It seems the CLSB and the utilities in California are doing all they can to thwart that goal. And that is, even though the governor has strict goals in place to make California 90% clean energy by 2045. So how can we achieve that goal when measures are continually put in place to discourage solar? Enough! Vote NO on this proposal!!!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Cathy Espitia, [redacted]

From:	Charlene Woodcock
To:	Godines, Diana@CSLB
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Tuesday, August 1, 2023 8:41:49 PM

Dear Ms. Godines,

I strongly oppose the Contractor State License Board (CSLB) proposal regarding home battery systems. It is the obligation of the CSLB to protect consumers and hold contractors accountable to rigorous standards. But this proposal will harm consumers.

My son and I had as many solar panels as would fit put up on our duplex roof in 2012, before prices had come down significantly. This array has for over a decade supplied all our electrical needs, with an excess going to the grid every sunny day. If PG&E and the governor and legislature hadn't driven up the cost of rooftop solar last year more people would be doing the same, taking the pressure off the grid and relieving us of the need for additional energy sources. And I hear they're still contemplating a solar tax—the very opposite of what they should be doing to address the climate crisis.

This proposal would badly serve most solar users like me, since if these regulations were in place, they could void our warranty by forcing us to hire a different contractor to add a battery at my home.

By reducing the number of solar contractors available to install or service a solar battery, they would reduce our choices and thus further drive up the cost of purchasing a solar roof or house battery.

It is clear to those of us deeply concerned with the climate crisis and worried for our children's future that the monopoly public utilities are most concerned with holding on to their control over their customers, keeping the energy systems centralized, and blocking the solar roofs we urgently need if we are to reduce our carbon load in California. We need better than this from our elected representatives and appointed commissions.

Sincerely,

Charlene M. Woodcock

From: Chris Collins
To: Godines, Diana@CSLB
Subject: Comments on proposed rule concerning battery energy storage systems
Date: Friday, July 28, 2023 1:32:29 PM

Dear Ms. Godines,

We're writing to express our extreme opposition (and outrage) to the CSLB proposal regarding home battery systems.

How can anyone think that this proposal is a good idea, or even ethical? It makes absolutely no sense to prohibit highly-trained licensed solar contractors from adding a battery to a system they already installed, or making repairs or modifications to an existing solar/storage system that they previously installed. How can it be a better choice to hire a regular electrician with no familiarity with the system?

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal does nothing but harm consumers.

The proposal would put solar users like us in an impossible situation. The regulations would force us to hire a different contractor than the one who did the original work, to either add or service a battery at our home. In most cases, this will void our warranties.

Thank you for considering our views.

Sincerely,
Chris and Ann Collins
[redacted]

From: **Cliff McCarley** [redacted]
Subject: Letter to CLSB
Date: July 28, 2023 at 2:09 PM America/Los_Angeles
To: info@solarrights.org

Date 7-29-2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We bought our solar system to benefit us and not the utility. Also to create green power to do our share of going green and help the environment. I am a 42 year retired electrician and most of us don't do a lot of wiring batteries. Solar contractors wire batteries daily and know the safety procedures. Why would you have someone who is much less familiar with wiring batteries do that work??? Doesn't sound like you're concerned about the safety of the worker or my family by passing this rule! Put on your " I'm gonna do the right thing " hat for this one please!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Cliff McCarley [redacted]. Sent from Yahoo Mail for iPhone

From: **Clint Pettit** [redacted]
Subject: Solar Contractors and Battery Installations
Date: July 28, 2023 at 3:09 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/29/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

It seems ridiculous to exclude Solar Contractors from being able to add batteries to existing or new solar systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Clint Pettit, [redacted]

Clint Pettit
[redacted]

From: **Colin de Souza** [redacted]
Subject: Solar Panel and Battery issues
Date: July 30, 2023 at 4:38 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org, "godines@cslb.ca.gov"
godines@cslb.ca.gov

To,
Diana Godines,

CSLB

9821 Business Park Drive

Sacramento CA 95827

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE.

Dear Ms Godines,

I am writing in opposition to the CSLB proposal concerning home battery storage systems.

You being the head of this dept, in a leading state in Solar and battery initiative, should be proud of all the residents who spent so much of their investments in producing clean energy and back them up instead of the utilities, who only have one agenda on their books. HOW TO GOUGE THE RESIDENTS OF THIS STATE AND FILL THEIR COFFERS.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractorthan the one who did the original work to either add or service a battery at my home. In most cases this will void our warranties

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery.This would limit choices for consumers and drive up the cost of getting solar or battery.

Thanks for looking out for us.

Sincerely,

Colin deSouza
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have a rooftop solar system. We got it to keep our energy costs down. I would like to put a battery in at some point – I want to think that we could power our own electric needs in the future.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Connie Rohman
[redacted]

From: **Curtis Neil** cneil@bswroofing.com
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 31, 2023 at 3:01 PM America/Los_Angeles
To: info@solarrights.org

Date: 07/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have been interested in and involved with Solar systems going back to 1977, when I helped one of the pioneers of the Solar Industry with his fair booth.
I watch the industry evolve, and grow over the years, first with passive solar design in buildings, then solar thermal hot water heating, then off-grid solar electric systems, and finally, grid-tied solar electric systems.

Battery technology is part and parcel of the solar industry, what we see today is not so much something new, as it is bringing the off-grid and grid-tied worlds together.

And I tell you, a large part of any solar system with batteries is the years of advice and service we can bring to the project. Would you buy a car if you knew that the person selling it was prevented by law from servicing it, or expanding it?, No. You expect them to be there for you, so when you need that fan belt replaced or there a problem with it stalling at a stop light, you know what you can call. Same with Solar

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at their home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Curtis Neil, Bakersfield. Ca.

--

Curtis Neil, Solar Design and Engineering
cneil@bswroofing.com
http://www.bswroofing.com
Office: 661-327-7663
Cell: 661-864-5702
Bakersfield Shingles Wholesale, Since 1942
BSW Roofing, Solar & Air
#4 "P" Street, Bakersfield, Ca. 93304

CSLB#828481 B, C39, C46

Watch "Best of the Best" Television HERE!https://www.youtube.com/watch?v=7Y4Hx_JoUck

"See How We Won Best of the Best 3 Years In a Row"

Check out our Referral Rewards Program!
Enter to Win a Cruise, iPad, & Much More!!!
www.ReferralRewardsProgram.com/BSWRoofing

From: **Dan I Steward** [redacted]
Subject: Written Comment for CSLB
Date: July 28, 2023 at 2:28 PM America/Los_Angeles
To: info@solarrights.org

TWIMC:

Please feel free to use and/or submit my below comments to the CSLB mtg along with the strongest recommendation for a “NO” vote on their proposals to [1] prohibit licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed, and [2] limit the size of the battery that solar contractors can install.

D N Steward

Statement:

I — and every homeowner who has installed solar and with whom I have spoken — am opposed to proposals to [1] prohibit licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed, and [2] limit the size of the battery that solar contractors can install.

These proposals are nothing short of a poorly veiled effort to discourage residential solarization. For the reasons articulated by Solar Rights Alliance, the proposals neither make sense nor are in the best interests of home owners, renters, or the environment.

I asked ALL California elected officials to resoundingly vote “NO” on these proposals.

D N Steward
[redacted] resident, homeowner, and registered voter

From:	Daian Hennington
To:	Godines, Diana@CSLB
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Friday, July 28, 2023 7:14:29 PM

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

These restrictions are damaging to California's future at a time when global warming is clearly demonstrating the need to support and move forward with renewable energy in every way possible. There is no evidence that these new regulations are needed; they are a costly and unnecessary roadblock to clean energy. Solar contractors have been installing batteries for decades and are specialists in this task. By bowing to the demands of electrician unions and power companies, the road to solar energy and battery backup becomes more complicated and expensive. Power companies like PG&E are already trying to limit consumer access to solar power with NEM3 demands, a utility tax and now this. PG&E failed to keep California consumers in mind when they failed to upgrade safe power distribution and caused devastating wildfires and now they are shirking their corporate responsibility and passing the bill of their failures on to Californians. This is obvious. Yes, the shareholders will lose money, but hey, we are in a capitalist system and if they have a poor business plan that is on them. Californian's should not pay for the corporation's mistakes.

My solar panels and battery feed power back into the grid on the hottest days and add to the public utilities supply. My family lives in a Tier 2 wildland interface and thankfully we are able to rely on our own energy without overhead power lines or planned blackouts.

It also strikes me that this move feels a little like supporting a monopoly for a single contractor group, such as the Electricians Union, allied with the public utility companies, and wrongly limiting or interfering with the solar contractor trades; something that I would like to ask the FTC about.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery. In short, these rules will set back California's efforts to combat global warming and hurt us all.

Thank you for considering my views.

Sincerely,
Daian Hennington
[redacted]

From: [redacted]
Subject: 07/30/2023
Date: July 30, 2023 at 12:03 PM America/Los_Angeles
To: info@solarrights.org

07/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have 2 complete solar and backup battery systems. They provide peace of mind and benefit the failing grid.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Dan Fruchtman
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void the warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Danett Abbott-Wicker, [redacted]

From: **Daniel Bell** [redacted]
Subject: PROPOSAL: RULEMAKING CONCERNING Battery Energy Storage Systems
Date: July 31, 2023 at 5:00 PM America/Los_Angeles
To: info@solarrights.org

07/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I own the solar on my home and I should have the Freedom of Choice to employ who I want to work on my home. This is a free country where I can choose the contractor I want to work on the HVAC, foundation, or roof of my home. I don't need anti-climate and anti-freedom bureaucracy dictating who I can privately employ to do work on the solar at home.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Daniel Bell, [redacted]

From: **d lafo** [redacted]
Subject: Solar letter
Date: July 31, 2023 at 1:05 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

8/1/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My solar system was installed almost 6 years ago. I installed it because of the "rolling brown out's" that happen routinely in Southern California during the summer. I wanted to be part of the solution by producing as much energy as I use. The system has done just that. It has helped others in San Diego by taking my needs for electricity away, so that is one less household that the Utility has to be responsible for. It has also saved me money because of the large increases in fees that the Utility is granted each year. I purchased the system under a contract that provided a 20 year warranty on all of the components of the system. It would be inappropriate and disingenuous for the CSLB to support new rules that effectively negate my warranty on my system. I purchased the system in good faith, based on the rules of the State. It was a legal agreement and that agreement should be honored by all parties involved.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Daniel Laframboise
[redacted]

From: **Daniel Levin** [redacted]
Subject:
Date: July 28, 2023 at 2:56 PM America/Los_Angeles
To: info@solarrights.org

Template letter to the CSLB on the solar battery issue

- Copy the language below into a new document of your own.
- Personalize and modify as you see fit, including the items in yellow.
- Feel free to incorporate the information in the email we send, as well as the information in this blog post.
- **Send finished letters to info@solarrights.org and we will submit them**
- **Letters must be submitted by Wed, Aug 2nd in order to be considered by the CSLB at their meeting on the 3rd.**
- Thank you!

July 28th 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
I have solar panels and a 10kw battery, this was a marjor expense for us and hope we would see a return on our investment at some point in the future. Also we felt the need to contribute to our environment that is facing a crisis if we don't take action. This proposal is very disturbing.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Daniel Levin, [redacted]

From: [redacted]
Subject: Solar
Date: July 28, 2023 at 5:52 PM America/Los_Angeles
To: info@solarrights.org

D

7/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

For 12 years we have had 24 solar panels, 10 years ago we bought a Tesla power wall. We have a Fiat 500e electric car and traded our VW gas car for an electric VW.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Daniel Venzon
[redacted]

Sent from my iPhone

From: **Dan Rhoads** [redacted]
Subject: Solar Battery proposed change by CSLB
Date: July 28, 2023 at 3:37 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org
Cc: [redacted]

7/28/23
Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We are very concerned that CSLB will block solar companies from installing batteries on existing home solar systems. We purchased 2 ,15 solar panel systems for our home about 5 yrs ago. We want to add battery backup/storage and do NOT want someone other than our solar company(sunrun) voiding our warranty. We have a PPA (Planned Purchase) agreement with Sunrun.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views, we expect the CPUC to protect our solar customers from PG$E and the other state,greedy power companies
Sincerely,
Daniel, Carolyn Rhoads and MANY of our neighbors in the city of [redacted]

--
Dan,
[redacted]

From: **Darryl Whisnand** [redacted]
Subject: CSLB rules
Date: July 28, 2023 at 6:08 PM America/Los_Angeles
To: info@solarrights.org

7/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I live in [redacted] and have a solar system I had installed 3 years ago. I will install a battery at some point and the proposed rules will make that questionable.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Darryl Whisnand, [redacted]

Sent from my iPad

From: D Link [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 3:13 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Ms. Godines,

We are writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We are retired public school teachers, definitely not among the wealthy elite. We installed 3kW of rooftop solar in 2012, then added 2kW more in 2014, finishing with a final 2kW in 2018. We spread out the installations over the years to be able to afford the cost. We are both strongly in favor of environmental actions which help to save our world from destruction by unwise and unsafe practices. We made many modifications to our first home purchased in 1978, and many more to our current home, which we built in 1985, an energy efficient home from the start. We now own a BEV and PHEV, charging them with the sun! We are interested in a battery backup system, but can not afford it. This legislation will make matters even worse, potentially voiding our rooftop solar warranty.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at our home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Sincerely,
David and Susan Link
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Since the Camp Fire of 2018, our community has struggled with the ever increasing cost of utilities. The loss of businesses such as grocery stores has caused increased costs for the population to travel for the necessities. With our installation of solar, we now have the capability to grow fresh produce year round. Our utility costs would be prohibitive without solar. Since our solar contractor is local, any problems that we have are corrected same day. There are no battery contractors outside of our solar contractor that is local. With the new proposed rules, any installation of batteries would effectively void our warranty. With all of the new regulations, our community is struggling with regenerating itself. Further roadblocks will increase the likely effect of increased income tax reduction to the state of California since there isn't any incentive for residents to return.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
David F. Hines
[redacted]

From: [redacted]
Subject: PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 2:43 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

07/28/2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We currently have solar panels and were considering a battery backup to lighten the load even more from the grid.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

David Konell, [redacted]

July 28th, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed 26 solar panels on my new home in 2019 in an effort to “go green” and help the environment. Due to non-stop rising energy rates, I am now considering a battery backup system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

David MacCallum
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS (BESS)

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board's (CSLB) proposal concerning home battery systems.

I was informed of this potential miscarriage of Justice by the Solar Rights Alliance, which informed me that:

"Next Thursday, August 3rd, California officials are holding a public hearing on a utility-backed proposal that could threaten the warranty on many people's solar and battery systems, and overall to make it more difficult and expensive for consumers to install and repair solar-powered batteries.

What is being proposed

- *The Contractors State Licensing Board (CSLB) has proposed prohibiting licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed.*
- *The board has also proposed limiting the size of the battery that solar contractors can install.*

This proposal would force many solar users to take actions that could void the warranty on their solar and/or battery systems.

- *Most solar and battery systems are installed by licensed solar contractors rather than electricians. The solar contractor's license is a specialty trade that has been around for over forty years in California. Licensed solar contractors train more extensively on battery installations than licensed electricians because it is such a core part of what they do.*
- *If a solar user wants to add a battery to their existing solar system or make repairs or modifications to their existing battery, they usually have the original solar installer to do the work—or risk voiding their warranty.*

- *Thus, these proposals put the consumer in an impossible situation, in which state regulations would force them to hire someone else to do the work, voiding their warranty in the process.*
- *In addition, these rules would remove thousands of existing local solar companies and workers from the market, including very experienced battery installers. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.*

The proposal would make it more difficult for consumers to install whole-home backup or off-grid systems

- *The CSLB is also proposing regulations that would prohibit licensed solar contractors from installing a battery above 80 kWh.*
- *While many simple residential battery systems are below this threshold, many consumers are buying larger batteries, especially in the high desert regions of the state, those wanting to go off grid, or consumers who want complete whole-home backup.*

There is no substantiated rationale for this proposal

- *The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.*
- *The CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians.*
- *Despite this, the CSLB, under pressure from the utilities, has forged ahead with this proposal in the name of safety.*

The CSLB's proposal smells of utility influence

- *The CSLB does important work protecting consumers and maintaining contractor standards, but this proposal appears more about helping the utilities limit access to rooftop solar and battery, and not about protecting consumers.*
- *For years, the utilities have been lobbying CSLB to outright revoke the ability for licensed solar contractors to install batteries, and that batteries be the exclusive jurisdiction of licensed electricians only.*
- *The utilities' likely objective is to use highly technical changes through a little-known government process to further hamper the rooftop solar and battery market."*

I have had a 10kwh rooftop solar system installed November 2017. After receiving bills from my Utility Provider for $600.00 +/month during the summer, and with the Climate Change getting worse (hotter), I decided it was time for a change and a way to save money, as well as the Environment and my Carbon Footprint by installing Solar for my residence. Since it was installed, I have **not** had any Electrical Charges (costs) on my Utility Bill – at all. Moreover, whatever I don't use is provided back to the "grid" and the

Community - thus helping those Utility Companies ensure against Blackouts and Brownouts!

I am a 72 year old - disabled individual that depends on continuous electrical power and that is why I have been considering installing a Backup Battery system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this would void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

David Mautner
[redacted]

From: **David Montijo** [redacted]
Subject: Solar Rights
Date: July 30, 2023 at 6:57 AM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
David Montijo, [redacted]

7/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Last year I got solar at my house and may want batteries in the future. I want freedom to choose who might install it.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
David Rose
[redacted]

7/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I currently have a 5.5kW solar system. My wife and I also recently changed out our gas furnace for a heat pump system. Our next move is to replace one of our cars with an EV. We are doing our best to fight climate change and be environmentally responsible. We were part of the cohort of solar users that responded to the grid operator's call to send our power to the grid to avoid a shutdown last summer. A battery system attached to our solar panels is also in our plans. This would enable us to both charge the EV and to help the grid as required.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. That is a huge impact when you consider the 20 year warranty of most solar systems.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

David Rynerson
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will cancel our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

P.S. I do not understand why the CSLB is seeking to limit the power of consumers to maintain and upgrade their solar systems and batteries, except to aid PG&E, a for-profit company that is continuing to raise prices on a product that is essential for life. PG&E continues to hurt low-income customers with price increases, while paying their CEO an exorbitant salary and reaping the benefits they already receive as a virtual monopoly in our state. It appears that PG&E isn't satisfied with the huge gift they received recently from the CPUC that will affect the ability of many consumers to afford installation of solar systems; PG&E now seeks to limit the ability of consumers to have more control over their utility costs and to have some measure of independence by installing or upgrading batteries.

Your organization should not be aiding them in this anti-consumer endeavor-especially since the CSLB has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors, AND has also acknowledged that, while both are qualified to install batteries, licensed solar contractors study more extensively for battery installations than licensed electricians. I strongly urge you to reject this unnecessary and unfair proposal that will only strengthen PG&E's monopoly and will further weaken our state's efforts to combat global warming.

Thank you for considering my views.

Sincerely,
Debra Fredrickson
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed 3.2 KwH system about 3 years ago. This year I upgraded my system by additional panels. I did not have to worry about who I can use or not use. The flexibility of choosing what I want, who will do it and when it will be done is of great help for my financial planning.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Deepak Sharma
[redacted]

From: **denise adams** [redacted]
Subject: Fwd: Cslb letter updated without typos!
Date: July 28, 2023 at 2:10 PM America/Los_Angeles
To: info@solarrights.org

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA. 95827

Dear Ms. Godines:

I am writing in opposition to the proposal seeking to bar licensed solar installers from installing home battery systems.

Why would we need to change something that works? Solar installers are far more familiar with retaining the integrity of a system they have installed than an electrican. The electricians I have used admit their lack of knowledge in this area and defer to solar experts.

This proposal creates an impossible situation for current solar system owners like myself whose warranties can be impacted by the proposed changes.

If your goal is to cost consumers more, make it harder and more expensive to get service and expand systems...then you will likely succeed under this proposal.

Please stop...I put a lot of money into my solar system and incremental improvements to reduce my costs as I age and to help decrease global warming. What do I get at every turn? Special interests trying to cash in at my expense. Please stop.

Denise Adams, [redacted]

From: **Dennis Kost** [redacted]
Subject: Letter to CSLB for Aug 2
Date: July 29, 2023 at 6:28 AM America/Los_Angeles
To: info@solarrights.org

Saturday July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

This year I invested $30K in a solar energy system for my home, mainly for financial reasons and to also help protect the environment. I could have used these borrowed funds to buy a much needed car, but instead decided to wait to save $100,000 in energy costs over the life of the system. In my mind, these savings would be used to help my three young daughters through college. But everywhere I turn, the utilities are doing everything they can to make this impossible. They're using their power and influence over the government to make Solar more expensive and even impossible for homeowners and families like me. They're essentially seizing our property through taxes, fees and unfair time of use rates, thereby stealing my childrens' educational funds! Utilities are now targeting battery systems as their latest tactic in their obvious fight against residential solar.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Dennis Kost, [redacted]

From:	Devora Rossi
To:	Godines, Diana@CSLB
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Friday, July 28, 2023 3:05:56 PM

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have installed solar panels recently which are not cheap and now these rules would make us void warranties and increase the cost of the whole system (battery included) on the consumers. This does not make any sense.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Devora Rossi
[redacted]

From: **Diane Reed** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 3:06 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We were so fortunate to get our solar system in 2018 through Grid Alternatives. We had been wanting that system for a long time, but living on fixed income, we couldn't afford it. So this was a tremendous gift. Not only are we saving a lot of money on our electrical bill, but also feel a great deal better knowing that we are contributing to fighting climate change. We feel incredibly grateful for this.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Diane Reed
[redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractors State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either or service a solar battery. In most cases, this will void all warranties.

Not to mention, these rules could reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive the cost of getting solar and/or a battery.

Thank you for considering my perspective.

Sincerely,
Diane Seaman, [redacted]

From: [redacted]
Subject: COMMENT ON PROPOSED CSLB RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 12:21 PM America/Los_Angeles
To: info@solarrights.org

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENT ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning hom systems. I installed a nine panel rooftop solar system on my home last year, to support the state's moving toward renewable energy, to lower my monthly electric bill, to increase my own energy independence, and to lower the peak demands on our local utility's power grid. At the urging of the California Public Utilities Commission, I have been considering adding a home backup battery to n system.

I worked with the CSLB when I led the CPUCs effort to standardize statewide low income weather measure installation standards and policies. The CSLB does important work protecting consumers maintaining contractor standards. Unfortunately, this particular home battery installation standard p will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could consumers to hire a different contractor than the one who did the original work to either add or ser battery at my home. In my case, this will void the warranties on my photovoltaic system.

In addition, these rules would reduce the number of solar contractors available to install or service battery. This would limit choices for consumers and drive up the cost of getting solar and/or a batte

Thank you for considering my views.

Sincerely,

Don Wood
[redacted]

From: [redacted]
Subject: Re: Action requested: Protect consumer warranties for solar and batteries
Date: July 31, 2023 at 1:56 PM America/Los_Angeles
To: info@solarrights.org

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

A few years ago we had solar panels and a backup battery installed. This installation has made a big change in the amount we pay every month for electricity. We highly encourage others to examine their own personal situation and let them know what a positive impact the installation of this equipment has made to our budget.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Doug Garcia
[redacted]

On Jul 28, 2023, at 1:15 PM, Solar Rights Alliance <info@solarrights.org> wrote:

Hi Doug,

Next Thursday, August 3rd, California officials are holding a public hearing on a utility-backed proposal that could threaten the warranty on many people's solar and battery systems, and overall make it more difficult and expensive for

consumers to install and repair solar-powered batteries. I ask that you consider taking the following two actions:

- Send a written public comment to state officials urging a no vote on their proposal.
- Consider giving two minutes of verbal public comment at their meeting next Thursday.

Details and how to take action are below:

What is being proposed

- The Contractors State Licensing Board (CSLB) has proposed prohibiting licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed.
- The board has also proposed limiting the size of the battery that solar contractors can install.

This proposal would force many solar users to take actions that could void the warranty on their solar and/or battery systems

- Most solar and battery systems are installed by licensed solar contractors rather than electricians. The solar contractor's license is a speciality trade that has been around for over forty years in California. Licensed solar contractors train more extensively on battery installations than licensed electricians because it is such a core part of what they do.
- If a solar user wants to add a battery to their existing solar system or make repairs or modifications to their existing battery, they usually have the original solar installer to do the work—or risk voiding their warranty.
- Thus, these proposals put the consumer in an impossible situation, in which state regulations would force them to hire someone else to do the work, voiding their warranty in the process.
- In addition, these rules would remove thousands of existing local solar companies and workers from the market, including very experienced battery installers. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

The proposal would make it more difficult for consumers to install whole-home backup or off-grid systems

- The CSLB is also proposing regulations that would prohibit licensed solar contractors from installing a battery above 80 kWh.
- While many simple residential battery systems are below this threshold, many consumers are buying larger batteries, especially in the high desert

regions of the state, those wanting to go off grid, or consumers who want complete whole-home backup.

There is no substantiated rationale for this proposal

- The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.
- The CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians.
- Despite this, the CSLB, under pressure from the utilities, has forged ahead with this proposal in the name of safety.

The CSLB's proposal smells of utility influence

- The CSLB does important work protecting consumers and maintaining contractor standards, but this proposal appears more about helping the utilities limit access to rooftop solar and battery, and not about protecting consumers.
- For years, the utilities have been lobbying CSLB to outright revoke the ability for licensed solar contractors to install batteries, and that batteries be the exclusive jurisdiction of licensed electricians only.
- The utilities' likely objective is to use highly technical changes through a little-known government process to further hamper the rooftop solar and battery market.

How to take action

The CSLB is meeting next Thursday, August 3rd to collect public comments on their proposal. **Will you consider taking the following actions?:**

- **Send a written public comment to the CSLB by Wednesday August 2nd urging a no vote on their proposal.** Here is a template letter you can modify. When you are finished, send your comment to us at info@solarrights.org and we will submit it for you.
- **Provide two minutes of verbal public comment to the CSLB at their meeting on Thursday August 3rd at 10am**. You can do that either via phone, web or in-person in Sacramento. Register here and we'll send you details on how to give your public comment.

Here is a link for more details that include substantiation for the information in this email. I also want to note that our tippy-top priority remains defeating the proposed Utility Tax that we wrote about last week. But this matter at the CSLB is urgent and important, and in my opinion worth an alert.

Thank you for considering this request All the best,

- Dave Rosenfeld, Executive Director

Solar Rights Alliance
302 Washington St
150-5062
San Diego, CA 92103
United States

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I put in a solar system seventeen years ago and wanted to upgrade my system, but the CPUC and utilities disincentivized this upgrade. The only viable option was a battery system, but a higher cost battery system will no longer make this a viable option. The California community wants more renewable energy, but local solar is being disincentivized.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Doug Mandel, [redacted]

From:	doug.thompson
To:	Godines, Diana@CSLB
Subject:	Please Vote NO on change in Contractor standards for solar battery installation and service
Date:	Tuesday, August 1, 2023 9:13:19 PM

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. I fully support your activities but in this case, I feel that this proposal will harm rather than help consumers.

I have rooftop solar on my home and am currently producing a surplus. I am extremely happy with the performance of my system and the licensed contractor that installed it for me. They were knowledgeable, well trained, certified and did an outstanding job.

The proposal would put most solar users like me in an impossible situation. The regulations could force me to hire a different contractor than the one who did the original work to either add or service a battery at my home. This will void my warranties and bring in an electrician that is not as well trained or even remotely familiar with my system like my original installer.

In addition, I have had problems finding electricians to service my home. These rules would limit the number of contractors available to install or service a solar battery and drive up the cost of getting solar and/or a battery.

I hope you understand the consumer perspective and vote against this proposal for an area that doesn't have a problem that needs fixing.

Doug

Doug Thompson, [redacted]

[redacted]

Douglas R. Ghiselin
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

In support of our environment, I had roof top solar panels installed several years ago. A few years back, I had back-up batteries installed. The system has been operating "defect free" since installation. The system was installed by a California licensed solar contractor. Being a California licensed professional engineer myself, I naturally asked the installers several questions as to what they were doing and why. The installer was fully knowledgeable and answered my question in extreme detail. It was obvious the installers knew what they was doing.

The CSLB does important work protecting consumers and maintaining contractor standards. My solar system, installed by a licensed solar contractor, is an example of excellent work accomplished by a licensed solar contractor fully qualified to install the solar system. A licensed electrical contractor may or may not have the knowledge specific to solar system integration with the electrical grid. The existing licensing program for solar installation is working well. Let's not "fix" a program that is not broken.

In addition, the proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

Also, the proposed rules would reduce the number of contractors available to install or service a solar system integrated into the grid. This reduction of available contractors would limit choices for consumers and drive up the cost of getting a solar and/or a battery system.

Thank you for considering my views.

Sincerely,

Douglas R. Ghiselin

From:	Andrew Hamilton
To:	Godines, Diana@CSLB
Subject:	CONCERNS ABOUT PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Friday, July 28, 2023 1:54:30 PM

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems, and the prohibition of solar contractors being able to add in batteries or perform repairs to solar systems.

We recently obtained a large solar array through Tesla, with plans to install a backup battery later, due to high cost. If this proposal passes, our ability to make repairs or add in a battery while retaining our solar panel warranty would be jeopardized.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Dr. Andrew Hamilton
[redacted]

From:	Kendyl Magnuson
To:	Godines, Diana@CSLB
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Tuesday, August 1, 2023 8:40:44 AM

Date: 8/1/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. Regulating what size batteries solar owners can have installed is a CLEAR OVERREACH of the State Licensing Board and an obvious money grab by the utilities companies. Limiting homeowners options and limiting how much energy they can generate and store is ONLY a benefit to the utility companies. The CSLB is in place to protect consumers, this rulemaking runs contrary to this crucial role you play.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm solar users and the workers who have been specially trained to become solar installation experts. Licensed solar installers have studied extensively on batteries and battery systems and should be able to install batteries for solar systems. These regulations simply do not even make basic common sense.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Dr. Kendyl Magnuson
[redacted]

From: **Edgar Gee** [redacted]
Subject: Re: Action requested: Protect consumer warranties for solar and batteries
Date: July 28, 2023 at 1:58 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

Solar Rights Alliance -

Below is my updated submission.

Subject: URGENT ACTION REQUIRED: Proposed Rulemaking Concerning Battery Energy Storage Systems

Friday, July 28th, 2023

Diana Godines Contractors State License Board 9821 Business Park Drive Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Ms. Godines,

I write to you with a sense of urgency and deep concern regarding the Contractor State License Board (CSLB)'s proposed changes concerning home battery systems.

Since 2021, I have actively contributed to generating clean energy via my solar system installation. This proactive initiative has significantly reduced my PG&E bill from $120 to a mere $25 a month - a testament to the effectiveness of solar power.

The CSLB is known for its key role in safeguarding consumers and upholding contractor standards, a reputation that I deeply respect. However, I must express my strong opposition to this current proposal, which I believe will detrimentally impact consumers rather than protect them.

Your proposal places solar users like myself in an untenable position. The new regulations could potentially compel us to engage a separate contractor, different from the one who installed our original systems, to either add or service a battery at our homes. In most scenarios, this course of action would invalidate our warranties, causing unnecessary complications.

Additionally, these proposed rules threaten to diminish the pool of available solar contractors equipped to install or service a solar battery. This will invariably limit consumer options and inflate the costs associated with acquiring solar energy and/or a battery - detrimental to the clean energy movement.

I implore you to consider the gravity of these consequences and sincerely hope you will consider my views when deliberating on this matter.

Thank you for your immediate attention to this urgent and important issue.

Sincerely, Edgar Gee, [redacted]

Best,
Edgar

On July 28, 2023, Solar Rights Alliance <info@solarrights.org> wrote:

> Hi Edgar,
>
> Next Thursday, August 3rd, California officials are holding a public hearing on a utility-backed proposal that could threaten the warranty on many people's solar and battery systems, and overall make it more difficult and expensive for consumers to install and repair solar-powered batteries. I ask that you consider taking the following two actions:
>
> - Send a written public comment to state officials urging a no vote on their proposal.
> - Consider giving two minutes of verbal public comment at their meeting next Thursday.
>
> Details and how to take action are below:
>
> **What is being proposed**
>
> - The Contractors State Licensing Board (CSLB) has proposed prohibiting licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed.
> - The board has also proposed limiting the size of the battery that solar contractors can install.
>
> **This proposal would force many solar users to take actions that could void the warranty on their solar and/or battery systems**
>
> - Most solar and battery systems are installed by licensed solar contractors rather than electricians. The solar contractor’s license is a speciality trade that has been around for over forty years in California. Licensed solar contractors train more extensively on battery installations than licensed electricians because it is such a core part of what they do.
> - If a solar user wants to add a battery to their existing solar system or make repairs or modifications to their existing battery, they usually have the original solar installer to do the work—or risk voiding their warranty.
> - Thus, these proposals put the consumer in an impossible situation, in which state regulations would force them to hire someone else to do the work, voiding their warranty in the process.

- In addition, these rules would remove thousands of existing local solar companies and workers from the market, including very experienced battery installers. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

The proposal would make it more difficult for consumers to install whole-home backup or off-grid systems

- The CSLB is also proposing regulations that would prohibit licensed solar contractors from installing a battery above 80 kWh.
- While many simple residential battery systems are below this threshold, many consumers are buying larger batteries, especially in the high desert regions of the state, those wanting to go off grid, or consumers who want complete whole-home backup.

There is no substantiated rationale for this proposal

- The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.
- The CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians.
- Despite this, the CSLB, under pressure from the utilities, has forged ahead with this proposal in the name of safety.

The CSLB's proposal smells of utility influence

- The CSLB does important work protecting consumers and maintaining contractor standards, but this proposal appears more about helping the utilities limit access to rooftop solar and battery, and not about protecting consumers.
- For years, the utilities have been lobbying CSLB to outright revoke the ability for licensed solar contractors to install batteries, and that batteries be the exclusive jurisdiction of licensed electricians only.
- The utilities' likely objective is to use highly technical changes through a little-known government process to further hamper the rooftop solar and battery market.

How to take action

The CSLB is meeting next Thursday, August 3rd to collect public comments on their proposal. **Will you consider taking the following actions?:**

- **Send a written public comment to the CSLB by Wednesday August 2nd urging a no vote on their proposal.** Here is a template letter you can

modify. When you are finished, send your comment to us at info@solarrights.org and we will submit it for you.

- **Provide two minutes of verbal public comment to the CSLB at their meeting on Thursday August 3rd at 10am**. You can do that either via phone, web or in-person in Sacramento. Register here and we'll send you details on how to give your public comment.

Here is a link for more details that include substantiation for the information in this email. I also want to note that our tippy-top priority remains defeating the proposed Utility Tax that we wrote about last week. But this matter at the CSLB is urgent and important, and in my opinion worth an alert.

Thank you for considering this request. All the best,

- Dave Rosenfeld, Executive Director

Solar Rights Alliance
302 Washington St
150-5062
San Diego, CA 92103
United States

--
Sent with HEY

28 Jul 23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 23 solar panels and wish to add a battery. Right now prices are some $29,000 for a 7.5 Kwh battery and expected to come down.

Unless there is a safety reason for your ruling, then I have to think you are gouging those of us who are actually helping out with the energy situation, in many cases making up for bad practices of energy distributors in the past.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Edward Graf
[redacted]

From: Meelk54[redacted]
Subject: LETTER TO THE CSLB
Date: July 30, 2023 at 12:46 PM America/Los_Angeles
To: INFO@solarrights.org

30th July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We had our solar panels and battery back up system installed by a local contractor, Northern Pacific Power Supply and they did a wonderful job. They obtained all the permits, had the electrical hook ups done in accordance with National, State and Local codes and we had nothing but great, responsible service from them. We would never hesitate to have them work on system if something needed repair or, if it were not prohibited due to the latest regulations which restricts the benefits of doing so, we would have them on add on to our system in the future. They are professional and provide excellent customer service. Having a solar company do the work from start to finish makes it easier for the customer so we do not see why this requirement should be imposed upon consumers.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Eileen Kortas, [redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to express my astounding surprise and profound opposition to the Contractor State License Board (CSLB) proposal you've made to prohibit solar contractors who are well trained to install solar and battery systems to be stopped from doing so in the future.

We have a solar system with battery storage and have continually found ourselves grateful that we were able to have the system installed. There have been countless power outages for equipment upgrades, trees falling on lines or accidents that cause power problems, but our batteries and solar manage to continue providing us with power during those times.

The CSLB does important work protecting consumers and maintaining contractor standards, but that seems to be turning on its head. It certainly appears that you are doing the bidding of the investor-owned utilities by suggesting this uncharacteristic proposal rather than helping consumers.

Should we wish to add more solar panels these regulations would force us to hire a different contractor and void our warranty. Is this really what you intend?

This proposal also reduces the number of solar contractors available to install or service a solar battery, limiting our choices and driving up the cost of solar and/or battery storage. It's hard to imagine that this is what the Contractors State License Board would promote. Something here is greatly amiss and appears to be an unseemly partnership with the utility companies.

Thank you for reconsidering this action.

Sincerely,
Eileen Mitro
[redacted]

Elinore E. Lurie, Ph.D.
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Getting a back up battery is the next logical step to dealing with power failures or other emergencies. Not having one defeats one purpose of having social panels.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Elinore E. Lurie, Ph.D.
[redacted]

From: **Betsy Macomber** [redacted]
Subject: Solar Battery Backup WEInstallations
Date: July 30, 2023 at 9:08 AM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

Please forward this letter on our behalf to the State Contractors License Board. Thank you.
July 30,2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We finished building a sustainable house in 2012 in [redacted] CA after losing our home in the 2007 Witch Creek Wildfires. This included a 4Kw solar system which is adequate to cover our electrical needs in this energy efficient house. We hired the same contractor, HES,Home Energy Systems to install two Tesla backup batteries several years ago. The same installer did the new work as did the initial work, so we were confident of their capabilities and their knowledge of our system. Living in the country we have brownouts or scheduled day long power outages. The batteries provide a seamless transition so that we may continue working or living in our home without interruptions. We have the utmost confidence that if our system needs repair, HES will send knowledgeable people to handle the work. Calling an electrician to install the batteries and then having to rely on that person still being in business to come back to do repairs to an integrated system isn't a choice we would make.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely

Elizabeth and Robert Macomber
[redacted]
Phone: [redacted]
Mail: [redacted]

From: **ellen pasternack** [redacted]
Subject: Comments on CSLB Proposal
Date: July 28, 2023 at 2:50 PM America/Los_Angeles
To: info@solarrights.org
Cc: [redacted]

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our system was installed by a long time local solar
contractor who has continued to be a trusted advisor about our particular installation as well as general questions. No one knows our system better. We are proud to be able to generate what we do, send what we don't need back to the public utility and help our community try to keep climate change from ruining our world. Don't let the public utilities take advantage of your standards to undo the investments in our future.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Ellen Pasternack
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

In 2020, although it was a big financial commitment, my family made a big decision in moving towards supporting a greener future by investing in a solar system and purchasing an EV vehicle. We were encouraged by the support of our state government as well as the direction the federal government was moving towards. We also decided to opt for the battery system not only to have a backup system, but also as another step in being environmentally green. This battery system is now also helping our power utility company (PG&E) by providing additional power to the grid by sending 80% of the power stored in the battery during the high usage period between 4pm – 9pm.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Enrique Kabahit, [redacted]

Erica Fielder
[redacted]

August 8, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems because it is critical that consumers do what we can to mitigate global warming. It seems PG&E wants to take that opportunity and right away for their own corporate reasons.

The CSLB does important work protecting consumers and maintaining contractor standards. Please stand by your standards. Unfortunately, this proposal will harm rather than help consumers.

We have 20 solar panels that are grid intertied and have plans to expand the number of panels and add batteries.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Erica Fielder

From: Erica Fielder
To: Godines, Diana@CSLB; info@solarrights.org
Subject: Solar Rights Letter to CSLB
Date: Wednesday, August 2, 2023 2:07:26 PM
Attachments: Letter for Solar Rights to CSLB.docx

Please send my letter to the right person.

Thank you,

Erica Fielder

****

Erica Fielder
[redacted]

From: **Erica Silverman** [redacted]
Subject: Public Comment for the CSLB
Date: August 01, 2023 at 6:52 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I'm writing to express my opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We invested in solar panels four years ago. We hope to increase our capacity in the near future to prepare for the addition of electric vehicles and a transition to more electrification of our home. Deeply concerned about climate change, we are committed to doing our part to reduce our use of fossil fuels. We also hope to add a battery to better weather a power failure. Solar panels belong on every rooftop and batteries as well. They are good for the planet and will protect our communities from power outages. California should do everything possible to support and encourage the transition to solar by making it more accessible and less expensive for all. This includes supporting a healthy solar industry so that it can continue to serve the transition to clean energy.

The mission of the CSLB is to protect consumers and maintain contractor standards. We appreciate the work you do on our behalf! Unfortunately, this misguided proposal will harm both consumers and solar providers rather than protect anyone.

The proposal would put most solar users like me in an untenable position. The regulations could force us to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. It would be foolish for us to add solar panels and a battery under these risky conditions. Licensed solar contractors train more extensively on battery installations than licensed electricians because it is such a core part of what they do. The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.

In addition, this rule would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

The additional proposal to limit the size of the battery installed by qualified solar installers is of questionable value to the consumer.

Please do not enact this rule that will harm California consumers, the solar industry and ultimately the planet.

Thank you for your consideration.

Sincerely,
Erica Silverman and Linda Torn
[redacted]

From: **"Yahoo Mail !"** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: August 02, 2023 at 5:28 PM America/Los_Angeles
To: "Diana.godines@cslb.ca.gov" diana.godines@cslb.ca.gov
Cc: "info@solarrights.org" info@solarrights.org

Diana Godines
Contractor's State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Diana Godines,
I am writing in opposition to the proposal concerning the Battery Energy Storage Systems.

Restricting the installation, repair and modification of solar and battery storage systems to electricians would create more expense and difficulty for consumers who are trying to embrace clean energy. In this global climate crisis we need to make the installation and use of solar energy easier, quicker and more affordable. This proposal seems to go in the opposite direction.

Restricting this work to electricians would greatly decrease the number of people who can do this work. The CSLB has confirmed that solar installers are actually better trained in this technology than electricians. So there's no real reason to prohibit them doing the work, in fact it would force consumers to use less skilled tradespeople.

Consumers who have already installed solar and battery storage systems would be forced to find another person to work on or modify their system, and this would lead to many of them voiding their warranties. This would cost them more time, more money and more aggravation.

I am hoping that the State of California is encouraging and supporting people to take the initiative and install solar. It helps all of us when cleaner energies are being used. I believe this proposal would make it harder to install and maintain a solar and battery storage system. And it would unfairly benefit electricians at the cost of consumers and all of us who are affected by climate change.

Thank you for your time and your service.

Sincerely,
Evan Elias

07/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I currently have rooftop solar on my house which was installed by the previous owner. The system is really helping to reduce my consumption of electricity from the grid and to help promote a green energy policy for the state of Califonia. I'm considering the addition of a battery to improve the overall effeciency and my energy independance.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Frank Portillo, [redacted]

[redacted]

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My wife and I decided to install solar panels just over 2 years ago and are looking forward to adding batteries to the system when the federal IRA rebates are rolled out. We are pleased that we are contributing to the growing clean energy movement by generating more clean energy than we use (about 2 times) but are concerned that the necessary changes to the grid are not happening quickly enough. We hope to add batteries to mitigate the risks of power outages. We are convinced that rooftop solar and battery storage are the correct path for our State to follow.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Fred and Emir Sundquist
[redacted]

From: **Fred Fong** [redacted]
Subject: letter to the CSLB on the solar battery issue
Date: July 28, 2023 at 5:55 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 10 kw solar roof with two batteries installed by Tesla, and has enjoyed both electricity savings and freedom from outages.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Fred Fong, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
I purchased my solar system to save the high cost of electricity.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Frederick M. Dominguez

[redacted]

[redacted]

From: gcmiller21445@verizon.net
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 3:18 PM America/Los_Angeles
To: "'ed letters to'" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning hom systems.

We've had our solar system for over 5 years and it has benefitted our family by significantly loweri cost of our energy. It also charges our electric car with clean solar energy rather than using dirty f fuels.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfo this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could consumers to hire a different contractor than the one who did the original work to either add or ser battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service battery. This would limit choices for consumers and drive up the cost of getting solar and/or a batte

Thank you for considering my views.

Sincerely,
Gary Miller, [redacted]

Gary Miller
Country Love Song
Singing Cowboy
🤠😎🤪

July 29, 2023

Ms. Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, California 95827

Dear Ms. Godines,

Subject: Submitting my comments on the proposed rules regarding solar battery storage for solar energy systems

We strongly oppose the CSLB proposal that will affect storage batteries for home solar energy systems.

- Several months ago, we installed our residential solar array because we are making our personal efforts to mitigate climate change for future generations. By using solar rather than fossil fuels, we believe we are taking responsibility to reduce our carbon footprint.

- Our system does not yet include a battery for energy storage simply because we needed to phase our implementation in affordable stages. When we do install a battery, we want to have our solar company install it for us. They already know our system, and they have received far more training in the industry than electrical contractors have.

- We respect the work of the CSLB, as it is necessary for consumer protection and industry standards. However, it should not monopolize battery installations and/or service when solar companies already have the necessary knowledge and skill.

- By not using our original installer (or any other solar company), we threaten our solar panel warranties. Why would the CSLB put us into this untenable position?

If our mutual goal is to help mitigate climate change, please don't put us into a difficult position. We have already invested about $25,000 into our system. That's a huge investment for us – homeowners in our 70s. Don't threaten our financial position by forcing us to invalidate our warranties and/or increase our battery installation and maintenance costs.

Please rethink this proposal.

Thank you,
Gary Reece and Donna Maurillo
[redacted]

From: [redacted]
Subject: public comment to the CSLB
Date: July 29, 2023 at 4:16 PM America/Los_Angeles
To: info@solarrights.org

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have Tesla installed rooftop solar panels and a PowerWall battery. My system covers all of my power needs and returns some to the grid. Recently I utilized Tesla's Virtual Power Plant project where solar battery owners like myself sent power back to the grid during an expected grid power shortage to help prevent blackouts.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. Why on earth would anyone consider reducing a consumers ability to generate and store power from the sun? Perhaps we should look into regulating the amount of available clean air as well.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. The proposal would try to take away or modify solar warranties that would cost consumers significant amount of money. CA needs more solar and battery storage with no bogus restrictions on who can install and repair systems.

Who is backing this proposal? The answer is the utilities of course. The utilities always strive to squeeze the most out of their trapped customer base. CA needs more solar panels and battery storage since the utilities can't seem to prevent blackouts to to lack of power generation.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Gary Ross
[redacted]

Friday 28 July, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a prepaid 20-year lease for a rooftop solar system that is scaled so that my electric bill is prepaid for the life of the lease, and includes a roof warranty. When CPUC-required electric rate structure changes are imposed, I will surely opt to install batteries and and connect my generator to create a whole house electical system and go “off-grid.” Your proposed home battery system installation rule will surely make this conversion more expensive, surely less safe, and will result in voiding the warranty already purchased.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Gary S. Hurst, [redacted]

From: **Kari Khoury** [redacted]
Subject: Home Battery Systems
Date: July 28, 2023 at 9:33 PM America/Los_Angeles
To: info@solarrights.org

JULY 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

My wife and I are writing in strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had solar since 2003 with battery backup. We installed solar to reduce our energy costs and to be a part of our community in caring for our environment.
In 2020 we updated our solar panels with a delay in installing the new battery systems because of financial constraints. We are planning to install battery back up very soon because of blackouts that have been occurring during the increasingly long fire season along with ongoing heat waves. It is the responsible action to take. We should be able to utilize our solar contractor to maintain warranty.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
George and Kari Khoury
[redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I purchased my solar system to reduce my energy costs and to give me more options for stable and reliable electrical power. Now, it seems like every other day I have PG&E, the State, the PUC or some other agency trying to limit or take away my ability to control my energy costs and my options for more reliable and stable electrical power.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

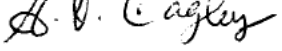
The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

George D. Cagley



[redacted]

28 July, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had my solar system installed by SunPower about a decade ago. While shopping at Costco, their solar installation company, SunRun asked me if I might be interested in having a battery installed and I said yes. They gave me a bid which included additional panels, which I wasn't interested in due to the age of my roof. They said they could not just add a battery to a competitor's system, so I didn't get it. It makes no sense to deny me the right to have the company that installed my panels also install my future battery. What's the logic of that? Please reconsider this inane proposal.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

Thank you for considering my views.

Sincerely,

George Galamba
[redacted]
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

It feels to me as though there is a constant war being waged against residential solar by large, profitable corporations in this state—an irony not lost on me when I am regularly asked by PG&E to supply electricity from my solar system's battery back to the grid during times of high demand.

Thank you for considering my views.

Sincerely,

George Grinsted, [redacted]

From: **Jerry Cardillo** [redacted]
Subject: PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 8:21 PM America/Los_Angeles
To: info@solarrights.org

7/28/2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had a 3kw solar system on our roof since 2010, and it has worked well, reducing our electric bill substantially as well as the CO2 emissions that would have been otherwise released into the atmosphere. Although, so far our system has not required any repairs but after 13 years that might soon be in the cards.

In addition, I have been thinking about acquiring a battery, not to further reduce electrical costs, but as backup if the electrical grid was to fail. So far I have had difficulty finding a source for batteries unless they were being installed as part of a new solar system. Anything you could do to remedy that state of affairs would be appreciated.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers such as us.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Gerard Cardillo

[redacted]

Date: July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

This seems like a solution in search of a problem. Currently my solar installer warranties the parts and labor on my system. Under this proposal, I would have to pay someone else who may not be familiar with my system and equipment to fix any issues that might come up. That's stupid. Why should I pay someone when I'm under warranty and the person and company that installed my system is already licensed in the state of California to do this work?

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Gerry Heinan
[redacted]

From: **Glenn** [redacted]
Subject: CSLB proposal
Date: July 28, 2023 at 3:16 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Glenn Gallagher
[redacted]

From: **"Glenn H. Martin"** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 5:42 PM America/Los_Angeles
To: info@solarrights.org
Cc: [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery sy

We are upgrading our 20 year old solar system as part of an extensive remodel of our home. We will wish to

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this

The proposal would put most solar users like me in an impossible situation. The regulations could force con

In addition, these rules would reduce the number of solar contractors available to install or service a sol
for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Glenn H. Martin
[redacted]

From: **Gloria Dralla** [redacted]
Subject: Comments
Date: July 28, 2023 at 2:27 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had solar roof panels since 2009 which provides our home and most importantly our pool with carbon free electricity. Our son just installed solar panels and batteries which has substantially reduced his carbon footprint as well. This proposal would potentially invalidate his warranties. Why would you want to increase the financial burden on citizens who have paid to help the environment?

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Gloria Dralla
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The Napa County Climate Challenge is a climate solutions platform that lists actions that residents can take to reduce emissions, increase resiliency, reduce the burden on the electrical grid, ***and save money***.

We have been working hard for years to encourage the members of our community to implement these actions. We start by taking personal action: I have replaced my gas car with an electric equivalent and my hot water heater with a heat pump equivalent. Over the next 12 months I hope to be self-generating about 75% of the electricity used by my house and car through a new 6.2 kWdc photovoltaic system. Installing batteries is next on my list.

We then work on reducing the cost and complexity of implementing these actions and expanding the number of qualified and available contractors to do the work, so more residents, ***at all income levels***, can benefit.

Unfortunately, CSLB's proposal concerning home battery systems will move us in the opposite direction, by shrinking the supply of qualified and available contractors and increasing costs.

The CSLB does important work protecting consumers and maintaining contractor standards. I hope you see that your current proposal does neither. I respectfully request you to withdraw your proposal.

Thanks and regards,

Gopal Shanker
[redacted]

Cc: info@solarrights.org

Date 07-28-23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. In 2016 I purchased a 36 panel system from Petersen & Dean. I have been very pleased with the performance doing our part to meet CA emission standards. I have interest in upgrading my system with battery backup in preparation for EV's but this new program will have negative impact on our Fontana Community.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Greg Peterson
[redacted]

From: **Greg Peters** [redacted]
Subject: *** Letter / Comments on Rule Making Regarding Battery Energy Storage Systems ***
Date: July 31, 2023 at 3:33 PM America/Los_Angeles
To: info@solarrights.org
Cc: [redacted]

Please submit on my behalf. Regards, Greg Peters/[redacted]. Keep up the great work!

31 July, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAG
SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning hom
systems. I've had a 13KW solar system for 7 years and am planning to add batteries to my home
upon completion of my remodel. The proposal would put most solar users like me in an impossible
The regulations could force consumers to hire a different contractor than the one who did the origi
to either add or service a battery at my home. In most cases, this will void our warranties. This ma
sense.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfo
this proposal will harm rather than help consumers. In the end, rules like this, which are likely prop
utility companies, will simply drive more people completely off the grid and putting more strain and
stress on remaining rate payers. In addition, these rules would reduce the number of solar contrac
available to install or service a solar battery. This would limit choices for consumers and drive up t
getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Greg Peters
[redacted]

From:	Gregg Lichtenstein
To:	Godines, Diana@CSLB
Subject:	Comment on NOTICE OF PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Tuesday, August 1, 2023 2:16:00 PM

Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. While I appreciate the work that CSLB does in establishing standards for contractors and protecting consumers, the BESS proposal will harm us consumers unless modified.

I installed a solar array in 2015 and am considering adding battery storage. The contractor that installed the system (Sungevity) declared bankruptcy, though my system continues to function. Though I obviously couldn't use the same contractor to install a battery system now, I feel that others should continue to be allowed to hire their original contractor to install a BESS and maintain their warranties as long as that contractor is qualified to do so. Enabling rather than restricting choice should help keep down costs.

Thank you for considering my views.

Sincerely,

Gregg Lichtenstein
[redacted]

From:	Gregg Wrisley
To:	Godines, Diana@CSLB
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Friday, July 28, 2023 1:26:16 PM

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have solar panels on my house and am considering adding a battery system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Gregg Wrisley, [redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Gregory Schutz

From: **Guy Ball** [redacted]
Subject: letter
Date: August 01, 2023 at 6:16 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I purchased solar a two years ago, following Gov. Newsom's recommendations and believing that the state was behind growth on solar energy.

My warranty with Panasonic (solar panels) and my installer was critical to me believing that I was covered for 25 years.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will VOID our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Please think twice before you agree with the organizations that will hurt my ability to have a skilled and reliable contractor of my choice to handle any future updates.

It really worries me how much the state really cares about solar energy for our future.

Sincerely,

Guy Ball
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

When redoing my roof three years ago, I had a Sunpower solar system installed on my roof as my contribution to fighting global warming. When it is time to replace my aging car, I will very likely go electric and add a battery system to my solar setup.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Guy De Primo

Guy De Primo, [redacted]

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am a proud owner of solar panels because I believe in utilizing solar as a way to help protect our environment and have a more sustainable plan for our future. There are many people like me who care about this, and it deeply saddens and disgusts me that people who are more invested in their own pocketbooks continue to try to make decisions for their benefit instead of the benefit of society.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Gwendolyn Shelton, [redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a roof top solar system that contributes to reducing my carbon footprint in the light of our climate crisis, that is clearly getting worse. I would like to upgrade my system with more solar cells and battery storage, but the CSLB proposal will prevent that. This CSLB proposal goes against the grain of what is needed by society now—the ability of ordinary consumers to take steps to reduce carbon emissions using the sun's energy.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Hal Childs
[redacted]

From: **Harold Marcuse** [redacted]
Subject: Letter for Aug. 3 public hearing
Date: July 28, 2023 at 1:40 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I live in a condominium homeowners association, and have just finished organizing 14 residents to get solar PV systems installed. Only one of us is getting a storage battery at this time, due to the high initial cost. However more than half of us plan to add a battery within the next few years, once our finances permit.

This proposal is outrageous! Having to hire an electrician, who is probably not very knowledgeable about solar PV systems, and who are hard enough and expensive enough to schedule anyway, would add risk and an additional hurdle to us getting batteries. Electric storage, including decentral electric storage, is crucial to the future of our decarbonized and resilient energy grid. Please do not approve this proposal--there is NO reason FOR it, and strong reasons AGAINST it. We need all the consumer solar PV and storage we can get, and no agency should be allowed to put up hindrances to that goal.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Harold Marcuse, [redacted]

7/31/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had solar installed since 2002 and added a 20 Kw battery a few years ago. We have had the same installer nearly from the beginning. The quality of their work has been stellar. The system has provided financial savings as well as much reduced fossil fuel use. They provide comprehensive support and are knowledgeable.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Harvey Moskovitz, [redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have solar panels on our roof and two Tesla batteries. We installed this system using our solar contractor because we are on a well and do not have water when the power is out. Between PG&Es PSPS events and bad weather, over the past five years we have been without power many times, often for several days, and, in one case, three weeks. With our solar system we no longer need to worry about power outages. We also wanted to be more sustainable.

In addition to benefiting our personal situation, year-to-date we have provided the grid with almost 1,200 kwh, which greatly benefits our community. In fact, so far this year we have produced more kwh than we have used.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Helen Zimmermann

[redacted]

From: **Hildy and Bev** [redacted]
Subject: CSLB PROPOSED RULE-MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 30, 2023 at 2:36 PM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE-MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

We are in the process of getting solar panels installed on our house. In the future, we hope to purchase an electric vehicle, a heat pump, and an electric clothes drier. We also intend to get a home battery system. Adding a battery will not only help us power our home and vehicle, it will help protect our community from possible future power outages.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Please do not make it harder or impossible for us, and others, to add a battery.

Sincerely,
Hildy Meyers
[redacted]

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I can't believe that there is yet another proposal to make it more difficult to install and/or service a residential solar system in California. We desperately need more of these systems in order to combat rapidly escalating climate change. I am adamantly opposed to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We've had a solar array for over 20 years and are considering upgrading it and adding a battery backup system. We were early adopters of solar primarily because of our concern about climate change. It has proven to be a great investment and we have significantly reduced our carbon footprint.

Although I admire the CSLB's work to protect consumers and maintain contractor standards, this proposal will seriously harm consumers like my husband and myself. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

I speak for my husband as well and appreciate your consideration of our views.

Sincerely,

Holly Sletteland & Doug Anderson
[redacted]

From:	Tripp Meister
To:	Godines, Diana@CSLB
Subject:	Don"t make it harder on people to install solar/batteries for no reason!
Date:	Friday, July 28, 2023 4:54:24 PM

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I can't believe in an environment already regulated with licensed installers you'd even be considering this. There's no reason for this aside from protecting 1 specific trade organization. Homeowners don't benefit in any way by doing this, it just raised costs and lowers choice.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely, Howard Meister, [redacted]

From: **Ira Lansing** [redacted]
Subject: CSLB Letter
Date: July 30, 2023 at 12:15 PM America/Los_Angeles
To: info@solarrights.org

As attached. And thank you for your efforts.
Attachments:
CSLBLetter.pdf (32.88 kB)

Date

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. Most solar and battery systems are installed by licensed solar contractors rather than electricians. The solar contractor's license is a speciality trade that has been around for over forty years in California. Licensed solar contractors train more extensively on battery installations than licensed electricians because it is such a core part of what they do.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Please recognize the ultimate source and who would benefit from these proposed changes—the utility companies. Not licensed installers and not the public at large, whether they have a solar installation or not. We all benefit when more people install solar panels and energy storage systems.

Thank you for considering my views.

Sincerely,
Ira & Luanne Lansing, [redacted]

Irene C. Cooke
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed solar panels on my home last year and am hoping to add a battery system to support charging for an electric vehicle in the next year. When I heard about the proposal being considered by CSLB, I was very concerned. The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

At a time when the climate crisis is becoming more and more severe, the State of California needs to do everything possible to ENCOURAGE clean renewable energy. The proposed rule would do just the opposite.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. Please make certain that any policies you adopt will help consumers and promote renewable energy!

Respectfully submitted,

Irene Cooke

29Jul2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have installed solar panels on my roof back in 2020 and will install a battery system backup in the near future. The solar panels have helped me to reduce my electrical utility bills since installation which is helpful since I am a retiree on fixed income. I also like to think that I am helping to reduce climate change, which we all need to do before it gets even worse.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Irene Lee
[redacted]

From: **Isabel Storey** [redacted]
Subject: Letter to be sent to CSLB re: solar battery issue
Date: July 29, 2023 at 10:39 AM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We purchased a solar system for our home last year, along with one battery, and are extremely pleased with it. We are able to solar power our home during the day and charge the battery of our electric vehicle. We also installed an A/C system because our summers are getting hotter every year – and the solar system is able to power the heat pump that keeps our home cool in summer and warm in winter.

We're also able to generate enough electricity to feed some of it back into the grid, helping to meet the high demand when temperatures soar in our area and helping to avoid blackouts.

We'd like to be able to add a second battery in the future (we only installed one because the cost was so high) - but unfortunately, this new proposal would make this more difficult, if not impossible, to do.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Isabel Storey
[redacted]

From: **Sandrine and Jim Beddow** [redacted]
Subject: Comment letter for the CSLB
Date: July 28, 2023 at 6:13 PM America/Los_Angeles
To: info@solarrights.org

S

07/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I recently had a 5 Kw solar PV system installed on my home, but without batteries, as the present cost was a bit out of my reach at this time. I am strongly considering adding them in the future though, as the costs continue to come down each year.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
James Beddow
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had solar panels and a back-up battery system installed on my home about two years ago, and I am so glad I did! I, like all solar users, am using renewable energy from the sun instead of fossil-fuel energy to power my home, which benefits *everyone*, not just solar users. I'm also saving money over the long run by stabilizing my monthly utility bills, which always go up and *never* go down. It also is frustrating as hell that PG&E and the other state utilities, the California Public Utilities Commission, Governor Newsom, and now even the CSLB, are conspiring to make it *more* difficult and *more* expensive for the average consumer to take advantage of solar energy! I cite as an example the CPUC-backed solar tax that passed earlier this year, making it more expensive and less advantageous for Californians to install solar on their homes. This is something Governor Newsom could have stopped, but he did *nothing.* In a state that is supposedly one of the most progressive and forward-thinking states in the nation, faced, as we all are, with disastrous climate change, that failure to act by Governor Newsom is unconscionable! He, and all of us, the utilities and the CPUC included, should be promoting and supporting solar usage, not suppressing it at every turn! It's yet another example of politics and big money washing each other's hands, at the expense of the common consumer. Will *you* be the one who finally does the right thing, Ms. Godines? Will this madness stop with *you*?

Perhaps more than most people, my past work experience makes me keenly aware the CSLB does important work protecting consumers and maintaining contractor standards, and for that I am grateful. Unfortunately, this proposal will harm rather than help consumers.

This proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

James C. Breuner
[redacted]

7/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,
I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had solar panels installed on my home a few years ago and own rather than lease the system. I firmly believe my solar system helps the environment by using the sun rather than a polluting resource, saves us money over time, and helps avoid power outages in my community by providing power back to the utility. I expect to have a battery installed on the system in a few years when it becomes more affordable.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

James M Lyons. [redacted]

Date: July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

This appears to be a solution in search of a problem. The CSLB's own investigations have not shown any problems with solar installers and battery installation. I had solar panels put on my roof last year. I couldn't afford to do the batteries at the same time. If I install a battery this year, it will void my existing warranties. This looks like another attempt by the monopoly utilities to gut the rooftop solar industry.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
James Pearson, [redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
I currenty do not own a solar system or battery but intend to install one in the future. I believe that solar systems for homes are an important priority for homes in California and elsewhere. Saving the planet takes priority, in my view, to any rule making that makes it more difficult for homeowners to acquire solar.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most potential solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who adds solar should I add a battery later.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
James Semick,

[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We are writing to oppose the Contractor State License Board's (CSLB) proposal concerning home battery systems.

We are retired and on a fixed income. We made the investment to add solar to our home because we believe in the benefits of solar but cannot invest in the back-up system at this point in time due to health issues, but fully plan to add a battery back-up system in the near future. It is important for all of us to move toward a more sustainable future, but the utilities try to cut us off at every turn. Please do not cave-in to their pressure.

We know that the CSLB works hard to protect consumers by maintaining and enforcing contractor standards, but your proposal will hurt consumers rather than help us, and you know it! We have been trying to get through all the local red tape installation process for the entire year now, but the current cost of initial installation as well as battery installation at this time will make our attempts to convert to solar impossible. We cannot afford to add the battery back-up at the time of initial installation. Not only that, but your proposal may force us to hire a different contractor than the one who is installing our solar system, but our warranties require that we use the same installers to add and/or service a battery at our home or our warranty will be null and void. Please do not do this! It is imperative that the CSLB support consumers, rooftop solar, and the battery market now and into the future. We know the utilities are pressuring the CSLB and you already know that licensed solar contractors have more experience in this field and in installing batteries than other trades (i.e., electricians, etc.,) and thus, safety and quality is ensured by licensed solar contractors.

In addition, your proposed rules would reduce the number of solar contractors available to install or service a solar battery which will drive up the cost of getting solar and/or a battery for all consumers trying to add solar. Please reject utilities' strong-arming and do the right thing! The utilities only care about profiting off consumers – please stand up for us all as we have to work together to adopt alternative energy sources and solar is the most logical choice here. With the trend to help Mother Earth, prevent/reverse global warming, etc., all utilities and other profit-making companies should be working for the greater good but are hell-bent on destroying anything that attacks their profit structure. It's hard to believe there are so many obstacles working against converting to solar power, but it is an ongoing struggle, and we hope the CSLB will do the right thing.

Please consider our viewpoint. Thank you for your consideration.

Sincerely,

Jana & Christopher Przebieda
[redacted]

7/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have solar on my house and in the future would like to incorporate battery backup. This proposal would make that much more difficult and expensive. It could also void my warranty of my roof top solar system. PLEASE do not do this to our good state of California.

It is my understanding that :

1. The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.

2. The CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians.

If this is so, what sense does this proposal make? None, that I can understand.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Jane Bender, [redacted]

From: **Jane Fehrenbacher** [redacted]

Subject: I am writing in opposition to the Contractor State License Board proposal concerning home battery systems.I have had solar panals 10 years and slar storage battery made bt Tesla for 3 years.When my neighborhood had a planned blackout recently my home was the only one with lights on the entire night.Thia proposal is NOT in the best interests of consumers nor in the interest of climate concerns. (Loss of expert solar service availability.Thank you for considering my letter.Sincerely,Janefehrenbacher

Date: July 31, 2023 at 10:15 AM America/Los_Angeles

To: "info@solarrights.org" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I purchased a 4 KW rooftop solar system with a Tesla Powerwall from Baker Home Energy Systems in July, 2022. It took until October 30, 2022, to receive permission to operate my system due to a variety of application/system permitting issues between the installer, the City of La Mesa, and San Diego Gas and Electric. I wanted a rooftop solar system because I could see the benefits of reducing my reliance on the grid and for the environment. My annual "true up" bill will be in October 2023. To date, an estimate based on my Domestic – Time of Use – Solar (NEM 2.0) rate schedule, shows a Solar Offset of 5.1 MWh Solar and 4.6 MWh Home, a 110% Energy Offset.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery

Thank you for considering my views.

Sincerely,

Jane L Peterson

[redacted]

From: **"Janet W."** [redacted]
Subject: Solar rights
Date: August 01, 2023 at 7:05 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

Date

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am a low income senior in [redacted] Alameda County, CA. I can't afford to install solar on my home or purchase an electric car but need to remind everyone that THERE IS NO PLANET B. This earth is all there is. If we continue to support fossil fuels or structures that limit consumer choice in solar, then bit by bit we will destroy this planet. We cannot allow big Industry to hijack solar projects and substitute their agenda for the rest of humanity's. These rules favor industry consolidation.

Consumers will matter less and less if industry consolidation reduces our opportunity to chose the best projects that benefit all. When any BIG BUSINESS gets involved consumers have less choice and their voices matter less and less.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

When you reduce the number of contractors available it defacto creates a monopoly-like situation, squeezing out small contractors in favor of consolidated, big Industry.

As I mentioned, the current economic situation makes it impossible for me to get solar except through the choices of the power companies (ie PG&E) who have chosen alternative energy projects only when backed against a wall. Please don't change the rules to add a monopoly in vendors to the sad monopoly we currently face. Time and again we have seen the results of the bad choices industry has made when they crowd out the voices of consumers.

These proposed rule changes will reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

I am a short-timer, as my time lifespan is limited. Let's think about the legacy we leave to the next generation, and the next and the next. When government substitutes short term thinking for long-term planning it causes a cumulative effect on the environment. These rules, while not creating a monopoly today make this more likely.

Thank you for considering my views.

Sincerely,
Janet Weiss
[redacted]

Jay Adams Knight [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

Please consider this letter an indication of my strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Just today new solar panels were installed on my roof. They were replacing panels that we installed in 2007 and which now needed to be updated because they were no longer supplying all our electrical needs and we intend to purchase an EV shortly. This process, including minor roof repairs, should have taken about ten days we were told by our duly licensed contractors. However, the massive amount of useless provisions, such as the one about which I am objecting, caused a 7 week delay and nearly doubled the cost.

The CSLB does important work protecting consumers and maintaining contractor standards. However, this proposal just adds more wasteful rules and will harm rather than help consumers.

As a retired lawyer, my reading of the proposal would seemingly force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. If this should happen would this not void their warranties? Plus, by limiting the number of solar contractors available to deal with batteries, you will drive up the cost to consumers. Consider the needs of the consumers not the utilities which are already guaranteed a profit.

Regards, jak

From: **Jean Komatsu** [redacted]
Subject: CSLB proposal concerning home battery systems: consumer letter
Date: July 28, 2023 at 3:22 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have 14 panels of rooftop solar, installed in early 2015. We have been extremely happy with our system and are currently considering installing a solar battery system for back-up. I'm sure you will agree this is only prudent, in light of current and future environmental concerns.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. It is unconscionable, in view of the current extreme heat conditions through most of the U.S. at the moment (and that are forecasted to start affecting coastal CA as El Nino gains strength), to erect more financial and unneeded regulatory obstacles that are likely to deter homeowners like us from doing more to SAVE the environment, not harm it.

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at our home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Sincerely,
Jean Komatsu and Carlos de Luz
[redacted] homeowners since 1989

JEAN NEILL AND MICHAEL VOTTA
[redacted]

July 29, 2023

Diana Godines
Contractors State Licensing Board
9821 Business Park
Sacramento, CA 95827

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We are in opposition to the Contractor State Licensing Board (CSLB) proposal concerning home battery systems.

We purchased our solar and battery system from a reputable solar company that has given us 20 years warranty. The system was designed, inspected, and professionally completed with all safety measures in place. We live in an area where the loss of electricity is frequent due to wildfires. We installed our battery to safeguard usage of electricity for our health needs and household usage. Many homes in our community have similarly completed solar and battery installation from similar reasons. We rely on the solar companies that have installed our systems for safe maintenance.

One of our neighbors hired an electrician who had no training in solar installation, botched the job and now a pending lawsuit exists. Not all electricians know the intricacies of installing a solar system with proper safety measures.

The CSLB does important work protecting customers and maintaining contractor standards which we respect. Unfortunately, this proposal will harm rather than help consumers, like us.

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did our original work to either add or service a battery at my home which would void our 20 year warranty.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you,
Jean Neill and Michael Votta

From: JEFF JONES [redacted]
Subject: protest letter about the CSLB trickery...
Date: July 30, 2023 at 2:14 PM America/Los_Angeles
To: info@solarrights.org

The proposal by the Contractors State Licensing Board (CSLB) appears to be potentially unfair to California for several reasons:

1. Limited competition: Prohibiting licensed solar contractors from adding batteries to solar systems they previously installed or making repairs and modifications could limit competition in the solar and storage industry. This restriction could prevent customers from having the freedom to choose their preferred contractor for additional services, potentially leading to higher prices or reduced quality of service.

2. Disincentive for quality work: If solar contractors are not allowed to work on systems they previously installed, it may remove their incentive to ensure high-quality installations from the start. Knowing they cannot return for repairs or upgrades might lead to lower-quality work, which could negatively impact customers in the long run.

3. Consumer inconvenience: Restricting contractors from servicing their own installations might cause inconvenience to customers who wish to have a seamless experience with a single contractor handling both installation and maintenance. Customers may have to find a new contractor for battery additions or repairs, potentially leading to added costs or logistical challenges.

4. Battery size limitation: Limiting the size of the battery that solar contractors can install could hinder the adoption of energy storage solutions in California. If the proposed limitation is too restrictive, it might impede the ability of consumers to store excess energy efficiently, reducing the overall effectiveness and value of solar and storage systems.

5. Impact on renewable energy goals: California has been a leader in promoting renewable energy, including solar power. Limiting the ability of solar contractors to install batteries or provide modifications might slow down the integration of renewable energy sources into the grid and hamper the state's progress toward its clean energy goals.

It is essential to note that the evaluation of whether the proposal is fair or not depends on various factors, including the specific details of the proposed limitations, the reasoning behind the board's decision, and the overall context of the solar and storage industry in California. Public feedback and input from stakeholders are crucial during the proposal's consideration process to ensure that any regulations implemented are balanced and fair to all parties involved.

From: JEFF WIESER [redacted]
Subject: Proposed rule making concerning battery storage systems
Date: July 28, 2023 at 1:38 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

J

7/28/23

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed a solar electrical generation system on my home to help provide clean energy to power my home and push back into the PG&E grid in hopes of taking some of the strain off their system. This should be a win - win for all parties that are looking at the big environmental picture and long term health of our planet, which we hope to leave in good condition for our children's children. PG&E keeps trying to undermine this process due to their current situation and it looks like greed is the driving force behind their choices, rather than long term positive solutions for all.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Jeff Wieser
[redacted]

Sheri Clarke & Jeff Krumm
[redacted]

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We've had solar systems for more than 20 years and have been happy enough with them to have now scheduled installation of a battery back-up system. I am a general contractor with almost 40 years of experience and I can tell you that the electrician I've used for the last 20 years has very little experience with solar. It's the solar installation company that I trust to install the battery system to make certain it works with the existing solar panels. It absolutely MUST be the same company or nothing will be warrantied. I've also followed this business practice for my clients.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Jeffrey Krumm

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

July 29, 2023

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing to express my opposition to the Contractor State License Board (CSLB) proposal that would limit the ability of licensed solar contractors to install battery backup systems to solar systems they have previously installed.

My husband and I have invested in a solar system with a battery backup which regularly feeds power back into the grid, adding to the supply of clean energy available to others. The proposed regulations would have a significant negative impact on us, and on many other solar users, by voiding the warranties on our systems if we are forced to hire a different contractor to add or service a battery.

Please continue to allow solar contractors, who are extensively trained and highly skilled in battery installations, to install and service our batteries. Do not put us into an untenable situation by adopting this pointless rule.

Thank you for considering my views.

Sincerely,

Jennifer Raymond
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. **Please don't let this pass!**

I am almost done having my own solar system and batter installed by NRG Solar – a solar contractor. This system will be essential to us in the future for many reasons: cost savings, reducing the use of fossil fuels to cool and heat our home, switching to an E-vehicle with the most cost-effective and ecological system, being prepared in the event of black or brown outs from PG&E, having a system in case of an all-out collapse of the grid for whatever reason. This system reduces the strain on the grid and makes my community more resilient in case of natural disaster.

It is also important to us to be able to add a battery or improve the system in the future if needed. The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will do harm to any of these options for us in the future.

Prohibiting licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed does not make sense. First **it will void any warranty** I have. Second, **they know the system that they installed better than any other contractor or electrician**. I much prefer having those who know my system and how they installed it working on future additions or repairs.

Limiting the size of solar batteries they can install also doesn't make sense. **I should have the greatest amount of options and choices in my battery selection as possible**. If I and my contractor believe a larger battery works best for me, I should be able to make that choice. **Please don't take my freedom to choose away!**

The proposal would put most solar users like me in an impossible situation. **The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.**

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

I have heard that there is no evidence of any problems with the safety or quality of the work performed by licensed solar contractors. Also, that licensed solar contractors study more extensively for battery installations than licensed electricians. With these things in mind, **please do not let the utilities pressure you to make more bad rulings for California and its citizens! We are already suffering because of NEM3!**

Thank you for considering my views.

Sincerely,
Jenny Wood, [redacted]

07/28.2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Jesse Kauppinen
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Jim Colgan
[redacted]

From: JOANNE MILLER [redacted]
Subject:
Date: July 28, 2023 at 2:19 PM America/Los_Angeles
To: info@solarrights.org

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery sy
We had our solar system put in over 4 years ago by SunPower. They put in efficiently, quickly and without a

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this

The proposal would put most solar users like me in an impossible situation. The regulations could force con

In addition, these rules would reduce the number of solar contractors available to install or service a sol

Thank you for considering my views.

Yours truly
Jo Anne Miller
[redacted]

From: **Joe Veltri** [redacted]
Subject: COMMENTS ON PROPOSED RULE MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 30, 2023 at 2:18 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We've had our 4kW rooftop solar for 13 years with no issues. We are considering adding battery backup because our disabled son suffers in the heat and needs to stay cool. We've gone through PSPS power shut-offs when power is most needed and it's very difficult for our son to survive.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Joe Veltri
[redacted]

From: **John Downing** [redacted]
Subject: Letter To CSLB
Date: July 28, 2023 at 2:49 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/28/23

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to oppose the Contractor State License Board (CSLB) proposal concerning home battery systems.

Three years ago I purchased my new home in [redacted], California with an array of 15 Sunpower solar panels, with plans to install battery backup at a later date.. By doing so I hoped to help relieve the stress on the power grid that has caused so many power failures in our state. I felt this was especially important where I live because of the high summer time temperatures in my area.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. **In most cases, this will void our warranties**.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

John Downing, [redacted]

From: **Eric Arens** [redacted]
Subject: Letter to CSLB
Date: July 28, 2023 at 5:38 PM America/Los_Angeles
To: info@solarrights.org

HI,

Here is my letter.

Thanks,
John "Eric" Arens

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I would like to use the solar installer, SunFirst of San Rafael, that installed my solar cells to add a battery two years from now. Please do not make me look for someone else to do the job. My installer was very good and handles batteries too. I would like to further use this installer.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
John F.Arens
[redacted]

31 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

As a retired family on limited income we are very concerned regarding any and all rate increases or proposed changes to rate increases or changes regarding our solar system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
John Mason

[redacted]

From: John McLeod
To: Godines, Diana@CSLB; info@solarrights.org
Subject: Solar Battery Proposal
Date: Friday, July 28, 2023 10:45:24 PM

July 23, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
John McLeod
[redacted]

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our home has solar panels and a storage battery. Since the installation we have switched to more electric appliances and fewer gas appliances. We have also added an EV. Soon we hope to expand the size of our battery backup system. The best possible option would for us to use the solar contractor that installed the initial system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force me to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

John Weir
[redacted]

From: JK [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 9:16 PM America/Los_Angeles
To: info@solarrights.org

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 28 panel system at my home and produce clean energy for my use and excess for the grid. I plan to add a battery in the coming years.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. This is unacceptable.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Jon Kovach, [redacted]

From: **Jose Davila** [redacted]
Subject: CSLB on the solar battery issue
Date: August 02, 2023 at 1:30 PM America/Los_Angeles
To: info@solarrights.org

Date: August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am in the final stage of the process of installing roof solar panels. I am actively trying to choose a battery that will fit my needs. This battery, will allow me to manage my production and usage needs. This battery is very important to me because it will give me the benefit of having power at all times and when I need it. Since I will be producing power for my own consumption, and others, my community will be benefited. In addition, it will avoid unnecessary black outs.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Jose Davila, [redacted]

July 7, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I don't think we should be doing anything that impedes transitioning California (nor the world, for that matter) to solar energy as rapidly as possible, yet it seems like the utilities are standing in the way of solar power. In this particular case I don't really see what benefit there is in prohibiting licensed solar installers from retrofitting installed home solar systems with batteries. I do have a pretty good understanding of the dangers present with large amounts of stored energy in battery systems, but perhaps there are more productive ways of managing the risk while encouraging the more widespread adoption of solar. Also, from the utilities' point of view, why impede something that helps level the load when solar energy production peaks? Is it just that the utilities want to obstruct further solar expansion?

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Joseph DuVivier, [redacted]

From: Joyce Sulick
To: Godines, Diana@CSLB
Subject: Opposing CSLB rulemaking for battery systems
Date: Wednesday, August 2, 2023 4:12:53 PM

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: OPPOSITION ON PROPOSED RULEMAKING FOR BATTERY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. This proposal will harm rather than help consumers.

The proposal would put most solar users in an impossible situation: The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

We've made good progress in California -- let's not mess things up

Sincerely,

Joyce Sulik
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had solar panels installed in 2014 and the benefit was almost immediate. That I have to beg an organization that purports to protect consumers to actually protect consumers from the Utilities, and sadly from the CPUC, is so astonishing that I don't know how to express the depth of my disappointment. It's almost like the Utilities have bribed everyone who would benefit financially by effectively screwing over the actual people who are concerned about being able to survive what is clearly here: THE CLIMATE CATASTROPHE. Please recognize that you have been fooled by the Utilities and shut them and their dastardly plans down.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Judith S Anderson
[redacted]

From: **Julia Fuerst** [redacted]
Subject: Letter concerning the CSLB
Date: August 02, 2023 at 4:01 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have had solar panels on my current and previous houses installed by solar contractors who not only installed a functioning array but assisted in un-installing and re-installing panels when I re-roofed. I do not currently have a battery but have been considering one, especially with the push from my utility provider (PG&E) to go "all electric". I would completely trust my solar contractor to install a battery that is compatible with my solar system. I would not trust an electrician who does not have the training to work with solar installations and I know that my electrician does not have that specific training.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Julia Fuerst
[redacted]

From: **KATHLEEN CONROY** [redacted]

Subject: Letter on the Solar Battery IssueDate Diana Godines Contractors State License Board 9821 Business Park Drive Sacramento, CA 95827 Diana.godines@cslb.ca.gov RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS Dear Ms. Godines, I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. (Optional Paragraph: Describe your solar and/or battery system, why you got it, how it benefits you and your community.) The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery. Thank you for considering my views. Sincerely, YOUR NAME, YOUR CITY

Date: July 29, 2023 at 6:44 AM America/Los_Angeles

To: info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I currently have solar panels installed on my home. It is the first thing I did when I moved to my home, it was very easy, cost effective and good for the environment - there was no reason not to. My panels generate enough power for my home. However, when I buy an electric car and convert gas appliances to electric, I will need to add more panels to my home and add a battery as well. My solar company did an excellent job installing my system and advising me on how to expand my system. I trust them to expand my system in the future.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Kathleen Conroy, [redacted]

From: **Wildthyme** [redacted]
Subject: Letter to Protect consumer warranties for solar and batteries
Date: July 29, 2023 at 7:37 AM America/Los_Angeles
To: info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Because I am a disabled Veteran with medical problems which require secure and continuous electricity we added solar and a battery with a solar contractor. It took over 2 and a half years to satisfy PG&E's complicated requirements. CSLB's proposal for home battery systems will increase the difficultly of installation which is exactly what the utility companies want. Do not let this happen. It is a horrible idea!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Keith Filipello
[redacted]

From: **Keith Stiver** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: August 02, 2023 at 2:59 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am a 20+ year solar power veteran. I am currently living in the second home in which I have installed solar panels for the purpose of reducing my impact on the environment and climate change, as well as reduce my dependency on companies motivated by greed rather than public interest.

I currently have an 8 kwh system with a battery back up that serves two main purposes. First, is to protect health as a result of medically necessary equipment required by my wife's diagnosis of Multiple Sclerosis. The second, is to safeguard our household against effects from the power company's PSPS shut offs that have become ubiquitous in this area.

The Contractors State Licensing Board (CSLB) has proposed prohibiting licensed solar contractors from adding a battery to a solar system they already installed, or making repairs or modifications to an existing solar and storage system that they previously installed. This is both unreasonable and potentially damaging. Ironically, I have viewed recent media sponsored by PG&E that recommends installation of battery backup systems specifically to reduce the potential impact of PSPS shut offs.

The board has also proposed limiting the size of the battery that solar contractors can install. This is unreasonable and completely unwarranted.

These proposals are a solution in search of a problem that is obviously orchestrated to shift power over the consumer to the so called, "Public" Utilities.

• The CSLB has not found any evidence of a problem or safety or quality of work by licensed solar contractors.
• The CSLB acknowledges that licensed solar contractors study more extensively for solar battery installations than licensed electricians.

If the CSLB adopts these policies they are not correcting an existing problem. Instead they are acting as a shill for power companies to make installing batteries for solar systems more costly. It will also make our existing systems LESS safe because, as the CSLB has already acknowledged, electricians devote less time to studying solar battery installations.
This policy creates a "Catch 22" for existing solar battery users because the regulations will likely force consumers to hire a different contractor for service than the one that originally installed their system. I can tell you from experience, that will likely void the system warranty.

The following is cut directly from the CSLB web site (https://www.cslb.ca.gov/About_us/):

> **The Contractors State License Board protects consumers by regulating the construction industry through policies that promote the health, safety, and general welfare of the public in matters relating to construction.**

The CSLB's mission is to protect consumers and maintain contractor standards. Unfortunately, with this proposal, the CSLB is choosing corporate interest over the "health, safety, and general welfare of the public".

Vote against this terrible and damaging policy.

Sincerely,

Keith W. Stiver, MBA
[redacted]

From: **Kelly Patrick** [redacted]
Subject: letter opposing CSLB proposal
Date: July 28, 2023 at 2:21 PM America/Los_Angeles
To: info@solarrights.org

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I do not have a battery with my solar system – it's an older system. The company that installed the system is defunct. You are placing my in an impossible situation where I cannot service my system when it may need service.
Does this all boil down to pubic utilities lobbying you and other people and entities for their own advantage and yours? Where are the principles our country was founded on? Gone with the arrival of Money politics.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Kelly Patrick [redacted]

--
Kelly

From: **Kenneth Fitzpatrick** [redacted]
Subject: Letter
Date: July 28, 2023 at 2:55 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users, like me, in an impossible situation. The regulations could force consumers to hire a different contractor, than the one who did the original work, to add a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Kenneth F. Fitzpatrick
[redacted]

From: **Ken Rasler** [redacted]
Subject: Letter to CSLB
Date: July 30, 2023 at 9:12 PM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors Board License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana. godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAG
SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor state License Board (CSLB) proposal concerning home
systems.

I am the owner of a four year solar system I bought through Sunrun Co. that I am extremely pleas
both the system and Sunrun. I am extremely perplexed to think when I decide to add a battery tha
not be able to use Sunrun. It just doesn't make sense, they know my situation, and they were exc
deal with.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfo
this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could
consumers to hire a different contractor than the one who did the original work to either add or ser
battery at my home. In most cases, this will void our warranties.

Thank you for considering my views.

Sincerely,
Kenneth J. Rasler
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

A year ago, I had 15 solar panels installed on my primary residence. I'm currently considering adding a battery, however if this will somehow affect my current warranty, I will have to forego doing this.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Kenneth Jacksteit
[redacted]

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have been a solar system energy provider since 2006. I always use state licensed solar contractor and would like to continue if and when I add a battery to my system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Kent Dannehl
[redacted]

From: **Kent Morris** [redacted]
Subject: Battery energy storage systems
Date: July 31, 2023 at 8:59 AM America/Los_Angeles
To: info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Kent Morris
[redacted]

7/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My wife and I installed rooftop Solar panels 18 years ago. At the time we hoped to get some discount on our electricity bill, but we were not sure how much that would be or whether we would get any actual discount at all. We did know that we would be taking an important step toward establishing clean energy in California. We have been pleased not only with the discount, but with the increasing installation of rooftop solar around us. We hoped to reduce Power Plants and to eliminate any need for dangerous Nuclear Power.

Since the Utility Companies attacks on rooftop Solar, and the recent decision to reduce any discount on electricity and to add a monthly tax on Solar Panel owners; thereby decreasing any incentive for future Californians to add this clean energy option; we have been concerned that further attacks would take place that would sharing our clean energy with the Utility Companies pointless-we have considered adding batteries to our system and removing ourselves from the Utility Company connection. Although the Power Company receives a great deal more free energy than we use, if they are set on destroying rooftop Solar, why work with them. We had thought to have our Solar Exchange meter exchanged for a regular one and to use our own clean energy as much as possible. Since these are the same batteries used in electric cars we know they would be safe.

This proposed rulemaking would make it difficult or near impossible to purchase and install these batteries, and would create numerous problems for rooftop Solar owners who have already purchased them. We cannot help but feel that this proposed rule is an unnecessary and unwise continuation of the Utility Companies attack on clean Rooftop Solar. We ask that you do not approve this proposed rule.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Kevin Bigelow, [redacted]

From: **Kevin K** [redacted]
Subject: letter to the CSLB on the solar battery issue
Date: July 31, 2023 at 2:42 PM America/Los_Angeles
To: info@solarrights.org

7/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

This proposal's "unintended consequences" can not be ignored as wildfires and record heat make it urgent that every possible homeowner installs home solar energy and battery storage. (Creating barriers to this important work does benefit public utilities, so the words unintended consequences may really be their intended consequences.)

Thank you for considering my views. And remember you were created to serve the public, not public utility corporations.

Sincerely,
Kevin Kingma
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 19 panel system with battery backup that has provided my house with all its electricity needs for two years. That has reduced emissions in my community and statewide.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Larry Black
[redacted]

8-2-23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

We have 20 solar panels that are grid intertied and have plans to expand the number of panels and add batteries.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Larry Knowles, [redacted]

From: **Maas Larry** [redacted]
Subject: Letter
Date: July 29, 2023 at 11:13 AM America/Los_Angeles
To: info@solarrights.org

Hi, Here is the copy of the letter I just mailed to the CSLB. /Larry

Larry Maas
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Diana.godines@cslb.ca.gov

Re: Battery Energy Storage System Proposal

Dear Ms. Godines,

I am writing to the Contractors State License Board to state my opposition to the proposal concerning batteries and home energy storage systems. This proposal is a step backwards for people gaining energy independence and ending a dependency on fossil fuels.

As a retired electrical contractor (License #304635) I can state that solar contractors are far more up-to-date about batteries than electricians are. This proposal would limit the number of qualified contractors for battery installation, raising costs and hurting homeowners. In many cases, it would void the warranties of installed systems by using another contractor to install a battery.

Solar contractors are already licensed and qualified to install batteries and more. The goal of the CSLB should be to make the safe installation of batteries easier and less expensive, not harder and more costly. This proposal should be voted down. Thank you.

Sincerely,

Larry Maas

From: **Lawrence Garwin** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 7:42 AM America/Los_Angeles
To: info@solarrights.org

7/29/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

New rules pushed through by the utilities (NEM3.0) make solar-only systems uneconomical. Now they want to limit the size of and ability to maintain our battery systems, making them less likely to be installed and kept operational.

In order to deal with the climate emergency, we need to stop relying on fossil fuels to support our electric grid; battery storage is a crucial in that regard. We must make it easier and more cost effective for people to install rooftop solar and battery storage systems, including bidirectional electric vehicle charging, not more difficult.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Lawrence Garwin
[redacted]

From: **Lawrence DiCostanzo** [redacted]
Subject: My letter re CSLB proposal
Date: July 29, 2023 at 1:34 PM America/Los_Angeles
To: info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does do important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

First, I do not understand the benefits or need for this proposal. It looks simply like forbidding people who really know how to do a job (i.e., solar installers) from doing the job and giving the job to people (i.e., mainstream electricians) who don't know how to do the job. What is the conceivable benefit here?

Second, I don't understand how this proposal fits with the explicit policy of California and the USA of promoting alternate electric generation like solar. Why? It makes installing and maintaining solar more complicated and therefore expensive. Who wants to get involved in that kind of mess? Very few people besides really rich people. Therefore, the state and federal policy is thwarted.

The who thing seems senseless in the above two respects.

Third, the proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

Fourth, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Lawrence N. DiCostanzo,
[redacted]

From: **Leah Redwood** [redacted]
Subject: COMMENT ON PROPOSED RULEMAKING
Date: July 30, 2023 at 10:28 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

It is my understanding that the CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors and that the CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians. Therefore, this rule would unnecessarily remove thousands of existing local solar companies and workers from the market, including very experienced battery installers. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

Thank you for considering my views.

Sincerely,
Leah Redwood
[redacted]

From: **Lindy Rice** [redacted]
Subject: Re: Action requested: Protect consumer warranties for solar and batteries
Date: August 02, 2023 at 10:51 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

Sorry, I have been out of town and am just getting to this. Hope it's not too late!

Here's my letter:

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

August 2, 2023

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. I am planning to get a battery system for my solar panels soon, and I was told I must have it installed by the company who installed my solar system, since I am leasing the system.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service the battery at my home. In most cases, this will void our warranties.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery – and eliminate jobs.

Thank you for considering my views.

Sincerely,

Lindy Rice
[redacted]

From: **STEPHEN SITES** [redacted]
Subject: letter against new CSLB proposed rule
Date: July 28, 2023 at 2:50 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am against the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed solar panels which power our home and provide excess energy to our community and we want other home owners to have the same opportunitiy to use solar energy.

I believe the proposal to limit solar companies from installing batteries will prevent more people from using solar energy and will stall efforts to limit greenhouse gas pollution.
These regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

The new rules could harm the solar energy industry reducing solar jobs It will make it more complicated to install solar.

Lisa Krepela
[redacted]

From: **"Lynda Marín"** [redacted]
Subject: Keep home battery systems installed by solar contractors
Date: July 30, 2023 at 4:30 PM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

After we installed our solar panels, we waited over a year to install our 30kWh battery for financial reasons. If these rules go into effect, people like us would be forced into detrimental compromises. Who really benefits from this rulemaking? Surely not consumers of sustainable solar energy, the very thing we need in the searing onslaught of climate collapse.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Lynda Marin
[redacted]

--

Lynda Marín
Evolve!
[redacted]

"Not only is another world possible; on a quiet day I can hear her breathing."
~Arundhati Roy

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed solar panels two years ago and have been very happy with the installers and the reduction in my electric bills and the thought that I am supporting the use of renewable energy and helping California to stop climate change. After suffering through a 7-day power outage in June which PG&E has yet to fully explain (there was a storm but most of my neighbors had power back on in our [redacted] suburban community within 2 days) I am very interested in adding batteries to my existing solar panels as well and want to have the greatest choice available in battery installers.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery. The solar installers for my original solar panels did an excellent job and I see no reason that they could not also install batteries since they are very familiar with the technology.

Thank you for considering my views.

Sincerely,

Lyndon Ong, [redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have had a solar system installed by SunRun on my roof for two years. It has worked efficiently, and reduced my electric bill to almost nothing. It also makes me feel good to know that I am not adding CO2 to the atmosphere when I use my air conditioner on hot summer days in [redacted]. If I were to add more panels or need repairs, I know that the licensed contractors working for SunRun can do the job. There is no reason to change that.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force me to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Margie Matoba
[redacted]

From: **Marie Gauley** [redacted]
Subject: Proposed Rule Making
Date: July 30, 2023 at 2:53 AM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had numerous power outages over the 18 years we have lived in [redacted], California. My husband's health has declined and we needed reliable electricity to operate the medical equipment he uses to maintain his health. So last year we installed an 18 panel solar system with a battery. This still did not quite meet our needs so we installed 8 more solar panels and another battery. Thus still doesn't cover essential air conditioning, but it has allowed us to continue living in [redacted], California.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Marie Gauley, [redacted]

Sent from my iPhone

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

As an employee of a solar and battery installation company I take the proper installation of solar and batteries very seriously. We are thoroughy trained on the specific requirements of these systems and install everything to code to protect our customers. The average electrician is not aware of specific requirements of these systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put solar installers like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery. In most cases, this will void the warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Marina Zierk

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We purchased our system over a year ago and are considering adding a home storage battery backup system for an EV we planning on purchasing. If not an EV, then a PHEV. We have total confidence in SolarMax in supplying us with the battery/ies we require to charge our vehicle and to protect us during brown/blackouts in the future. They have worked with SCE in the past and are very competent in upgrading our system. If we are forced to look at other options, we won't do it and will convert to a Generac system instead. Not as efficient but it still provides us with electric security.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Mark & Aida Fiske, [redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The rule changes being proposed are supposedly for the safety and protection of the consumer. But the CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar installers, as noted in CSLB's 2019 report on this issue. The CSLB also acknowledges that while both solar installers (C-46 license) and electricians (C-10 license) are qualified to install batteries, that solar installers train more extensively for battery installations than licensed electricians.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Mark Elkin
[redacted]

From: **mark enbody** [redacted]
Subject: Rulemaking on Battery Energy storage Systems
Date: July 28, 2023 at 3:34 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/28/2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning my home solar & battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Mark Enbody

[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a solar system on my roof and have chosen not to add a battery to the system at this time. However, I do plan on doing so in the future as SCE is adding incentives to do so in order to help with managing demand during the peak hours.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Mark Purnell
[redacted]

MARK S. ANDREWS **CIVIL ENGINEER**

[redacted]

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

July 29, 2023

RE: CSLB "Notice of Proposed Rulemaking Concerning Battery Energy Storage Systems" dated April 28, 2023 involving CCR Title 16, Division 8

Dear Ms. Godines,

This letter is written to address the Contractors State License Board (CSLB) in total opposition to the Board's proposal concerning home battery system installation regulation changes. I believe that the Board's conclusion is not correct that there will be no cost impact incurred by citizens or businesses that plan to add or modify their previously installed battery energy storage systems (BESS). I reference here the Board's Notice at the bottom of page 6, "The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action." I believe that limiting the C-46 licensed contractor to installing BESS only at the time when the solar system is first installed WILL INDEED cause loss of time and money to the consumer and possible loss of contractor's warrantee on the system should changes be made by other contractors. In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

I had solar voltaic panels and PG&E interconnect equipment installed in August 2016 and I am VERY satisfied with the quality of my solar contractor's work, their supplied equipment, AND the savings this system has provided me over the last 7 years. Having observed their work during installation, I trust this contractor and his employees and I am currently discussing the addition of BESS to my system with them. I do not like the thought of having to search for a different contractor to touch the system mainly because they may be unfamiliar with the equipment and will probably have little to no experience with how my system operates and performs with my proposed changes.

The Board's proposed action will affect my pending decision to add BESS to my system and could cause me to incur unanticipated expenses. Should the proposed regulation changes be made, it may void my system warrantee per Contact Section 9, Limited Warrantee, paragraph 9.4, Exclusions, section (ii): "Damage or malfunction caused by any repair, replacement or installation of a part or service not provided or authorized in writing by Contractor (to avoid damage excluded from this Warranty, all hardware installations or upgrades should be performed by Contractor, or with Contractor's prior written consent)."

As a California licensed professional engineer for over 40 years, I understand that the CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, I believe this proposal will harm rather than help consumers. These kinds of proposed revisions to existing regulations that have been serving the public well for many years reeks of outside influence by the electrical power generators. For decades they have spent unknown millions to lobbying the PUC to prevent, block, and eventually control de-centralized private solar electric generation. I believe this proposed regulation change is contrary to the board's mission.

Please consider my views in regards to this pending action impacting me and other solar electric users.

Sincerely,

Mark S. Andrews, PE

From: **"M. Koller"** [redacted]
Subject: PROPOSED RULE MAKING BATTERY STORAGE SYSTEMS
Date: July 28, 2023 at 4:48 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

27 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the proposal concerning home battery systems made by the Contractor State License Board (CSLB).

We installed a home solar panel system approximately two years ago by our solar panel installer. It was our intent to eventually have this installer add a battery storage unit to our system. We were surprised to learn that the CSLB was attempting to pass rules that would significantly limit our choices and potentially invalidate our solar panel warranty.

We believe that the CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal may inadvertently harm rather than help consumers.

The proposed rules requiring an electrician would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who preformed the original work to either add or service a battery at my home. In most cases, this will void the warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and increase the cost of obtaining solar and/or a battery.

Thank you for considering my views.

Respectfully,

Martin Koller
[redacted]

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

The Contractor State License Board (CSLB) proposal concerning home battery systems is appalling and should NOT be accepted.

We have had rooftop solar for many years and are in the process of acquiring batteries so that we are not dependent on our current gas generator during black-outs. We've been very happy with our solar capability and are supportive of the solar energy movement in general.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Mary C. Steele

From:	Mary Cheng
To:	Godines, Diana@CSLB
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Wednesday, August 2, 2023 10:42:25 AM

Dear Ms Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

California is and will be a leader in renewable energy. We have the perfect weather for solar energy but an aging grid system for electricity transmission. Power outages are common, especially in summertime. Therefore a battery system is essential for both residential homes and businesses. It is projected that more battery systems will be installed in the future, providing a steady supply of energy and a growing number of related jobs.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.
The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Mary Cheng
[redacted]

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I personally have finally committed to a battery backup in next couple months. i invested for what i felt was a win- win situation : the betterment of our society,it's future and the world for green energy plus the betterment for myself - my homes' energy consumption by utilizing our precious suns' energy. Honestly, these battles make no sense if you believe in the betterment of our future. I'm not naive, i understand that money is bottom line everywhere for everyone BUT the broader picture is what good is that money outlook if there is no future world or society as we know it. Keep batteries attainable for consumers,don't allow the warranties to be defunct make sure warranties are kept in good faith.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.
Thank you for considering my views,

Mary Fine [redacted]

[redacted]

From: **Earl Hamilton** [redacted]
Subject: Battery Systems
Date: July 29, 2023 at 1:18 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

29 Jul 23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sac, Ca 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms Godines

I am writing in opposition to the Contractor State License Board proposal concerning home battery systems.

I purchased my solar and batteries several years ago at great expense because I am concerned about having power when the grid is down and to help the grid. This is an extremely complex system and the company (Connected Technology) that I worked with has the best qualified technicians in the industry. I will only trust them to work on my system. They have done several jobs for me and I trust them to be honest and completely reliable.

The CLSB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

This proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the work to either add or service a battery at my home.
In most cases, this will void our warranties

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Master Sergeant Earl M Hamilton Jr.

Megan G. Mayer
[redacted]

29 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have rooftop solar with a battery backup. Our house, built before the gas lines were laid, is all-electric. We got the system to lower our electricity usage and bill without adding dirty gas to our consumption. We also have three Nissan Leafs, which charge from our house solar and battery. Often, we have had neighbors over during outages to charge their phones, have a meal, etc.

While the CSLB does important work protecting consumers and maintaining contractor standards; unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Last, these rules force me to use electricians who remain opposed to green energy solutions. Local electricians are unwilling (and by their own admission, unable) to install a Heat Pump – they push gas furnaces instead. They also claim that battery backup systems are insufficient and that gas generators are the only real solution for backup energy. Moreover, I reached out to the Department of Labor to ask when electrician continuing education would include heat pump and backup battery system installation. The representative claimed that Heat Pumps use fewer than 100 volts and thus electricians are not required for installation, which is completely false. Thus, these rules force me to work with an industry resistant to my energy systems and has refused to train on how to install them correctly. Solar companies are interested in solving these problems and expanding the capacity of solar/battery sources. I want to work with THEM to get a second battery pack, or to make my car feed the system, not the electrician who tells me I need a gas generator.

Thank you for considering my views.

Sincerely,

Megan G. Mayer, [redacted]

July 30, 2023

To: Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am an elderly person with several handicaps. I have solar panels and a battery system at my home because I need to be sure I have electricity for my medically-required treatment and assist systems. I am very satisfied with the licensed solar contractor who installed my system and continues to give excellent service when I have questions.

The CSLB does important work protecting consumers and maintaining contractor standards. However, it seems to me that this proposal will harm rather than help consumers. You have found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors. Please do not adopt this proposal. It takes away my already-regulated options for deciding how to optimize my home's solar electricity collection and storage system that I depend upon very heavily.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Melanie J Mayer
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Melanie Malhotra
[redacted]

From: **Mical Kiflu** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: August 01, 2023 at 8:26 PM America/Los_Angeles
To: info@solarrights.org

August 1st, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Mical Woldemichael, [redacted]

From: **Michael Cresto** [redacted]
Subject: My letter to the CSLB
Date: July 28, 2023 at 1:36 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed a solar electric system in 2004 and reduced my electric bill by more than 75%. But more importantly, I reduced my impact on the electric grid by creating my own power, and at the same time, lowering greenhouse gas creation. I plan to install a battery for my system within the next year, so that I can ensure uninterrupted power for necessary medical devices at my home. Our state must do all it can to encourage home solar electric production by way of its laws, policies and regulations, and this proposal runs afoul of that goal.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael B Cresto
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have enjoyed the personal and environmental benefits of my rooftop solar system and am planning to add storage within the next few years. I fear the proposal will remove or severely limit this future aspiration.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael Brown, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed our solar many years ago, which we bought and paid for. It is covered with my original solar installer warranty. If we want to add a battery to our existing solar system or make repairs we would have the original solar installer to do it. It is under warranty, and we don't dare risk voiding our warranty! If we want to add a battery, we would hire our licensed solar contractors rather than an electrician who is not trained extensively on battery installations. We invested in our solar system and we help by adding unused hours to the main grid to prevent shortages. Why would we risk our investment and installation of a battery by someone else? We would hope that you will understand our concern and vote NO regarding CSLB's proposal concerning who should install home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael Burke & Gladys MartinezBurke
[redacted]

From: **Michael Chaskes** [redacted]
Subject: Public Comment for CSLB
Date: July 29, 2023 at 8:45 AM America/Los_Angeles
To: info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I completely fail to understand what legitimate purpose would be served by this proposal, which would put California's rooftop-solar users in an impossible situation: on the one hand, unable to hire their original contractor to expand or repair their batteries; on the other, unable to hire a different contractor, which would void their warranty.

With Californians struggling through another brutal summer of planetary record-high temperatures, caused by over a century of fossil-fuel consumption, it is critical to human survival that renewable, non-polluting energy sources be expanded and cultivated as rapidly as possible. California has been a leader in this regard for decades. This proposal would throw an enormous monkey wrench into this effort and discourage Californians from installing, expanding, and maintaining solar panels, all for no good purpose whatsoever (unless you consider "jacking up bloated utility profits" to be a good purpose). I urge you in the strongest possible terms to reject it.

Thank you for considering my views.

Sincerely,
Michael Chaskes
[redacted]

From: **Michael Scott** [redacted]
Subject: Godines letter
Date: July 28, 2023 at 3:09 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The proposed terms are contrary to good business and a competitive economic practices. I have solar and battery, thanks to the same solar contractor who also provides back up. This is of immediate benefit to me, the consumer, and to my neighbors, who are also consumers of the electricity I produce.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael F. Scott
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Michael Gantos, [redacted]

From: **Michael Gardner** [redacted]
Subject: CSLB Meeting on home battery contractors
Date: August 02, 2023 at 1:55 PM America/Los_Angeles
To: info@solarrights.org

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I currently own a residential rooftop solar system installed under NEM 2. As a net energy producer I would consider installing a battery backup system. The proposed change in licensing requirements will complicate adding a battery system and likely add additional expense, due to reduced competition and additional contractor backlog.

Already licensed solar contractors are well trained and often better suited for installing solar panels and battery storage systems than licensed residential electricians.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael Gardner, P. E.
[redacted]

--
Michael Gardner Sent from Gmail Mobile

From: **Michael Mora** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 1:36 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 14 kw-hr battery to support critical home loads: refer, freezer, communications, and prescribed C-Pap medical devices. We live in a rural area and experience 5-10 sustained power outages a year. With dramatic increases in high heat intervals, power reliability will likely degrade further. I plan to add more capacity to my battery and will make sure that the C-10 Licensed Electrical contractor has the requisite experience working with battery backed solar PV systems, & inverters. My first choice will be the original contractor who did the installation.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael Mora
[redacted]
ca

July 28. 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a solar system on my house presently. If I decide to add batteries, I want to contact a solar contractor because they have more experience than most electricians in such an install. I would always hire a more specialized person over a general electrician. To do otherwise is just plain foolish. I would hire a transmission specialist to repair my car transmission. I would be a fool to hire just a mechanic – even though they have similar skills. The specialist will make fewer to no mistakes and be efficient. The regular mechanic not so.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michael Perry
[redacted]

From:	mike
To:	Godines, Diana@CSLB
Subject:	I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
Date:	Friday, July 28, 2023 1:53:04 PM

This proposal is terrible for consumers who have solar and want to add a battery.
There is no good reason for limiting the size of these batteries and no reason to
restrict the battery installation to licensed electricians, which would void the consumer's warranty on their solar systems.

Thank you, Michael Shifrin
[redacted]

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force myself or other consumers to hire a different contractor than the one who did the original work to add a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Michael Showalter
[redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Just this July we had Tesla install our solar system. The system of 26 panels with a Powerwall+ battery is designed to provide all our current energy needs. However, as we replace gas appliances, we anticipate we will need additional panels and another battery. Using Tesla for additional solar needs has been our plan. They provided excellent customer service; their field technicians were extremely knowledgeable about the system. We wouldn't want an electrician to come work on the system that Tesla solar experts designed and installed.

Installing the solar system won't benefit us financially, rather we chose to install it to do our part in expanding the capacity of our local electrical grid using green technology. More rooftop solar systems with battery backup in southern California will help relieve the electrical grid during times of heavy use, hopefully preventing shutdowns due to an overextended power supply. We also will no longer be impacted when Edison shuts down the power supply for fire prevention during heavy wind events, which we have experienced numerous times in the last several years. Eventually, we hope to recoup our investment, but if this proposal goes into effect, our investment will be significantly compromised.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Michlyn Hines, [redacted]

7/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We had solar installed several years ago to help offset the constant rate increases that PG&E passes on to its customers as well as the fact that we thought it was a good thing to do for the environment. Now it seems we are constantly fighting the State of California and the utility companies to justify the continued use of solar which is completely counter to what the State supposedly stands for.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Mike & Alison Mettler, [redacted]

From: **mjbeggs Proton** [redacted]
Subject: Letter to Contractors State License Board
Date: July 28, 2023 at 8:43 PM America/Los_Angeles
To: info@solarrights.org

July 29, 2023

Diana Godines

Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I oppose the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a home solar panel setup that is only functional when the utility grid is functional. That means when the utilities cut power to my home for whatever reason, my system stops functioning and I am without power. I have no power despite solar panels on my roof still generating electricity that goes nowhere. With a battery system, I can still get power when the grid goes down and at night when the sun doesn't shine. Any proposal to limit my ability to get a battery storage system from the original supplier is wrong.

The CSLB does important work protecting consumers and maintaining contractor standards. However, this proposal will actually harm rather than help consumers such as me. I'll be put in an impossible situation. The regulations could force me to hire a different contractor than the one who did the original work to either add or service a battery at my home. Other homeowners in California will be put in a similar bind and will lead to our warranties being void. It's already taking a long time for our systems to break even given the paltry rates the utility company is paying for excess power generated. California should be helping more homeowners install roof-top solar by making them economically viable and protected from utility company schemes such as this one that make it harder to go solar and install a battery system.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and a battery.

Thank you for considering my views.

Sincerely,

Mike Beggs

[redacted]

[redacted]

7/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have solar on my house and in the future would like to incorporate battery backup. This proposal would make that much more difficult and expensive. It could also void my warranty of my roof top solar system. PLEASE do not do this to our good state of California.

It is my understanding that :

1. The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.

2. The CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians.

If this is so, what sense does this proposal make? None, that I can understand.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Milton Bender, [redacted]

From: Mitchell Mason
To: Godines, Diana@CSLB
Subject: Letter on solar battery installation changes
Date: Friday, July 28, 2023 1:47:10 PM

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKINGCONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.
In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Mitch Mason
[redacted]

Sent from my iPhone

From: **Molly Brown** [redacted]
Subject:
Date: July 30, 2023 at 4:17 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My husband and I plan to install a solar power system on our home in the near future, and are very concerned about how this proposed law could limit our options for future expansion.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery. In most cases, this will void the warranties. I cannot see any benefit to this regulation except to discourage solar installations and increase utility corporate profits!

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Molly Brown
[redacted]

--

"The eyes of the future are looking back at us and they are praying for us to see beyond our own time…that we might act with restraint, that we might leave room for the life that is destined to come… Perhaps the wildness we fear is the pause between our own heartbeats, the silent space that says we live only by grace. Wilderness lives by this same grace. ~ Terry Tempest Williams, *Red,* p. 215.

Molly Young Brown, M.A., M.Div (she, her)
[redacted]

[redacted]

MBCA

morongo basin conservation association

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We are writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers and will not serve to incentivize the imperative to transition off fossil fuels.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery in a residential system. In most cases, this will void the warranty of the system.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Now in our 54th year of advocacy for the healthy desert environment, MBCA strongly supports the creation of a distributed, renewably generated electrical system. The use of batteries in conjunction with rooftop solar will be integral to this effort. Every effort must be taken to adopt and encourage these 'virtual' power plants. Limiting the ability of qualified solar installers to add batteries would disincentive the adoption of rooftop solar.

Thank you for considering our view.

Sincerely,

Steve Bardwell

Steve Bardwell, President

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to oppose the Contractor State License Board (CSLB) proposal concerning home battery systems.

As retired individuals on a fixed income, my husband and I decided to install a solar system. This is because it not only saves us money from the high energy rates that are bound to increase, but it is also a renewable energy source that benefits the environment.

The CSLB plays a crucial role in safeguarding consumers and upholding contractor standards. However, this proposition will hurt consumers instead of benefiting them.

The proposed regulations would place us in an impossible position. If we need to add or service a battery at our home, the regulations could require us to hire a different contractor than the one who originally did the work. This could void any warranties we have.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery. The proposal would also kill jobs in California.

As I read the notes from the February 23, 2018 meeting, it became obvious that the utilities were pressuring the CSLB to move forward with the proposal. The CSLB also acknowledges that while both solar installers (C-46 license) and electricians (C-10 license) are qualified to install batteries, solar installers train more extensively for battery installations than licensed electricians.

My husband and I want the best person to install and work on our system with the highest standards. The C-46 license provides consumer protection. Nothing currently stops a person with a C-10 license from installing or working on a solar system. There is also nothing stopping an electrician from getting a C-46 license. **What problem is the CSLB trying to fix? There is no problem**. The existing rules are functioning exceptionally well.

The CSLB has recklessly pushed forward with this proposal under the pretense of safety, despite the absence of any issue that requires fixing. I am concerned that utility interests influenced this proposal. Another heavy-handed attempt to make rooftop solar systems more difficult to install and maintain. This proposal is not in the best interest of consumers and does not uphold contractor standards. This proposal lowers the contractor's standards and is in the best interests of California Utilities. Do your job and protect consumers!

Thank you for considering my views.

Sincerely,
Ms. Lee Miller and Mr. Craig Vreeken

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Batteries are an integral part of solar systems. A battery system allows storage to prevent grid overuse in evening hours. It allows homeowner independence without completely going off the grid, which means more solar-generated power to share with the grid. Like any other modification, updating, or remodeling, homeowners should be free to choose among qualified people and companies to do the work on their own homes. Solar companies are already fully qualified to install batteries; solar installers are far more involved with the technology around solar than most electricians are. This choice must be available. We are owners of solar panels and have been since 2012. Batteries have developed a great deal since then. We want ordinary consumer choice for the installation of batteries to supplement our solar installation.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Nancy F. Knop
Nancy Knop, [redacted]

From:	Nancy Haber
To:	Godines, Diana@CSLB
Cc:	Solar Rights Alliance
Subject:	COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Saturday, July 29, 2023 1:50:58 PM

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. I am infuriated that the Board is even considering this proposal, given the dire consequences to our workforce, consumers, and our economy; and even more importantly, to our urgent need to transition to an all-electric, clean and sustainable, country-wide power system. We must address our climate emergency as quickly as possible. Our state agencies must not become entangled in considering ill-advised local or state regulations or be unduly influenced by particular economic interests which would delay this transition.

The Board has acknowledged that solar installers are more extensively trained to install battery systems; furthermore, that there have not been any safety problems with solar contractors installing batteries to this point.The proposal would put most solar users in an impossible situation, forced to hire different contractors than the original installers and in most cases, void their warranties. In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

While as a renter I do not yet have a solar system or battery, I do have friends and family nearby who have solar and would like to get batteries installed as well. I feel strongly that we absolutely MUST build and install all electric power generation and storage that we

possibly can, from large solar or wind facilities to rooftop solar for homes and communities.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers and our workforce, and impede our path to a clean power system and meeting our climate goals.

Thank you for the opportunity to voice my strong opposition and for considering my views.

Sincerely,
Nancy Haber
[redacted]

7/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We got 20 new solar panels put on our home and 16kWh battery system last year because we believe it's the right thing to do in this time of climate crisis. This summer of record high temperatures has confirmed we made the right decision for ourselves, our community and the environment.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Nandine Hatvany, [redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We are writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our system includes 34 solar panels and 2 backup batteries along with a quick disconnect gateway to allow us to operate independently of our power company's grid. We originally put in our solar panels and backup batteries because our public utility frequently lost power and/or shut down power due to high winds. We felt that the battery backup was an essential part of this process. One of us sleeps with a CPAP machine, and it is very important to us that we do not lose power in the middle of the night. We also feed the power company's grid during peak times to help with the demand on the grid.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at our home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Sincerely,
Nathaniel & Drenda Howard
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed our solar panels two years ago and have experienced many benefits from the energy we have been producing. We feel we are contributing to a more environmentally beneficial solution to the energy needs of California. We were planning to install batteries in the near future, and this proposal makes NO SENSE. Clearly, the best way to do it is to have the company who installed our solar also install the batteries. They are familiar with our system and since it is still under warranty, hiring someone else to do it would negate our warranty. It seems that the utility companies are at war with anything having to do with solar. They obviously want to continue to provide profit for their shareholders at the expense of consumers, reputable contractors and California's energy progress.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Nedra Robins
[redacted]

From: **Neil Strock** [redacted]
Subject: Solar Energy rule changes proposed - comments
Date: July 30, 2023 at 1:56 PM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am in the 5th year of operating a solar power system (Panasonic, Solaredge, LG Battery) with battery backup. I am looking to expand this, but do not want to be limited in my use of solar contractors.
There are already enough problems finding fully certified installers, and dealing with warranty support.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Neil Strock
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULE-MAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a 6KW Solar Array on my roof, which is enough for my needs as a sole homeowner. When I installed the system however, I was keen to ask the contractor if I could make future modifications. You see, I want kids, and for this to be my family home, which would naturally expand my energy usage. I have also maintained close contact with my solar contractor about adding potential battery storage. I live in the high desert, where we face temperature extremes every day, and I rely upon a well for my water. If I were to lose power, which happens often because the utilities shut off power during risk of wildfires, I lose access to my water. Right now, I cannot afford the batteries, but I fully intend to have them installed by my licensed solar contractor when I have enough money to do so.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. In fact, it encourages homeowners to seek out electricians and unlicensed contractors to do work that, 1. would void

the warranties on their original equipment, and 2. potentially expose the homeowner to electrical hazards and the risk of poorly installed equipment. This seems to go completely against the mission and social utility of the CSLB

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Nicholas Christensen
[redacted]

From:	Nina Lees
To:	Godines, Diana@CSLB
Subject:	CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Sunday, July 30, 2023 8:18:56 PM

July 31, 2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The installers for the SOLAR system did a far better job of installing the Solar Panels and the Battery pack than the electricians that wired this house originally. They had to rewire the main circuit panel and had to enclose the bare wiring that was exposed on and laying on the roof. A lot of the grounding wire had not been installed properly..

My brother, who was a Quality Assurance Representative for the Government, commented that their workmanship was superb. He told the workers, that their workmanship was excellent. He said that the original work must have been done by monkeys.

It would be at a disadvantage to find more qualified electrician than the ones that are trained to install and service this equipment.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Nina Lees, [redacted]

From: **Norman Kort** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 31, 2023 at 11:21 AM America/Los_Angeles
To: info@solarrights.org

07/31/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our home has a solar system which has largely offset our very high cooling bills in summer and allowed us to feed our excess electricity generation to the SDG&E grid to help with their supply and to increase their profitability at our capital outlay expense. We were not able to add a battery system at the time we installed the solar system, but plan on doing so in the future and we want to be able to have experts in the solar / battery technology do so, not a general electrical contractor who has not been specifically trained to perform the installation on our home with our specific solar system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Norman Kort
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We put a solar system on our rooftop seven years ago, with a battery so we would have backup during power outages. It has always been our intention to add to this system, especially the battery back-up, as prices lowered and systems improved.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Pamela Wilkinson
[redacted]

Pat Flanagan
[redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827 Sent to Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the CSLB proposal limiting the installation and servicing of home battery energy systems to licensed electricians only. Although CSLB does important work protecting consumers and maintaining contractor standards I believe this utility-backed proposal will harm rather than help consumers and will not serve to incentivize the necessity to transition off fossil fuels.

I live in the Mojave Desert and my home is solarized but without a backup battery. I am 83 years old and living on a fixed income yet as the weather becomes hotter, and the climate more uncertain, the expense of battery backup could become essential. The proposed regulation could force me to hire a different contractor than the one who did my original work to both add or service a battery. This will void the warranty of my system. What is the point? As I understand it, you have acknowledged that licensed solar installers (C-46) are trained more extensively for battery installation than licensed electricians (C-10).

Please do not ignore the rapidly changing environment and the need for increasing the amount of distributed, renewably generated electrical systems. Please do not disincentivize the adoption of rooftop solar by limiting the ability of qualified solar installers to add and service batteries. Please support those with rooftop solar in need of battery backup.

Thank you for considering my views.

Sincerely,

Pat Flanagan

Date

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I put up my solar array and batteries separately, as it was too expensive to do all at once, and, according to your new rule, I would not be able to use the SPECIALISTS you have made a special license for! Solar power is WONDERFUL for this country, for the earth, and making things more difficult and expensive for people is not going to make the process safer at all, in fact, might I suspect money is the bottom line? Being pushed to make these concessions so that big utilities can profit form this?

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Pat Kanzler
[redacted]

From: **Patrick Villano** [redacted]
Subject: Letter to CSLB concerning BATTERY ENERGY STORAGE SYSTEMS
Date: July 31, 2023 at 9:33 AM America/Los_Angeles
To: info@solarrights.org

08-01-23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I've been selling PV and battery systems for several years, and I know the very harmful impact this proposal will have on costs for homeowners and small businesses in need of battery backup.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at their homes. In most cases, this will void our warranties.

In addition, these rules would SEVERELY reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Pat Villano
[redacted]

Home Improvement Sales (HIS) Registration # 128027 SP

Attachments:
YES logo 2-20.jpeg (7.15 kB)

From:	Patricia Kale
To:	Godines, Diana@CSLB
Cc:	Jivendra Kale
Subject:	Comments on Proposed Regulatory Action on Battery Energy Storage Systems
Date:	Sunday, July 30, 2023 7:36:20 PM

Dear Ms. Godines,

I am writing to you today to oppose the proposed regulatory action on battery energy storage systems. The proposal will harm citizens of the state of California by preventing us from maintaining or expanding our residential solar energy systems. The proposed rules will put us in a no-win situation where we will nullify and void our current warranties on our current solar energy systems when we need to either service or expand these system.

My family is awaiting the installation of 50 solar panels and two 13 KwH batteries to begin in a week. We are expecting to use the same company to service our solar panels and batteries on a regular basis. They have the experience and expertise in doing this, and I'm sure will require that we do so in order to comply with the warranty.

Please do not pass a rule that will invalidate our warranty on an extremely expensive system (over $100,00.00), or hinder our ability to expand it in the future.

From two extremely concerned citizens,

Patricia and Jivendra Kale
[redacted]

From: **Pat Blevins** [redacted]
Subject: Protest to CSLB re: solar battery energy storage repairs
Date: July 28, 2023 at 2:36 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

In 2019 I purchased solar panels and a Tesla Powerwall battery for my home. The City of San Jose was experiencing multiple day long PSPS by the felon PG&E. I felt that I had no choice but to use some of my retirement savings to ensure I wouldn't be sitting alone in the dark or losing the contents of my refrigerator, which I had already experienced 7 or 8 times in the past due to multiple day power outages when PG&E had too many homes connected to the same aging transformer. Without a battery a homeowner cannot use the power from their solar panels during a grid shut down. So just adding solar panels would not be enough to power my home during a PSPS. The cost of the battery was substantial, but I had NO choice. And now you want to wipe out the warranty on this expensive Tesla Powerwall by requiring me to use a less skilled electrician and not the company which safely and correctly installed my Powerwall???? Isn't this just another attempt by power IOU's like the felon PG&E, to eliminate licensed solar/battery contractors? It certainly looks that way. We fought NEM 1.0 and NEM 2.0 and now the power IOU's need another way to eliminate rooftop solar and battery contractors because these systems cut into their profits.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.
Sincerely,
Patricia Blevins
[redacted]

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Solar energy and the current policies around batteries allow myself and all Californians the ability to choose for ourselves how we purchase energy. Any more perversion of our rights is not only morally reprehensible but blatant lobbying for the private monopolies being forced upon us all. Be better than that. Stand for THE PEOPLE and not CORPORATE GREED!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Patrick J. Dimmick
[redacted]

7/28/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

This proposal stinks of Utilities influence. Personally, I'm sick and tired of the constant fighting and vigilance we have to maintain against the Utilities in their quest to kneecap household solar in California. It is time for Sacramento to start looking out for the 'silent majority' instead of acting at the behest of the largest donors and lobbyists.

The CSLB itself acknowledges that while both solar installers (C-46 license) and electricians (C-10 license) are qualified to install batteries, that solar installers train more extensively for battery installations than licensed electricians. The CSLB Licensing Committee meeting notes from February 23, 2018 state:

"The exams for both the C-10 (Electrical) and C-46 (Solar) include questions on energy storage systems. The C-46 exam covers the topic more extensively than does the C-10 exam, and every version of the C-46 exam contains questions on the topic, though not every version of the C-10 exam does. " (p. 94)

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Paul Cahill, [redacted]

From: **Paul Chapman** [redacted]
Subject: Letter to CSLB
Date: July 28, 2023 at 4:15 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

For the last 17 years I have been a satisfied, and proud, owner of a 2.4 kW residential solar system. I invested early on in solar energy, not only for cost savings over the long term, but to help our state become the leader in solar renewable power. While I am just one of over a million California householders to take this step, I am glad to be included among those trying to make personal choices to help alleviate the climate crisis. The fact that this month is the hottest on record, and temperatures are likely the highest in 125,000 years should make everyone of us take every measure we can to reduce fossil fuel consumption.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Paul Chapman,
[redacted]

[redacted]

From: [redacted]
Subject: Re: Action requested: Protect consumer warranties for solar and batteries
Date: July 30, 2023 at 5:55 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

Date 7/30/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

As the residental owner of a solar system I would like to be able to upgrade and add a battery in the future. Every day the news has headlines about the climate crisis worsening. Because of this, taking steps to reduce CO2 emissions is important to me.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
PAUL WEBER, [redacted]

July 28, 2023

Diana Godines

Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed solar in 2006 and are currently adding additional solar plus a battery pack. It has taken two years to find a contractor willing to add solar to our system. The original contractor no longer exists. Please don't take away our options; solar doesn't last forever!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Paula Manildi

Sincerely,
Paula Manildi & Eric Geyer
[redacted]

From: Pauline Seales
To: Godines, Diana@CSLB; SC CAN discussion
Date: Friday, July 28, 2023 3:27:51 PM

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed solar panels in 2005 to benefit the environment.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Pauline Seales, for Santa Cruz Climate Action Network, 1750 members

From: **Penelope Modena** [redacted]
Subject: Letter to Godines
Date: July 28, 2023 at 1:42 PM America/Los_Angeles
To: info@solarrights.org

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I obtain a Home Equity line if credit to be able to afford the greener option of solar panels on my home hoping the cost savings would help me pay it off.

It has been so disheartening to see how the state continually seems to be sidestepping we consumers in support of the huge private industries

profit margins.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Penelope Modena
[redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

My family invested in solar panels a few years ago. We spent more than a year researching our options and meeting with solar companies to find a company that we felt comfortable to work with over the life of our investment. Our next step is growing our investment with a solar battery. It's incredibly important to us that we can continue our working relationship with our current solar company.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Penny and Julian Mitchell
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I currently lease the solar panels on my roof. I did this after considerable thought and research that was available at the time, about 7 years ago. My motivation was two-fold…….to save money and to do my part for the environment. With all the solar panels added to roofs in my area, since then, it was the right thing to do.

The CSLB does important work protecting consumers (I know firsthand) and maintaining contractor standards. However, I believe this proposal will harm rather than help consumers.

The proposal, as I understand it, would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. And what happens when said panels are leased rather than owned outright?

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Penny Crow
[redacted]

From: Peter De Gregorio
To: Godines, Diana@CSLB; info@solarrights.org
Subject: Solar Battery
Date: Saturday, July 29, 2023 12:57:04 AM

July 28, 2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I got my solar system in 2011, because the energy I make is free and does not pollute. No company paid for my system and no company should be making money from my solar system. I am very proud that I am almost on renewable energy.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Peter De Gregorio, [redacted]

Sent from AT&T Yahoo Mail on Android

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

As a 30 year CSLB licensed general contractor, I have an appreciation for quality work provided by qualified licensed trade professionals. Electricians I have worked with do not have the trade expertise needed to work on solar systems or back up batteries without additional engineering plans that would increase an already expensive product for customers. Nor are there enough electricians serving southern California to take over the work provided by licensed solar contractors. Requiring electricians to do this work would cause project delays and a shortage of electricians, both which would further increase costs to customers.

For these reasons, I hired a licensed solar contractor to install my solar system and expect to use them for maintenance or expansion of my system. These licensed solar professionals deserve to continue the trade specialty they've honed over the past 30-40 years.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Peter Dinkel, [redacted]

Peter Rudd
[redacted]

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed Enphase solar panels on our single-family residence in 2021 and shall have solar batteries added on 8/2/23. Our efforts, also including heat pump HVAC and water heater, reflect our hopes to address climate change, fossil fuel dependency, and self-interested PG&E price increases. During last winter's weather challenges, we lost all power four times (once for 2.5 days). The solar battery installation will help buffer future power outages for us and hopefully inspire friends and neighbors to invest in solar installations of their own.

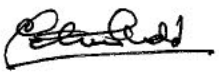
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,



Peter Rudd

From: [redacted]
Subject: Proposed Solar Contractor rules
Date: July 28, 2023 at 1:59 PM America/Los_Angeles
To: info@solarrights.org

7/27/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Peter Smalley
[redacted]

From: PHILIP MCRAE
To: Godines, Diana@CSLB
Subject: Proposed battery storage systems.
Date: Saturday, July 29, 2023 10:14:37 AM

7/28/2023
Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov
RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Dear Ms. Godines,
I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.
The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.
In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.
Thank you for considering my views.
Sincerely,
Phil McRae
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our home came with a 2.2kW Tesla solar system in 2020. We added a 4.0kW Tesla solar system with a Powerwall in 2021. We have been very happy with the performance. Having a battery has prevented us from experiencing neighborhood power failures.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Phil Wagner
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

In August 2020 we had a Solar Contractor install a 10 panel 415 W solar system. It has a 25-year warrantee through the contractor. It has an option to install a backup battery system at any time. The system provides all our electricity with no annual cost. The CSLB proposal would void our warrantee if the system needs repairs or additions. It would put us in an impossible situation. Solar Contractors have more training on solar systems and batteries than licensed electricians. There is no safety issue documented for solar contractors. This proposal is an end run by electric companies to make it more difficult to install and maintain solar systems. It should be rejected in its entirety.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Philip Steed, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We installed solar panels in 2015, but found that, because they only produced power during the day, we did not achieve the savings we had anticipated. In 2020, we used our original installer to add 3 15 KwH Tesla batteries, which enabled us to save significantly on our utility costs and gave us considerable energy independence when Public Safety Power Shutoffs were necessary.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users who have not yet added batteries in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at their home. In most cases, this would void their warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Randi L Harry

Randi L. Harry
[redacted]

From: **Ray Kaufman** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 7:45 PM America/Los_Angeles
To: info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have a solar system as well connected battery support with the TESLA battery back up. We installed both at considerable cost to do what we could to support initiatives to reduce pollution and decrease the effects of global warming. We don't understand why our government would make it more difficult for consumers who are doing the best

The CSLB does important work protecting consumers and maintaining contractor standards.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. Unfortunately, this proposal will harm rather than help consumers who did the right thing for our community, the world, and our planet. Why?

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Ray Kaufman
[redacted]

From: **Renante Reyes** [redacted]
Subject: CSLB
Date: July 28, 2023 at 10:50 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Renante Reyes
[redacted]

Sent from Yahoo Mail on Android

From: **Rene Wise** [redacted]
Subject: Response to CSLB attempt to change the rules regarding prohibiting solar installers from adding batteries to existing solar installations
Date: July 30, 2023 at 11:17 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org
Cc: Rene Wise [redacted]

Hi all:

Here is the letter your requested to forward to the Contractors State License Board. It is also attached as a Word doc (Pages for Mac) in case you preferred that.

Regards,
Rene Wise

==========

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I'm leasing a solar system in [redacted] which has been running for over ten years very successfully. In the near future, I am planning on adding back up batteries to my system, once I can afford it. If this new rule goes into effect, it will make it unaffordable for me to ever get batteries. In addition to voiding my warranty with the current provider.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Why are we trying to solve a problem that does not even exist, and only benefits the utilities companies efforts to eliminate their only competition for solar generation and battery storage. Utilities' monopolies on energy only drive prices up for all consumers and eliminate the need for innovation.

Thank you for considering my views.

Sincerely,
Rene Wise; [redacted]

Attachments:
Contractors State License Board letter.pages (289.48 kB)

From: **Richard Burnett** [redacted]
Subject: Solar
Date: July 28, 2023 at 3:38 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

07-28-2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our system is a ten panel installation that reduces our need for power from Edison. We are participating in solar in order to help the grid and save money for us. A battery system is our future endeavor.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Richard & Karen Burnett
[redacted]

From:	Richard Needham
To:	Godines, Diana@CSLB
Subject:	Opposition
Date:	Monday, July 31, 2023 7:56:05 PM

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

About 15 years ago, we installed a small (2800 Watt) system in an effort to keep our bill in Tier One of SDG&E's Pricing Plan. It worked for a few years, but as time went by, we have noticed that our bill keeps increasing. We are contemplating adding to our system for two reasons. We would provide additional power to the grid during peak hours, and to try and recover the cost of the additional system by saving on our electric bill.
I am having a hard time finding a good reason for denying the original Solar company from expanding our system. If anyone else works on or adds ro pur system, our warranty will be void. This ridiculous plan guarantees that my warranty will be made void. I see no wisdom in this.....

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Richard Needham

From: **Richard Ponterio -** [redacted]
Subject: RE: Action requested: Protect consumer warranties for solar and batteries
Date: July 30, 2023 at 12:50 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAG
SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning hom
systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfo
this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could
consumers to hire a different contractor than the one who did the original work to either add or ser
battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service
battery. This would limit choices for consumers and drive up the cost of getting solar and/or a batte

Governor Newsom and the state of California have been urging people to install solar power. Plus
2020 all new residential construction in California is required to have solar photovoltaic systems in
These new regulations are detrimental to the expansion of solar power in the state of California.

Thank you for considering my views.

Sincerely,
Richard Ponterio
[redacted]

[redacted]

[redacted]

[redacted]

From: "Richard St. Angelo" [redacted]
Subject: Comments on proposed rulemaking concerning battery energy storage systems
Date: July 28, 2023 at 3:07 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 27, 2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

Re: Comments on proposed rulemaking concerning battery energy storage systems

Dear Ms. Godines,

As a practicing licensed architect in California I strongly oppose the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Richard St. Angelo, [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

From: **RICHARD M SUGAR** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 1:49 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 28,2023

Diana Godines

Contractors State License Board

9821 Business Park Drive

Sacramento, CA 95827

Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Thirteen years ago I installed my solar system, for the many reasons people add solar to their property. I have a 9.8 kW system. Last year I installed two Tesla batteries because of loss of PG&E power in my area, both scheduled and unscheduled. You probably know that without battery back-up, your solar panels shut down if power is lost. This year I am adding 3.2kw more solar. I am currently in NEM 2, but will lose my grandfathered status in 7 years. Because of the PUC new rules that will take effect at that time, I would like to add more battery back-up so I can be off grid most of the day. These proposed changes will hamper my ability and the ability of other solar uses who will be in NEM 3 to do this. I urge you to vote NO on the proposal

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users l ke me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Richard Sugar
[redacted]

From: **RC TANIGUCHI** [redacted]
Subject: CSLB proposal
Date: July 30, 2023 at 1:54 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 30, 2023

Dear California State Licensing Board:

I am writing in opposition to CSLB proposal concerning home battery backup systems.

We purchase a PV and solar battery backup system in order to help us navigate through a periodic blackout that PGE has proposed for peak fire danger times. At 77 years old, we need to keep the lights on in order to navigate around our home in a safe manner and prepare meals. Our home is all electric with only a gas water heater. All our communication systems are electricity dependent.

This July will be the hottest temperature on record and enviably be a be a big fire danger time. PGE will shut off our power whenever they feel the threat is too great. I can't believe that CSLB wantto penalize people for helping save our planet.

We have always used the CSLB website to find licensed contractors for a range of home repairs. Never did I imagine that CSLB will work against Califonia's consumers to void a valid contract/warranty for our battery backup system.

Sincerely,

Richard Taniguchi
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Re: COMMENTSON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. I installed my solar system several years ago with Sunrun as a means to slow the global warming trends facing our planet. And, at the same time reduce my energy costs.

I understand that the CSLB does important work protecting consumers and maintaining contractor standards. I always use licensed contractors to do upgrades to my home. Unfortunately, this new proposal will harm rather than help consumers like myself.

The proposal would put most solar users like myself in an impossible situation. The regulations would force consumers to hire a different contractor than the one who did the original work in either installation or repair of my solar system. In most cases this will void our warranties

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This ultimately limits the consumers ability to choose a contractor and drive up the cost.

Thank you for considering my views.

Kind Regards,

Rick Fanciullo

[redacted]

From: **Robert Burns** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 6:44 PM America/Los_Angeles
To: info@solarrights.org

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

It's become painfully clear that the for-profit, investor owned utilities will try any tactic to undermine rooftop solar installations, which these companies have long seen as a threat to their monopoly power. Any proposal that these utilities favor should therefore be summarily rejected in the interest of consumers and the environment.

Sincerely,

Robert Burns
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our solar contractor has proven far more knowledgeable about solar electrical issues than our otherwise very skilled electrician.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Robert King, [redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing to express my opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed a solar system with battery back up a couple of years ago, using a solar installer company that did an excellent job. I must note that the only problems I had related to the installation and activation of the system were with my utility company, Southern California Edison, which acted incompetently, caused unnecessary delays, and was extremely difficult and unpleasant to deal with.

I installed the system to help do my part to fight climate change and to prepare for living on a fixed income during retirement. Many others in my neighborhood have also installed solar systems, and are happy that we are able to contribute to fighting climate change, reduce demand on the grid, and provide our utility with clean energy.

As it happens, I am considering adding an extra battery to my system, but this CSLB proposal to prohibit licensed solar contractors from adding a battery to a system they installed, or making other repairs or modifications, is unnecessary, would limit my choices, and could force me to choose an installer that would void my warranty.

The CSLB does important work protecting consumers and maintaining contractor standards. I rely on the CSLB website to check a contractor's license and history before employing them. Unfortunately, in this instance, this CSLB proposal will harm rather than help consumers, while helping utility companies in their campaign to limit consumer access to rooftop solar and battery systems.

These rules would also reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Therefore, I ask that the CSLB reject this proposal. Thank you for considering my views.

Sincerely,
Robert Leonard
[redacted]

From: **Roger Paskett** [redacted]
Subject: CSLB comment
Date: August 02, 2023 at 9:34 PM America/Los_Angeles
To: info@solarrights.org

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
I had a solar system installed in December 2022 and it will be under warranty for the next 10 years. If panels, the inverter, or any part of the system should be able to have it fixed by the company who installed it and who supports my warranty. The contractor may be a solar contractor but they have qualified electricians working for them. I don't see why they can't be used under the new policy.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Roger Paskett
Mill Valley

--
Sincerely,
Roger Paskett
[redacted]

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

Are you people crazy? Why would you even consider making this change to managing modifications and or repairs to Battery Energy Storage Systems? At a time when we desperately need to increase the number of energy storage systems on line, instead of making it easier and safer this proposed rulemaking makes it harder and adds risk. I am writing to express my strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. Who ever came up with this lame brained idea should be banned from proposing future rulemaking proposals in the future.

Our system has about 10 kw of solar and has a Tesla Power Wall. It's already saved us from over a dozen power outages hare in Huntington Harbor where electrical power outages are frequent though generally short.

I acknowledge that the CSLB does important work protecting us consumers and maintaining contractor standards. Unfortunately, this lousy proposal does more harm than help by far..

The proposal would put most solar users like us in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. Adds cost, discourages adoption and risks voiding In our warranties.

I see no advantages, only higher costs and worse service.

Thank you for considering my views.

Sincerely,

Ron Prosser

Ron Prosser
[redacted]
[redacted]

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had a Sunpower Solar System for the last 18 years. We support our local licensed Solar contractors and are interested in adding a Battery Component to our current system. Any changes to the Solar energy grid and our network will only serve to harm us and consumers on the entire grid network.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Ron Smoire / Marla Koosed

[redacted]

From: **Russ Urzi** [redacted]
Subject: CSLB on the solar battery issue
Date: July 28, 2023 at 5:36 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

29 July, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I recently added to my solar system by purchasing additional panels and a Tesla Power Wall. I purchased this addition in order to stay on NEM 2 prior to the April 15th deadline from the CPUC. My goal was to cut my electric costs as well provide power back to the grid when needed most from my power wall. This process allows PG&E extra options when managing electrical needs in my community.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
RUSSELL URZI, [redacted]

Russ Urzi
[redacted]

From: **Ruth Cooper** [redacted]
Subject: RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 3:01 PM America/Los_Angeles
To: info@solarrights.org

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. Solar installers are quite capable of installing battery backup systems and tying them into the solar panel system. Please don't make this process even more complicated and expensive!

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. I trust my solar installer and he would be the first person I would call to install a battery backup system.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Ruth Cooper
[redacted]

7/31/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I bought solar panels with my last dime in order to make the deadline for Neem 2. I don't yet have the money to buy batteries, but I'm saving up for that. That ability to add batteries is crucial to my need for fire safety, for independence during blackouts, for balancing my family budget by saving money on our energy bills in the winter, and for doing my part to stop climate catastrophe.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

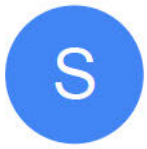
The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Sabra Rahel

From: **Sahaja Douglass** [redacted]
Subject: Protection for Solar Owners
Date: July 28, 2023 at 1:23 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org



Date

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

I live in a high fire area in the [redacted] mountains and have a medical device. Having solar and a back up battery is vital to
my health and the survival of my family.

Thank you for considering my views.

With best wishes,

Sahaja

Sahaja Douglass
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

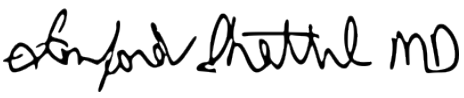
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,



Sanford J. Shattil, [redacted]

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We had our Solar System installed in 2008 by Sun Run for the purpose of protecting the climate and reducing our expenses given that both my husband and I have retired.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Sincerely,

Sara Syer
Clinical Instructor – retired.
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Two years ago, in September 2021, we installed solar panels on our roof for two reasons: One: to lower the use and cost of SDG&E electricity bills, and two: to address as we could the environmental destruction that we cause by using fossil fuel energy. We also installed full house insulation and new triple pane windows. We are retired, and both f us have medical issues that require more home energy use thanwould be required if we were still working and away from home most days. We did not, at the time we installed our solar panels, have enough money to get solar batteries. However, now that we've been able to pay down the bill for the panel installation, we are ready to install batteries. These batteries will enable us to use solar energy if the power goes off, and protect our medical requirements, allowing us to remain in our home longer than we would be here in other circumstances. But, if this proposal before you is passed, we could lose our 15 year warranty on our panels, among other issues.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

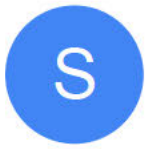
In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Scott and Jean Dittmyer

[redacted]

From: **Selena Bryant** [redacted]
Subject: Action requested: Protect consumer warranties for solar and batteries
Date: July 29, 2023 at 12:02 PM America/Los_Angeles
To: info@solarrights.org



07/29/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Selena Bryant, [redacted]

Sent from my iPhone

August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

While we do not currently have a battery backup system to go with my rooftop solar yet, it is our plan to add one in the near future. We had a great experience working with our rooftop solar installer and intend to use them to install our battery backup system. I cannot emphasize enough that we could not be more displeased to hear that CSLB is considering a proposal to eliminate the ability of licensed solar contractors to install battery backup systems. There is no clear logical reason for this change other than to support the utility companies in eroding the rooftop solar industry in California.

The CSLB does important work protecting consumers and maintaining contractor standards. **Unfortunately, this proposal will harm rather than help consumers.**

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Shannon Lance Beaudoin
[redacted]

From: **Sharon Woosley** [redacted]
Subject: Altering Existing Solar Systems
Date: July 29, 2023 at 10:13 AM America/Los_Angeles
To: "Info@solarrights.org" Info@solarrights.org

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am a registered voter in the state of Washington, but I had a solar system installed last year, in a vacation home I own in [redacted] CA. It is the only way I could afford to keep that vacation home. The electric utility bills were threatening to force me to sell, due to the high cost of heating and cooling. The solar system cost me nothing to install, and the lease payments are lower than the SCE bills were. So, I am saving a fair amount of money each month. So far, I am very happy with the Sunrun system. The fact that I have the solar system, and it can be altered to suit a new buyer, is a huge selling point for resale. Please don't destroy this last example of helping the average homeowner.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Sharon Woosley
[redacted]

July 28th, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Given the frequent blackouts we experience here in [redacted], I can't imagine not being able to install a battery back-up for my Solar system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Shmuel Link, [redacted]

From: **Stacie Tillman** [redacted]
Subject: Comments on Proposed Rule Making Concerning Battery Energy Storage Systems
Date: August 01, 2023 at 5:21 PM America/Los_Angeles
To: info@solarrights.org

8/1/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery sy

Currently, I have solar panels on my home and will soon purchase the necessary batteries to support them.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this

The proposal would put most solar users like me in an impossible situation. The regulations could force con

In addition, these rules would reduce the number of solar contractors available to install or service a sol

Thank you for considering my views.

Sincerely,
Stacie Tillman, [redacted]

7-28-2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

WHY, WHY does this state keep backhanding the people that have done what you asked, we spent our money to help ease the stress on the grid as you asked. You keep bragging about how progressive this state is while behind the scenes for some bizarre reason do your best to stifle the solar industry in this state. Why did you even allow a solar industry to start in the state in the first place if all you are going to do is try your best to make it un-workable or shut it down completely????

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Stephen Laminack – [redacted]

From: **Stephen Tanner** [redacted]
Subject: CSLB public comment
Date: July 30, 2023 at 7:22 PM America/Los_Angeles
To: info@solarrights.org

2023-07-30

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Friends in our neighborhood recently installed a solar power and battery system for their home. They've enjoyed savings on monthly bills, a secure source of power during outages. I've been glad to see them taking action to reduce carbon pollution.

I'm grateful for the work the CSLB does protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal solar users in a bind: Fegulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery. In most cases, this will void warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery. Given the urgency of the climate crisis, adding obstacles in the way of renewable energy is creating the wrong incentives. We need less red tape, more green power.

Thank you in advance for taking my input into account.

Best Regards,
Stephen Tanner, [redacted]

From:	Steve Birdlebough
To:	Godines, Diana@CSLB
Subject:	Rooftop Solar Battery Systems
Date:	Sunday, July 30, 2023 11:38:07 AM

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Re: Battery Energy Storage Systems

Dear Ms. Godines,

I understand that the Contractors State License Board will consider a proposal concerning rooftop solar battery systems later this week.

My wife and I live in a retirement community, and installed solar energy panels on our roof about 10 years ago. The installation of similar panels throughout our seven-acre community is now under consideration. When our system was installed, batteries were not common, but we have been considering the addition of a battery.

We appreciate the work that you do to maintain good contractor standards. However, this proposal may harm us and others who are considering solar power installations. The regulations could force us to hire a different contractor than the one who did the original work, which might void our warranty. The proposed rule change would also be likely to reduce the number of solar contractors available to install or service a solar battery. This could limit choices for consumers and raise the cost of getting solar with a battery.

Thank you for considering this issue.

Cordially,
Steve Birdlebough
[redacted]

Date: 07/30/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I purchased our solar system, panels and battery, to have some control over our utility costs as we moved into retirement. We also wanted to plan for the future for changing over our gas appliances to electric and the purchase of an electric vehicle. We felt this was our small part in reducing greenhouse gas emissions. And lastly, we wanted to be able to withstand any brown/blackout situations due to global warming without loss of our perishable foods. We have plans to add another battery and potentially more panels and so this proposal, if adopted, will directly affect my family.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Steve Clabuesch, [redacted]

California Contractors State License Board
Department of Consumer Affairs
Attention Diana Godines
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Friday, 28 July 2023

PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I'm writing to strongly oppose the CSLB's proposal to effectively decimate the home solar battery industry in California using false "safety" arguments your own Board has discredited.

The CLSB itself has acknowledged that solar-energy contractors are better trained than general electricians for installation and servicing of home solar battery storage systems, and that no safety issues have arisen because of solar contractors being authorized to install and maintain those systems.

Despite the lack of a problem to solve, the CSLB is proposing to forbid solar contractors from doing such work and to limit the allowable size of solar batteries below the needs of some solar customers. The actual experience in the field doesn't provide any rationale for this rulemaking.

We have recently increased our own home's solar capacity. It would make sense for us to add battery storage. This would enable us to serve as a "virtual power plant," selling stored energy to PG&E when the utility has need, thus reducing the demand for increased generation from centralized, climate-destroying "peaker" power plans. However, under your proposal, the only way we could do this would be to hire a third-party contractor and potentially ***void the 20-year warranty on our solar panels***. Moreover, we haven't done the analysis to determine whether your proposed 80 kWh battery limit would be insufficient for us.

I encourage the CSLB not to sabotage home solar energy in California when there is no actual safety or competency issue in play. Ditch the proposed rule.

Regards,

Steve Freedkin


From: steve [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 30, 2023 at 11:45 AM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7/30/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Steve Moore - [redacted]

From: **Steve Rogers** [redacted]
Subject: CSLB on the solar battery issue
Date: July 29, 2023 at 10:50 AM America/Los_Angeles
To: info@solarrights.org

S

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Steve Rogers, [redacted]

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I install solar panels in 2013 and have benefited from a cleaner environment and provide 124 tons of carbon offsets. This year I also added batteries to our system which provides electrical backup when power is disrupted (15 hour last Saturday for instance) and provides additional environmental benefits to our community.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. The logic behind this proposal escapes me and don't understand why this proposal is being considered and who will benefit from its passage.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Steve Spooner

From: **Steven Abbott** [redacted]
Subject: Letter to CSLB
Date: July 28, 2023 at 1:58 PM America/Los_Angeles
To: info@solarrights.org

28 July, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I installed 8 solar panels on my roof 5 years ago, which have more than powered all my electrical needs, including my EV Automobile.

I hired the same solar contractor to add 5 new solar panels just last month in order to replace my Gas water heater with and Electric Heat Pump water heater, and also replace my Gas central air furnace with an Electric Heat Pump central air system.

Those new appliances are now up and running, and I'm no longer burning gas fuel, but instead generating my own power to heat and cool my home and heat my water. I'm extremely happy that I'm able to lower my carbon footprint and reduce my impact on the power grid.

My same solar contractor is preparing to add batter storage to my system in the next month or two, which will further enhance my whole system, as well as support the wider electrical grid by minimizing my use during peak periods. I am very happy with all the work my solar contractor has done, and I have recommended them to others.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Steven Abbott
[redacted]

From: **Steven Aderhold** [redacted]
Subject: Proposed rule making concerning battery storage systems
Date: July 28, 2023 at 2:31 PM America/Los_Angeles
To: info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov
RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Dear Ms. Godines,
I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
I am a solar power user. My system has 6 panels and no battery. I have started my 4th year and so far the system is doing very well, it is keeping my electric bill affordable.
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.
The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.
In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.
Thank you for considering my views.
Sincerely,
Steven Aderhold
[redacted]

From: **Sue Stygar** [redacted]
Subject: Protest CSLB TRICKERY
Date: July 30, 2023 at 2:34 PM America/Los_Angeles
To: info@solarrights.org

Based on the information provided, the proposal by the Contractors State Licensing Board (CSLB) appears to

1. Limited competition: Prohibiting licensed solar contractors from adding batteries to solar systems they

2. Disincentive for quality work: If solar contractors are not allowed to work on systems they previously i

3. Consumer inconvenience: Restricting contractors from servicing their own installations might cause incon

4. Battery size limitation: Limiting the size of the battery that solar contractors can install could hinde

5. Impact on renewable energy goals: California has been a leader in promoting renewable energy, including

Sent from my iPad

From: Summer Rogers
To: Godines, Diana@CSLB
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: Monday, July 31, 2023 8:38:45 AM

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I live with my family in a small duplex that I own with my mother in [redacted]. We installed rooftop solar about 5 years ago as a way to help do our part to help with climate change and to make our electrical bills more affordable. Our solar system also allows me to power my electic vehicle.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Summer Mathur
[redacted]

Sent from Mail for Windows

From:	Susan Green
To:	Godines, Diana@CSLB
Subject:	RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date:	Friday, July 28, 2023 2:50:08 PM

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I will soon be having battery storage installed in order to make my rooftop solar system economically viable under the new NEM 3.0 rules. In addition to the economic reasons for installing battery storage, residential energy storage systems will be critical to electrifying buildings in ways that support rather burden our electrical grid.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at their home. In most cases, this will void warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Susan Green
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I got a solar installed about 3 years ago and recommend it to everyone. It is clean energy and frees me up from ever-increasing electric rates. I am currently getting bids for a battery system so we will still have electricity when the power goes off.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this current proposal will harm rather than help consumers like me.

The proposal would put most solar users in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at our homes. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

There is no substantiated rationale for this proposal. I urge you to vote no. Thank you for considering my views.

Sincerely,

Susan Trivisonno
[redacted]

[redacted]

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

July 28, 2023

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I got my solar panels and battery in order to spare the air, reduce load on our strained and aging power grid, and provide emergency service not only for my household, but also for my neighbors during power outages.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm us.

The proposal would put solar generators like me in an impossible situation. The regulations could force consumers to hire a different contractor from the one who did the original work to add or service a battery. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar power and/or a battery.

Thank you for your consideration.

Sincerely,

Susanna Porte
[redacted]

From: **Suzanne Carder** [redacted]
Subject: Protect consumer warranties for solar and batteries
Date: July 29, 2023 at 8:58 AM America/Los_Angeles
To: info@solarrights.org

July 29,2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Suzanne Carder
[redacted]

From: [redacted]
Subject: CSLB upcoming decision on battery storage systems
Date: July 28, 2023 at 8:26 PM America/Los_Angeles
To: info@solarrights.org

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I personally have hired a solar contractor to install solar panels on my roof along with two Tesla batteries for energy storage. I use the batteries whenever the power from PG&E goes out. At times the outage has been caused by a PSPS, at other times it's been caused by a downed tree taking out a power line. Whatever the cause, I get great comfort knowing that I will always have electricity. In addition, the fact that I and others in my community have installed rooftop solar panels has benefited all Californians by decreasing the demand for electricity during peak hours. Solar owners also have decreased the need for public utilities to install expensive additional lines to handle increased demand.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, the new proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Please consider these two points when making a decision:
• The CSLB itself has found no evidence of a problem in the safety or quality of the work performed by licensed solar contractors.
• The CSLB has also acknowledged that—while both are qualified to install batteries—licensed solar contractors study more extensively for battery installations than licensed electricians.

Thank you for considering my views.

Sincerely,
Suzanne Cook, [redacted]

From: TC [redacted]
Subject: PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 3:08 PM America/Los_Angeles
To: info@solarrights.org

7/28/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Sent from my iPad

From: **Ted McNamara** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 28, 2023 at 2:08 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

7-28-2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems. The CSLB does

important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

I put solar panels on my house in 2001 because the state allowed Enron in 2000 to sell electricity from California to me at about 4 time more expensive. Now the CPUC will not give me credit for the surplus electricity my solar panels produce. Battery energy storage is the only way I can save some of that surplus energy.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Ted McNamara, [redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Since the Camp Fire of 2018, our community has struggled with the ever increasing cost of utilities. The loss of businesses such as grocery stores has caused increased costs for the population to travel for the necessities. With our installation of solar, we now have the capability to grow fresh produce year round. Our utility costs would be prohibitive without solar. Since our solar contractor is local, any problems that we have are corrected same day. There are no battery contractors outside of our solar contractor that is local. With the new proposed rules, any installation of batteries would effectively void our warranty. With all of the new regulations, our community is struggling with regenerating itself. Further roadblocks will increase the likely effect of increased income tax reduction to the state of California since there isn't any incentive for residents to return.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Teresa L. Hines
[redacted]

From: THERESA ACERRO [redacted]
Subject: solar contractors
Date: July 30, 2023 at 4:30 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have solar panels producing more electricity than I personally use, which helps my community prevent energy shortages. I have a Tesla battery which was installed by my solar contractor who actually had to educate local code enforcement about the new solar electrical code. My licensed electrician wanted nothing to do with this part of the job of upgrading my electricity to 200..
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. My warranty requires me to work with my installer with whom I have an ongoing relationship. They know my system and its needs very well.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Theresa Acerro
[redacted]

From: Tom Breunig
To: Godines, Diana@CSLB
Subject: Proposed solar battery rules will hurt homeowners
Date: Tuesday, August 1, 2023 6:08:22 PM

August 1

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Thomas Breunig
[redacted]

Tom
[redacted]

From: amy umpleby [redacted]
Subject:
Date: July 30, 2023 at 8:29 AM America/Los_Angeles
To: info@solarrights.org

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have a 20 year old solar system and were able to add Tesla batteries last year thanks to a statewide incentive program. Now we don't have to run a gas generator to our refrigerator when the power goes out - we can enjoy all the comforts of home with an automatic power switch. This is a big advantage to an aging couple who struggle with managing the noisy, smelly generator, or might not be home to make the switch, putting our pets in danger of overheating.
To complicate and disincentivize people from improving their solar systems, which this rule would do, is illogical, backwards and unkind to the consumer and the environment.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Thomas Phillips
[redacted]

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Tim L. Heiman
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
e-mail: Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have an existing solar PV system on the roof of our home and we have been saving to have the system modified to include an energy management/battery back-up system so we can store the excess electricity produced during the day to use during the night to reduce any unnecessary stress on the existing electrical grid in our area in the late afternoon and early evening hours as our solar PV system gradually shuts down for the day.

The CSLB does important work protecting consumers and maintaining contractor standards, but unfortunately, this proposal will do more harm to consumers rather than help them.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. Our solar PV contractor did a fantastic installation for us and since then has become a friend – what is gained by forcing us to go to another contractor that I do not have any experience with when I know a reputable contractor that I already trust?

In addition, these rules would reduce the number of solar contractors available to install or service a solar energy management/battery back-up system. This would limit choices for consumers and do nothing more than drive up the cost of getting solar and/or an energy management/battery back-up system.

Thank you for considering my views.

Sincerely,

Tim Regello
[redacted]

From: **Timothy Sankary** [redacted]
Subject: Letter to CSLB
Date: July 28, 2023 at 2:52 PM America/Los_Angeles
To: info@solarrights.org

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have a large solar installation on my roof for years cooling my house and saving on AC.

But I need a backup battery system.

The proposal would put most homeowners like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Timothy Sankary, [redacted]

Sent from my iPhone

From: **"T. KATZ"** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: July 29, 2023 at 7:24 PM America/Los_Angeles
To: Solar Rights Alliance info@solarrights.org

(I would have been happy to send this directly to Ms. Godines but I'm following your suggested approach and sending the letter to the SRA.)

J

uly 29, 2023

Ms. Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines:

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have 31 solar panels (installations in 2011 and 2020) as well as an electric charging station for my EV. Over those years I've had occasion to use four or five solar system installers and I've found them all to be highly professional, knowledgeable, careful and available after installation in case of questions or concerns. I see no possible reason why these professionals should be locked out of continuing to provide the same fine services that they do which includes, by the way, making it easier for residents to protect our environment from climate change by encouraging solar installations on homes and businesses.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers. It should be rejected.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views. I would welcome an opportunity to discuss this with you or any member of your staff.

Sincerely,

Todd Katz
[redacted]

[redacted]

From: **Tom Bornheimer** [redacted]
Subject: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS
Date: August 01, 2023 at 7:57 PM America/Los_Angeles
To: info@solarrights.org

8/1/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I had our solar system installed in 2019. In 2021 and 2022 we replaced all of our methane-gas appliances with electric options. In 2022, we had PG&E turn off our methane-gas line and in 2023 we had PG&E remove our gas meter so our home will always be electricity only. I took out low-interest loans to have much of this work done but I made it a priority to reduce our carbon impacts as we are we all continue to struggle with the Climate Emergency. I would like to eventually install a battery storage system and my preferred installer is Northern Pacific Power Systems because the team did an excellent job with our solar system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties. Why should the CSLB decide which solar installer I can use to add battery storage?

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery. California, and every state in the country, should strive to have as many solar and battery installers as possible to meet the demand for clean energy. We are in a Climate Emergency and must work as fast as possible on all fronts.

Thank you for considering my views.

Sincerely,

Tom Bornheimer, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

I had roof-top solar installed last year, and this proposal would limit my options for expanding my system to include a battery.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Tom Cramer

[redacted]

From: **Tom Edwards** [redacted]
Subject: Letter to the CPUC -- Vote NO on CSLB Proposal
Date: July 31, 2023 at 1:12 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 31, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I oppose the Contractor State License Board (CSLB) proposal concerning home battery systems.

I have had a 3.0 kW rooftop solar system since 2005 and plan to expand that shortly and to add a disaster preparedness battery system.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Tom Edwards
[redacted]

Tom Faust

[redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

We are writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Our Obstructionist Utility has delayed our solar/battery project approval for 4+ months with "paltry" delay comments to delay addition of only 4 more solar panels. States legal climate goal is California intends to reduce greenhouse gas emissions 48% below 1990 levels by 2030 and then achieve carbon neutrality by 2045 It calls for a 94% reduction in petroleum use between 2022 and 2045 and an 86% reduction in total fossil fuel. California is not meeting this legal goal due to a defiant Utility industry that places profits above California's Climate Agenda. Our residence has 15 solar modules on the roof. We power our home 24 hours a day off our solar panel/battery. Our goal is to install a heat pump that requires 4 solar panels to operate it. Then, our home will operate "100% fossil free" with no gas. The Utility is deliberately undermining by delaying action on California's goals.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering our views.

Sincerely,

Tom Faust

Tom Lent
[redacted]
www.ClimateAction.center

RE: Comments in opposition to the Proposed Action Battery Concerning Battery Energy Storage Systems (BESS) as noticed 4/28/2023
DT: 8/2/2023

I urge the Contractors State Licensing Board (CSLB) to turn down the proposed changes that would prohibit C-46 licensed solar contractors from installing or undertaking repair work on a Battery Energy Storage System (BESS) except as part of a new new installation of a photovoltaic (PV) solar energy system.

Instead, I encourage the Board to direct staff to develop proposals to address the growing shortage of qualified contractors to accomplish the massive quantity of electrical work both for BESS installations and for other electrification required to meet our state (and national) climate mandates.

First, I question the public safety need for this proposed limitation. The CSLB's March 2019 report notes that neither CLSB nor CAL OSHA have found any evidence of any problems with C-46 installed BESS.

Despite this lack of evidence that there is any problem, the CSLB provides a rationale that it would encourage "lower standards and lower requirements" to include C-46 Solar Contractors among the contractors authorized to install BESS as retrofits on an existing PV installation. Yet the CSLB does not find that it encourages "lower standards and lower requirements" to allow C-46 contractors to continue installing BESS with new PV systems. I see no rationale to disallow C-46 contractors from installing BESS on existing PV systems, particularly including ones they themselves installed, if they are qualified to install BESS in conjunction with the installation of a new PV system.

Indeed, the CSLB has already found that C-46 contractors are **more** qualified than C-10 to install BESS with the C-46 exam covering the topic more extensively and more consistently than does the C-10 exam (as per the CSLB Licensing Committee February 23, 2018 meeting notes). Of course, the C-46 contractors are more familiar with PV linked BESS systems than C-10s since they are an increasing part of the C-46 core business.

Rather than disallowing C-46 contractors from working on BESS, I suggest that the CSLB focus on bringing C-10 contractors training and exam process up to par with the C-46 exam on BESS.

I also question the conclusion that BESS are only 'incidental and supplemental' to new PV system installations. This presumption runs contrary to declared California public policy directions and the California PUC's recent changes to the tariffs for net energy metering (NEM) that control PV interconnection to the utility grid. The PUC explicitly has stated that they do not want PV systems installed or expanded as standalone systems without BESS to manage when they feed to and draw from the grid. The PUC has further reinforced this through changes to the tariffs to make it uneconomical to operate a PV system without BESS.

Hence, BESS are becoming integral to PV in California systems and we need a large number of qualified installers who are very familiar with these systems to install them integrated with both new and existing systems and to maintain them. This proposal runs contrary to that urgent need.

The notice asserts that the data indicate that the vast majority of C-46 Solar Contractor license holders already have a C-10 license as well, so the transition costs are small. Apparently a large number of companies that were C-46 have recently gotten C-10 licenses in anticipation of this threat to their business. However, rather than reflecting an easy transition, this begs serious future problems, both for the industry and for the electrification transition to which the State of California and the nation are committed.

To operate as a compliant C-10, one must exclusively employ licensed C-10 electricians and not licensed C-46 solar installers. That means these companies would have to lay off most of their workforce and compete to hire from a very limited pool of electricians. Most of the employees who were licensed solar installers, and already worked hard to get their certification, may not seek to get a new license because of the time and expense and just seek work in a different field altogether. This is especially a danger given that the certification isn't even as rigorous and focused on the particular job of installing batteries as the C-46 license.

This is a *_very_* important problem, given the already widely reported concern that we are going to face a serious shortage of licensed electricians for all of the electrification that needs to be done to meet our climate requirements. If you are not familiar with the looming electrician crisis and how it threatens our ability to stave off further climate disaster, I urge you to read the following two excellent articles about the crisis in the Wall Strreet Journal https://www.wsj.com/articles/america-is-trying-to-electrify-there-arent-enough-electricians-4260d05b and Grist https://grist.org/energy/electrician-shortage-electrify-everything-climate-infrastructure-labor/

I strongly urge the CSLB to work to grow the pool of licensed contractors that can help us rapidly meet our state and national electrification goals, not arbitrarily create further bottlenecks to solve a problem that the CSLB itself has stated does not exist.

Please reject this proposed action to limit the licensed BESS installation workforce and work instead to solve our emerging electrification workforce problems.

##

31 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I've had an operational home photovoltaic (PV) system for almost five years, and I worked closely with both my licensed PV system installer and the licensed electrician that first upgraded my main electrical panel. Each respected the other's work and separately acknowledged that they would NOT feel comfortable doing what the other did. They are separate domains, and the current licensing system works to respect them both. Battery energy storage systems are clearly part of the PV system, and make little economic sense without them.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Tom O'Neill
[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in strong opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I am a homeowner in [redacted], CA with a grid-tied solar energy system with battery backup. This system has been a lifesaver for us during both summer PSPS shutoffs and winter storms. We had the system installed by a local, family-owned and operated solar contractor whom we trust implicitly for their deep knowledge of both solar and battery systems. About a year after the system was commissioned, a PG&E surge blew out the motherboard of the battery backup system. Our solar contractor, from whom we bought the system and who installed the system, worked with the manufacturer of the backup system to obtain a replacement board and bring it out to our site promptly and install it and test it, all at no cost to us. This experience underscored to us the indispensable value of partnering with a knowledgeable solar contractor who would support us throughout the lifetime of our solar energy and battery backup system. The proposed rule change would result in an extremely negative impact on homeowners like me who wish to continue to working with knowledgeable local solar contractors.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force us consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting, maintaining, replacing, or upgrading solar energy and/or a battery system.

Thank you for considering my views on this important matter.

Sincerely,

Tor Neilands
[redacted]

From: **Torger Johnson** [redacted]
Subject: Rulemaking: Battery Energy Storage
Date: August 01, 2023 at 1:20 PM America/Los_Angeles
To: info@solarrights.org

Diana Godines

Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Regulators have not provided evidence to support the proposal that would force homeowners to hire an electrician to modify a solar system installed by trained solar installers. The proposal would put most solar users like me in an impossible situation if we want to add battery backup to our system. The proposed requirements would cause me to lose the warranty on my entire system installation.

The CSLB does important work protecting consumers and maintaining contractor standards but this proposal will harm rather than help consumers. And it will not make us any safer.

I don't want to harm well paid electricians, but these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for your time.

Sincerely,

Torger T. Johnson
[redacted]

--
-Torger

From: **Trent Reupert** [redacted]
Subject: CSLB Proposal Re: Home Battery Systems
Date: July 30, 2023 at 11:59 AM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org
Cc: Trent Reupert [redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Trent Reupert
[redacted]

28 July 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

You must vote no on this utility companies enhancing proposal. Thank you for considering my views.

Sincerely,
Vernon Weaver
[redacted]

Date: August 1, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
diana.godlines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS.

Dear Ms. Godines,

I am contacting you in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

This proposal the Board is considering alarms me as a long term advocate and user of solar energy. Not only does the use of solar energy and storage systems benefit users, it is critical to in helping communities to create a sustainable future for themselves.

The Board's proposal related to battery energy storage systems directly impedes the progress that needs to be made in helping to transition in to sustainable energy sources.

A. This proposal would impact solar uses like myself in FORCING us to hire different contractors than the ones who did the original work and in most cases, voiding our warranties.

A. These rules proposed by the CSLB would also reduce the number of solar contractors available to install and/or service solar battery

systems. The CSLB would essentially be limiting the choices of consumers (Tax Payers) and driving up costs for citizens (Tax Payers) hoping to make a contribution to sustainable energy sources.

Thank you for considering my sincere input as concerned resident of this state and one of many human beings truly concerned about the future of our world.

Sincerely,
Vickie Ficklin, [redacted]

From: [redacted]
Subject: Re: Action requested: Protect consumer warranties for solar and batter ies
Date: July 31, 2023 at 4:46 PM America/Los_Angeles
To: info@solarrights.org

Please forward our letter to the SCLB. Thanks for being the watchman for us solar users.

7-31-23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Victor Jevremov, [redacted]

WALT BILOFSKY
[redacted]

July 30, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

This is to register my opposition to the Contractor State License Board proposal concerning home battery systems. It will harm me and other consumers. It will continue the destruction of the California residential rooftop solar market that has already begun with the CPUC's adoption of NEM 3.

My solar PV system was installed by a solar contractor in 2006. It generates clean power, helping to reduce the impacts of global warming. It reduces the load on the power grid by delivering power to my neighbors that would otherwise come from dozens or hundreds of miles away.

In less than three years, I will fall under the utility companies' draconian NEM 3 tariffs, decimating the economic rationale for my solar system. The only sensible step will be to install battery storage.

For multiple reasons, I need to have the battery specified and installed by a solar contractor: (a) To avoid voiding my warranty (b) to get their expert advice on how to integrate the battery with my aging solar system and (c) so that in a few more years, when the PV system needs replacement, it can be done by my solar contractor who will be familiar with the entire installation.

Requiring me to use an electrical contractor for the battery system makes no sense whatsoever. Solar contractors are better qualified to deal with these complex solar + storage systems.

The CSLB does important work protecting consumers and maintaining contractor standards. This proposal will do exactly the opposite. Please reject it.

Thank you for considering my views.

Sincerely,

Walt Bilofsky

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

Over 4 years ago, I had my electrical system at my house re-wired. I then had solar panels installed on my roof and bought a Chevy Bolt electric car. This has worked real well as it has contributed to making new clean energy and conserving energy. We all need to do our part in reducing our carbon footprint and avoiding a 2 degree C rise in global temperatures.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Walter Jackson
[redacted]

From: [redacted]
Subject:
Date: July 29, 2023 at 10:39 PM America/Los_Angeles
To: "info@solarrights.org" info@solarrights.org

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.
I had my solar company install a Pika Storage Battery along with a Pika Island Inverter and both have worked flawlessly.
The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Walter Kitagawa [redacted]

From: **James Miller** [redacted]
Subject: Battery systems
Date: July 28, 2023 at 3:39 PM America/Los_Angeles
To: info@solarrights.org

Ms. Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for your consideration,
W.E. Miller

July 29, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

I live in a small town. There are local contractors who make a living by installing solar systems. Many people would like to add a battery to their existing PV system. Or, there are many who would like to install a new PV system which includes one or more batteries. Currently, PG&E will allow us to add a battery to our system without losing NEM status. However, this proposal adds a new restriction to who can do the work and will affect our local installers.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

William Lewis
[redacted]

7/29/23

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Yvette Michel, [redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

We have had solar panels on our home since 2009 and upgraded our system to double the energy producing capacity in 2016, when we bought our first EV. At the time home batteries were not yet widely available for residential properties, and to be honest they were not tested enough for us to feel comfortable with installing them anyway. But 7 years have passed, and home battery systems are both effective and safe. We are ready to add batterie storage to our home energy system and have been interviewing potential suppliers over the past couple months. All the vendors we have interviewed are licensed and are highly recommended as providers of both solar systems and batteries. I fear this pending rule could prevent us from adding this additional energy saving feature to our home. We are conscientious about energy conservation and about lowering our carbon footprint. Home batteries are the next step in our goal to make our home totally green. I urge you to vote no on this proposal.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,
Yvonne Elkin

[redacted]

July 28, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: COMMENTS ON PROPOSED RULEMAKING CONCERNING BATTERY ENERGY STORAGE SYSTEMS

Dear Ms. Godines,

I am writing in opposition to the Contractor State License Board (CSLB) proposal concerning home battery systems.

The CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately, this proposal will harm rather than help consumers.

The proposal would put most solar users like me in an impossible situation. The regulations could force consumers to hire a different contractor than the one who did the original work to either add or service a battery at my home. In most cases, this will void our warranties.

In addition, these rules would reduce the number of solar contractors available to install or service a solar battery. This would limit choices for consumers and drive up the cost of getting solar and/or a battery.

Thank you for considering my views.

Sincerely,

Ziqiang Wang

[redacted]

Hearing for Proposed Regulatory Action Concerning Battery Energy Storage Systems

8:30 am - 12:18 pm Thursday, August 3, 2023 | (UTC-07:00) Pacific Time (US & Canada)

Erin Kiel - Sunnova Louis Mirante Danett Christopher D. Smith Jacqueline Callaway John Knox Michael Jamnetski Gretchen Newsom Lawrence Hundley Micah Mitrosky Alex Lantsberg Katherine White Al Rich Mario Barragan Chris Gleed Richard Vasquez Elizabeth Olsen Kathy Mac Laren Rene Wise Kayla Bosley Mike Richard H Markuson jeff spies Ara Agopian Anita Bradbury JL ronald janes Justin Kiel Cailey Patrick Sterns, SunPower Cherene Birkholz Mike Beggs Mike Shaheen ron janes victoria holoka Jennifer Fothergill Sabra David Rynerson Michael M. Bluetti David Mautner Robert Gumm Woody Hastings jason.perez Micah Breeden Nina Babiarz CSLB Moderator Ramsay Stevens Tommy Faavae Phil from SolarCraft Call-in User_9 Call-in User_8 Damon Franz Dennis Delfosse joey Ulf Wilmer Sharon Mullen James Pearson Antony Tersol Call-in User_3 Call-in User_2 Call-in User_5 Call-in User_4 Richard Lawrence Call-in User_7 Call-in User_6 Mary Carter Mariah Call-in User_10 Claude A. Rowe III Call-in User_13 Call-in User_14 Walt Bilofsky Call-in User_11 Call-in User_12 Call-in User_17 Call-in User_18 Call-in User_15 Lauren Nevitt Sunrun Call-in User_16 Call-in User_19 CSLB Video Services George Galamba Cristina Marquez Andrew Tanner Yotta Energy Call-in User_20 Call-in User_21 Greg Armstrong Call-in User_24 Chris Ochoa Call-in User_25 Call-in User_22 Call-in User_23 Martin Herzfeld, CA #833782 C46 C10 C7 + ICC Cert Resi Insp E1 Raju Sah Call-in User_29 Call-in User_27 David Fogt Hadi Tabatabaee Emily Brandt Cynthia Moore Marshal L. Merriam Heather Minner Call-in User_32 Igor Tregub Call-in User_30 Call-in User_33 Andrew Campbell Cecilia Aguillon Karin Poelstra Kyle Wallace Zainab Badi Hearing Room Julia Pyper Casey Hunter Stern IBEW 1245 Dave Fogt Mike Jamnetski CSLB Gerard Manning Megan Lowry Rolf Ridge

WEBVTT

1
CSLB 00:08:01.400 --> 00:08:07.800
[redacted]

2
CSLB 00:17:35.260 --> 00:17:37.540
[redacted]

3
CSLB 00:17:41.660 --> 00:17:43.980
[redacted]

4
CSLB 00:17:48.820 --> 00:17:51.340
[redacted]

5
CSLB 00:17:55.740 --> 00:17:59.580
[redacted]

6
CSLB 00:18:13.020 --> 00:18:14.940
[redacted]

7
Hearing Room 00:18:53.980 --> 00:18:55.100
[redacted]

8
CSLB 00:18:55.300 --> 00:18:59.300
[redacted]

9
Hearing Room 00:19:02.940 --> 00:19:04.700
[redacted]

10
CSLB 00:19:04.900 --> 00:19:07.700
[redacted]

11
CSLB Video Services 00:19:10.020 --> 00:19:12.140
[redacted]

12
CSLB Video Services 00:19:17.020 --> 00:19:18.140
[redacted]

13
Hearing Room 00:19:41.980 --> 00:19:54.820
[redacted]

14
Hearing Room 00:19:57.340 --> 00:20:12.540
[redacted]

15
Hearing Room 00:20:15.440 --> 00:20:17.400
[redacted]

16
Hearing Room 00:20:25.200 --> 00:20:25.840
[redacted]

17

Hearing Room 00:20:26.520 --> 00:20:29.600
[redacted]

18
CSLB 00:20:29.680 --> 00:20:37.360
[redacted]

19
Hearing Room 00:20:37.360 --> 00:20:38.000
[redacted]

20
CSLB 00:20:38.040 --> 00:20:40.560
[redacted]

21
Hearing Room 00:20:40.600 --> 00:20:41.200
[redacted]

22
CSLB 00:20:41.480 --> 00:20:48.880
[redacted]

23
Hearing Room 00:20:49.520 --> 00:20:58.480
[redacted]

24
Hearing Room 00:21:00.840 --> 00:21:01.680
[redacted]

25
CSLB 00:21:01.720 --> 00:21:02.320
[redacted]

26
Hearing Room 00:21:03.000 --> 00:21:06.160
[redacted]

27
CSLB 00:21:07.440 --> 00:21:08.080
[redacted]

28
Hearing Room 00:21:09.400 --> 00:21:11.440
[redacted]

29
CSLB 00:21:12.840 --> 00:21:13.200
[redacted]

30
Hearing Room 00:21:15.120 --> 00:21:17.320
[redacted]

31
CSLB 00:21:17.880 --> 00:21:18.960
[redacted]

32
Hearing Room 00:21:18.960 --> 00:21:21.520
[redacted]

33
CSLB 00:21:21.600 --> 00:21:22.160
[redacted]

34
Hearing Room 00:21:24.080 --> 00:21:31.120
[redacted]

35
CSLB 00:21:31.120 --> 00:21:33.040
[redacted]

36
Hearing Room 00:21:33.040 --> 00:21:36.240
[redacted]

37
Hearing Room 00:21:37.960 --> 00:21:40.720
[redacted]

38
Hearing Room 00:21:41.680 --> 00:21:45.200
[redacted]?

39
CSLB 00:21:45.320 --> 00:21:47.120
[redacted]

40
Hearing Room 00:21:47.120 --> 00:21:48.400
[redacted]

41
CSLB 00:21:48.560 --> 00:21:52.880
[redacted]

42
Hearing Room 00:21:52.880 --> 00:21:54.640

[redacted]

43
CSLB 00:21:54.920 --> 00:21:56.320
[redacted]

44
Hearing Room 00:21:57.400 --> 00:22:10.800
[redacted]

45
CSLB 00:22:12.080 --> 00:22:15.280
[redacted]

46
Hearing Room 00:22:15.280 --> 00:22:23.200
[redacted]

47
Hearing Room 00:22:24.280 --> 00:22:31.000
[redacted]

48
Hearing Room 00:22:32.560 --> 00:22:36.680
[redacted]

49
Hearing Room 00:22:37.720 --> 00:22:47.360
[redacted]

50
Hearing Room 00:22:52.120 --> 00:23:09.040
[redacted]

51
Hearing Room 00:26:42.800 --> 00:26:43.920
[redacted]

52
Hearing Room 00:26:46.640 --> 00:26:47.760
[redacted]

53
Hearing Room 00:26:52.400 --> 00:26:54.320
[redacted]

54
Hearing Room 00:26:58.160 --> 00:27:00.120
[redacted]

55
Hearing Room 00:32:00.120 --> 00:32:03.280
[redacted]

56
Hearing Room 00:32:14.200 --> 00:32:15.840
[redacted]

57
Hearing Room 00:32:17.400 --> 00:32:19.040
[redacted]

58
CSLB 01:05:39.160 --> 01:05:42.560
[redacted]

59
CSLB Moderator 01:10:05.360 --> 01:10:07.400
[redacted]

60
Hearing Room 01:27:51.440 --> 01:27:54.640
[redacted]

61
Hearing Room 01:28:52.080 --> 01:28:53.720
[redacted]

62
Hearing Room 01:28:56.920 --> 01:28:59.040
[redacted]

63
Hearing Room 01:29:06.320 --> 01:29:08.120
[redacted]

64
Hearing Room 01:29:17.840 --> 01:29:19.640
[redacted]

65
Hearing Room 01:29:30.640 --> 01:29:32.680
[redacted]

66
CSLB Moderator 01:29:37.680 --> 01:29:38.320
[redacted]

67

Hearing Room 01:29:48.960 --> 01:29:50.440
[redacted]

68
CSLB Moderator 01:29:57.520 --> 01:29:58.160
[redacted]

69
Hearing Room 01:30:00.080 --> 01:30:02.000
[redacted]

70
Hearing Room 01:30:27.640 --> 01:30:29.040
[redacted]

71
Hearing Room 01:30:42.360 --> 01:30:44.160
[redacted]

72
Hearing Room 01:30:55.880 --> 01:30:57.000
[redacted]

73
Hearing Room 01:31:35.360 --> 01:31:38.200
[redacted]

74
CSLB Moderator 01:31:41.120 --> 01:31:43.040
[redacted]

75
Hearing Room 01:31:46.920 --> 01:31:48.960
[redacted]

76
Hearing Room 01:31:54.240 --> 01:31:56.960
[redacted]

77
Hearing Room 01:32:01.680 --> 01:32:03.000
[redacted]

78
Hearing Room 01:32:04.160 --> 01:32:06.720
[redacted]

79
Hearing Room 01:32:09.280 --> 01:32:10.640
[redacted]

80
Hearing Room 01:32:12.400 --> 01:32:19.120
[redacted]

81
Hearing Room 01:32:21.240 --> 01:32:23.760
[redacted]

82
Hearing Room 01:32:46.640 --> 01:32:48.920
[redacted]

83
Hearing Room 01:32:55.560 --> 01:32:57.240
[redacted]

84
Hearing Room 01:33:01.200 --> 01:33:04.800
[redacted]

85
CSLB Moderator 01:33:23.520 --> 01:33:24.800
[redacted]

86
Hearing Room 01:33:26.760 --> 01:33:28.640
[redacted]

87
Hearing Room 01:33:37.320 --> 01:33:42.760
[redacted]

88
CSLB Moderator 01:33:52.320 --> 01:33:53.600
[redacted]

89
Hearing Room 01:34:11.680 --> 01:34:13.400
[redacted]

90
CSLB Moderator 01:34:14.080 --> 01:34:16.000
[redacted]

91
Hearing Room 01:34:21.120 --> 01:34:23.880
[redacted]

92
Hearing Room 01:34:40.960 --> 01:35:00.800
Good morning anyone thank you for your patience. The purpose of this meeting is to conduct case on the community or proposed relations brought forth by the contract and state license board. I'd like to welcome you on behalf of the CSV and staff. My name is Diane, putting this, and I am the regulation specialist within.

93

Hearing Room 01:35:02.120 --> 01:35:21.280
Executive provision I will design over this hearing. We have those CSLB, I have, I also have in a room, referred TIA or public Affairs manager who will er, moderator in front of them are cheaper legislation will be keeping notes. Is that to me?

94
Hearing Room 01:35:22.960 --> 01:35:41.760
Called budget Manager will be assisting in the lobby area. Everyone in talking to state and watch, However, if we reach capacity in the room, we may ask that you need after you made your comment for that others may come in to provide comments the exit and the exit.

95
Hearing Room 01:35:42.720 --> 01:36:02.240
To the lobby on the event and restaurants are in just behind the stairs for the record. The date today is Thursday, August. third two thousand twenty- three and it time is ten o- six a. m- this here is being held, but this will be at.

96
Hearing Room 01:36:02.880 --> 01:36:22.720
Ninety- eight, twenty- one business park Drive, second of California and nine, five, eight, two, seven this here is being recorded so that staff can accurately capturing your comments today. Are you participating this hearing? You are consenting to the recording DSLB is considering that dropping an image to sections eight.

97
Hearing Room 01:36:24.120 --> 01:36:43.200
Two point ten and eight three, two point, forty- six, the califordinate code of regulations regarding battery energy storage system. This action is being taken to the authority arrested by sections seven zero, zero eight and seven zero, five nine, but the business.

98
Hearing Room 01:36:43.400 --> 01:37:03.680
Professions code, operation and CS something to adopt repail or amend regulations for the administration and enforcement of two thousand sixteen division eight of the California Code of Regulation, and it's regulatory proposal is filed as an office administrator on June sixteen twenty- twenty- three and years in Julie noticed.

99
Hearing Room 01:37:04.320 --> 01:37:24.800
So notice, allowing the protext were sent to all interested parties and having available on Csw's websites since June fifteen twenty- twenty- three notice of the public hearing was sent to all interested parties on July. Twenty- one st- twenty, twenty- three copies of the projects are available on here.

100
Hearing Room 01:37:25.160 --> 01:37:45.280

On the tables, the back wall, all written comments previously received are the proposal will be part of the record and do not need to be presented to verbally at this meeting, SLB will cons, shall consider all written comments. Received through Wednesday, August. Second in twenty-twenty.

101
Hearing Room 01:37:46.080 --> 01:37:50.720
And any written for oral comments received here at the public hearing.

102
Hearing Room 01:37:52.560 --> 01:38:13.440
Keep in mind that this is a public forum to receive comments on the proposed regulations from interest to parties. This is not a form for a debate discussion or defense as a proposed regulation staff are required to respond to comments received here today in writing. Therefore we cannot qually respond to comments during this hearing.

103
Hearing Room 01:38:14.200 --> 01:38:33.640
These do not have conversations in the room, The monitor to my right has a camera and microphone to webcast in person public comment to the online participants in any one in the body, if you need to speak to another person, please exit to Bobby. So the promisation is not just an online.

104
Hearing Room 01:38:34.960 --> 01:38:54.400
Appearing in person who wish to testify may form a single line, leading to the podium. You will be called to testify when, at a time you will be provided two minutes to ensure everyone has an opportunity to comment, We will begin by taking ten comments in person followed by.

105
Hearing Room 01:38:55.080 --> 01:39:14.560
Comments on Webex and Ultimated until all comments are received or online participants when the moderator opens a comment window. Please follow the instructions explained by the water to be placed in queue to make the comment the moderator will call you in the orders request is received.

106
Hearing Room 01:39:16.160 --> 01:39:35.360
When you testify please state the name by which you wish to be identify in any organization you represent, if you would like to submit a anonymous comment, you are not required to identify yourself. Remember this hearing is being recorded. You sure to speak Loudy enough for that or testimony.

107
Hearing Room 01:39:35.520 --> 01:39:41.400
And record it remember it is not necessary to repeat the testimony.

108
Hearing Room 01:39:42.560 --> 01:40:03.520

Sufficient to simply say that your free with what was what previous speaker has stated whether comment please identify the specific of the regulation, you're addressing a Chrome and regulation through your discussion, if you have committed great comments, you may summarize those comments.

109
Hearing Room 01:40:03.680 --> 01:40:06.480
Please do not repeat it as the overview.

110
Hearing Room 01:40:08.080 --> 01:40:28.480
Staff and I'll be able to respond to the questions if you have a question, please rephrase the question and the comments, for example, instead of asking what a particular subdivision means, you should state the language is a clearly bright. This will give since we an opportunity to address your comments.

111
Hearing Room 01:40:28.560 --> 01:40:36.160
Directly with Josephine makes it's part of an, to his written responses on, in the close of the hearings.

112
Hearing Room 01:40:44.440 --> 01:40:45.560
Comment.

113
Hearing Room 01:40:48.480 --> 01:40:49.880
I'm not sure.

114
Hearing Room 01:40:56.440 --> 01:41:16.640
That's okay morning my name is Ed Marin. I'm the president of, AS Texhold. I'm also the president and chairperson of the California Soland Storage Association as take solar installed solar for pools, hot water and solar electric. We also install batteries for residential and commercial systems, and we're based in Rach.

115
Hearing Room 01:41:16.840 --> 01:41:37.120
Cordova, so right the street I'm here today. express my opposition to the regulations as proposed the threshold, the threshold is too small. The timeline is too tight and the declaration of battery storage is not considered part of a solar energy system to join is totally inaccurate and harmful with these.

116
Hearing Room 01:41:37.160 --> 01:41:57.600
Regulations as proposed the CSLP will be site retainancely hurting small businesses jobs, the rise of energy storage and the consumers. We also, I support the California Solar and Storage associations proposed alternative language if California is going to meet its energy demands, an electrification requirements.

117
Hearing Room 01:41:57.640 --> 01:42:07.480
We will need companies such as, as representative of most calcium members to install battery storage and service them. Thank you.

118
Hearing Room 01:42:16.160 --> 01:42:34.720
Hello, I'm struggling with ****, I live in Berkeley. I'm speaking for myself. I strongly opposed the proposed seemingly irrational restrictions, a licensed solar installers licensed solar installers have.

119
Hearing Room 01:42:34.880 --> 01:42:55.200
Training and battery installations that general electricians do those of us who have invested in a solar roof have done due diligence to find a good installer to prohibit me from returning to that installer for a repair or a battery installation.

120
Hearing Room 01:42:55.880 --> 01:43:15.680
Makes no sense to me and is a needless interference with my consumer rights here. I worry about monopoing public utilities trying to extend their control over consumers by making it more costly, but that's ripped out solar at the very time that we should be extending.

121
Hearing Room 01:43:17.040 --> 01:43:18.880
Many people as possible.

122
Hearing Room 01:43:20.160 --> 01:43:36.680
It's the most efficient affordable way for families to reduce the carbon footprint. So I opposed this, these proposed restrictions because it seems to me, they would interfere with that needed process. Thank you.

123
Hearing Room 01:43:45.760 --> 01:44:03.680
Hi, I'm very Simimen with Centimen Energy systems. I'm a C- forty, six contractor a C- ten contractor of the license contractor been installing solar and storage in California for over twenty years. We've got over a hundred commercial systems that we've been solved and we're maintaining very actively.

124
Hearing Room 01:44:03.760 --> 01:44:24.160
Installing more right now every single one of these customers wants an energy storage system. The majority of them are using SMA solar engines and partners and none of these inverter companies have integrated energy storage systems on the market. There's the market is limited not by demand all these.

125
Hearing Room 01:44:24.200 --> 01:44:44.640

Commercial customers need ESS, but by product availability when these products become available in twenty- twenty- four, we're gonna be faced with a situation where C- forty, six contractors cannot install or maintain those systems at the same time when the blackouts and the energy crisis continue to spike in California. There are no.

126
Hearing Room 01:44:44.760 --> 01:45:05.120
Certified installer, certain manufacturer, certified installers with these companies because they don't make those units yet. So when these regulations come into effect, we're gonna be faced with situation where a workforce will need to be trained is the certified electricity is willing to be trained. So finally.

127
Hearing Room 01:45:06.440 --> 01:45:26.240
Limit of eighty kilowat hours for battery systems is too small for the anticipated black operation that's gonna happen with commercial customers. So these proposed regulations are very bad for customers and very bad for the state of California as we desperately need to prop up our grid with.

128
Hearing Room 01:45:26.360 --> 01:45:30.600
Energy storage systems and still goes for commercial and residential.

129
Hearing Room 01:45:39.040 --> 01:45:58.240
Hi, good morning I'm, Doug S. Buzzo and I'm the renewable energy practice leader for Assured Department from California, were a national Insurance brokerage and I've been working in the solar space for probably about fifteen years. We probably employ about five hundred people in the state of California based as Sacramento, when we have LA.

130
Hearing Room 01:45:58.400 --> 01:46:18.720
And San Diego offs as well. I'm also here to opposed the regulations as proposed. I think two simple points indicate wh- is just too small there needs to be greater flexibility in that and the, the statement number two that storage is not a part of the solar system candidly, I mean, it.

131
Hearing Room 01:46:18.880 --> 01:46:29.840
Just kind of silly if I and accurate if I date myself a little bit. I mean, solar and battery storage is like peanut butter and jelly. I mean, they just go.

132
Hearing Room 01:46:30.920 --> 01:46:51.360
It's as simple as that would these regulations though. I think if they're approved as is, it would be detrimental. It will hand businesses job creation at the end of the day. It always will cost that homeowner of that business owner more money and it's gonna hurt adoption of the, of the battery storage. So I.

133
Hearing Room 01:46:51.440 --> 01:46:58.640
In favor of a Calci's language that they put forward, and I hope you guys will consider that thank you.

134
Hearing Room 01:47:04.800 --> 01:47:25.280
Hi, my name is Megan, similar. I'm here with Solar. How to C- forty, six contractor, this role is a logical and harmful the board's proposed rule makes absolutely no sense in the line of realities that the solar industry and battery installation, first the role distincts between allowing C- forty- six contractors to do contemporary batteries solutions, but banning them from battery retro.

135
Hearing Room 01:47:25.720 --> 01:47:45.680
Has no factual basis functionality. There's no difference in the mechanical installation or leave or between installing the battery at the time of solar or as a retrofit. The proposed decision also a proposed rule also undermine the build, your C- four, eight, six contractors offering maintenance and repairs on previous battery installations.

136
Hearing Room 01:47:46.200 --> 01:48:06.880
Companies required the contractors to get a warrant all equipment and its installation if solar has previously entered into a long term contract for the customer, the inability to provide a comprehensive service result in contractual disputes or early contract term nations yet, the board proposed rules would effectively bar C- four, six contractors from doing.

137
Hearing Room 01:48:07.000 --> 01:48:27.360
Promise maintenance work on batteries installations. We installed this inability to provide a complete solar solution that includes battery under a workmanship warranty might negatively impact my company's reputation and reint image customers. They perceive our company as incomplete or lack of expertise thereby affecting the trust. Our companies capab.

138
Hearing Room 01:48:28.440 --> 01:48:47.840
Only does a proposed rule undermine slower ability to complete existing contracts seek new jobs and honor its warranty obligation. thirty seconds. The rule also require the changes in our workforce, This decision would also mean losing our highlights lead for men who has successfully completed.

139
Hearing Room 01:48:47.840 --> 01:48:58.000
Thousands of inslations over the last thirteen years, he's an valuable asset and you have to see a change in his likelihood after this decision. Thank you.

140
Hearing Room 01:49:03.200 --> 01:49:19.400
Hi, my name is Susanna Gordiana. I'm a future from Berkley. I'm a closed to this proposal. We Californians have the right to make energy from the Sun without unreasonable interference by the utility. This is the definition of unreasonable interference.

141
Hearing Room 01:49:19.880 --> 01:49:40.320
This proposal appears to be more about helping the utilities limit their access to rooftop solars and bat batteries not about protecting consumers the CSLB itself has found no evidence of a problem that the safety or quality of the work performed by licensed solar contractors. The CSLB is also acknowledged that while both are qualified to.

142
Hearing Room 01:49:41.360 --> 01:49:53.120
Licensed solar contractors study more extensively for battery installations than licensed electricians. Please vote, no, on this proposal. thank you.

143
Hearing Room 01:49:59.520 --> 01:50:01.640
Maybe afternoon room.

144
Hearing Room 01:50:20.640 --> 01:50:39.200
I'm Jack Ramsey, a licensed contractor and Larry California C. ten C-forty- six. I don't have a whole lot of real fancy words where the central sandwalking valley. I opposed this mostly because the limit is way too low. My average consumer that I.

145
Hearing Room 01:50:40.780 --> 01:51:00.620
Solar for, in the sandwalking valley uses over one hundred kilowatts of power per day. So eighty- kilowatts isn't big enough to get them through the, the evening in the next morning before the solar comes button comes back, the sun comes back out real simple, Please suppose it.

146
Hearing Room 01:51:18.460 --> 01:51:29.340
Thank you for your prods moderator to explain how many will present those comments over Webex and take up to ten comments moderating.

147
Hearing Room 01:51:31.140 --> 01:51:34.460
Instructions and open up a good product.

148
CSLB Moderator 01:51:35.900 --> 01:51:39.580
Joining by phone and not on Webex if you want to offer.

149
CSLB Moderator 01:51:39.580 --> 01:51:40.220

Public comment...

150
CSLB Moderator 01:51:41.940 --> 01:51:42.780
On your phone.

151
Hearing Room 01:51:42.820 --> 01:51:43.420
To raise.

152
CSLB Moderator 01:51:43.540 --> 01:51:44.060
Your hand.

153
CSLB Moderator 01:51:44.900 --> 01:51:45.340
You're turn.

154
CSLB Moderator 01:51:46.140 --> 01:51:47.900
Unmute your line and you will have two minutes to.

155
CSLB Moderator 01:51:50.020 --> 01:51:51.100
Longer want to comment pre.

156
CSLB Moderator 01:51:52.380 --> 01:51:53.660
To lower your hand.

157
Hearing Room 01:51:53.660 --> 01:51:54.300
For those of you.

158
CSLB Moderator 01:51:54.380 --> 01:51:55.580
You on Webex with.

159
Hearing Room 01:51:56.340 --> 01:51:56.860
Or Smartph.

160
CSLB Moderator 01:51:57.100 --> 01:51:57.500
You have.

161
Hearing Room 01:51:59.460 --> 01:52:00.060
You can use the.

162
CSLB Moderator 01:52:00.140 --> 01:52:01.980
Chat feature to send me.

163
CSLB Moderator 01:52:03.060 --> 01:52:03.900
Letting me know you have.

164
CSLB Moderator 01:52:04.140 --> 01:52:04.540
Comment...

165
CSLB Moderator 01:52:05.260 --> 01:52:06.460
You can click the raised.

166
Hearing Room 01:52:06.620 --> 01:52:07.100
Feature in the.

167
CSLB Moderator 01:52:07.140 --> 01:52:08.380
Webex application.

168
CSLB Moderator 01:52:09.540 --> 01:52:10.940
I will announce your name and we'll.

169
Hearing Room 01:52:11.300 --> 01:52:11.580
You.

170
CSLB Moderator 01:52:11.820 --> 01:52:12.220
You two minutes.

171
CSLB Moderator 01:52:12.340 --> 01:52:12.860
To make public.

172
CSLB Moderator 01:52:13.500 --> 01:52:14.140
At the end of.

173
CSLB Moderator 01:52:15.420 --> 01:52:19.380
Or when you're a lot of time ends, the line will again be muted.

174
CSLB Moderator 01:52:25.020 --> 01:52:25.660
How Rich.

175
Hearing Room 01:52:26.500 --> 01:52:26.940
Unmuted.

176
CSLB Moderator 01:52:29.020 --> 01:52:29.500

Set the.

177
CSLB Moderator 01:52:30.380 --> 01:52:32.060
You have two minutes to speak.

178
Hearing Room 01:52:38.060 --> 01:52:38.460
I.

179
Hearing Room 01:52:39.380 --> 01:52:39.740
Anyone here.

180
Hearing Room 01:52:51.260 --> 01:52:51.900
All right.

181
CSLB Moderator 01:52:53.300 --> 01:52:55.100
And I'll rich a moment, Alex.

182
Hearing Room 01:52:55.180 --> 01:52:55.740
Lansbur.

183
CSLB Moderator 01:52:55.860 --> 01:52:57.020
I'm sending you a request to UNM.

184
CSLB Moderator 01:52:57.300 --> 01:52:58.940
You'll have two minutes to speak.

185
Alex Lantsberg 01:53:03.020 --> 01:53:09.820
Name is Alex. I'm research and advocacy director over the San Francisco electrical industry. Thank you very much for allowing me com...

186
Alex Lantsberg 01:53:10.580 --> 01:53:14.300
Things, first of all. No other state in the, in the union.

187
Alex Lantsberg 01:53:14.940 --> 01:53:22.620
I'll solar contract, install, Laura or existence the idea that we hear that we're hearing from these contractors here.

188
Alex Lantsberg 01:53:23.900 --> 01:53:25.820
Their under trade staff who are not.

189
Alex Lantsberg 01:53:27.100 --> 01:53:47.580

Are capable of doing this work is frankly deceiving and ultimately unsafe for California. The plain fact is that skilled and trained electricians are certified by the state to know everything that that's going to be happening with. These are to be able to adjust on the fly to make.

190
Alex Lantsberg 01:53:48.860 --> 01:53:59.100
That our homes are safe that our communities are safe and that we don't spark any wildfires. It is absolutely baffling to hear from contractors.

191
Alex Lantsberg 01:53:59.340 --> 01:54:19.580
Let's be clear contractors. We do not do the work themselves. Take credit for the labor of their under- trained workers and, and go ahead and say that they can go start doing complex stuff. The FA, as I said, the fact is skill and trade electricians, we have hundreds of thousands of them in the state, we have, we've seen the comparisons between C forty- six.

192
Alex Lantsberg 01:54:20.380 --> 01:54:24.700
Contractors in terms of quantity availability, we've seen cost Analys.

193
Alex Lantsberg 01:54:25.980 --> 01:54:32.380
All all of their comments don't stand up to scrutiny and I urge you to put a limit on what these little contractors can do.

194
Hearing Room 01:54:40.060 --> 01:54:43.220
All right, we're going to try Albridge.

195
Al Rich 01:54:44.620 --> 01:54:45.180
Can you hear me now?

196
Al Rich 01:54:51.580 --> 01:54:54.140
Hello, am I young? Am I on.

197
Hearing Room 01:54:54.220 --> 01:54:55.420
Yes, you are.

198
Al Rich 01:54:55.740 --> 01:55:09.500
Thank you, yeah, my name's Alrich. I've been dedicated to solar for forty- four years. I'm the president of ACR Solar International. My company installed solar electric systems batteries for residential commercial customers. We employ twenty five employees.

199
Al Rich 01:55:10.580 --> 01:55:19.100
Based in car, Michael and I'm here to express my opposition to the regulations as proposed as thresholds too. Small timeline is.

200
Hearing Room 01:55:19.220 --> 01:55:20.340
Tight.

201
Al Rich 01:55:20.380 --> 01:55:21.660
Battery storage.

202
Al Rich 01:55:21.900 --> 01:55:30.220
Has been combined with solar for decades and this vital that we'd be able to continue to serve our customers.

203
Al Rich 01:55:31.900 --> 01:55:38.940
To be able to do retrofits repairs and warranty work on solar and store systems. As I said, we've been doing for decades.

204
Al Rich 01:55:40.260 --> 01:55:43.420
With regulations as proposed CSLD will be simultane.

205
Hearing Room 01:55:43.500 --> 01:55:44.060
OUSLY.

206
Al Rich 01:55:44.100 --> 01:55:49.820
Hurting small business thousands of good pain jobs and the growing need for energy.

207
Al Rich 01:55:51.860 --> 01:55:59.300
And consumers we serve. I support Calci's proposed alternative language. Thank you.

208
Hearing Room 01:56:08.460 --> 01:56:13.860
Andrew Tanner, you sent you a request to unmute you will have two minutes to speak once you're unmuted.

209
Andrew Tanner Yotta Energy 01:56:14.140 --> 01:56:34.620
Good morning everybody. My name is Andrew Tanna and I am VP of product at your energy. My company is the manufacturer of a one kill what hour energy storage technology that is about the size of a briefcase and installs directly beneath solar modules on commercial rooftops. If a system.

210
Andrew Tanner Yotta Energy 01:56:34.660 --> 01:56:55.100
Is a hundred kilowatt hours in size, then there are a hundred of our batteries deployed under a hundred solar modules, if it is five hundred

kilowatt hours in size, then there are five hundred battery units. It forms an intrinsic part of the solar installation with each unit only being inches beneath the.

211
Andrew Tanner Yotta Energy 01:56:55.460 --> 01:57:15.580
Module we employ thirty- five employees and are based in Austin, Texas and have a number of employees based in here in California, Myself included I'm here today to express my opposition to the regulations as proposed. The thresholds are too small. The timeline is too tight and the DEC.

212
Andrew Tanner Yotta Energy 01:57:15.860 --> 01:57:36.060
Ation that battery storage is not considered part of a solar energy system is totally inaccurate and harmful your energy's innovation is the simplicity of the installation. Indeed, every person in the room today and on the call could safely install our battery technology with only a few minutes of.

213
Andrew Tanner Yotta Energy 01:57:36.780 --> 01:57:48.860
Let me repeat that every person in this room and on the call today could safely install our battery technology with only a few minutes of training.

214
Andrew Tanner Yotta Energy 01:57:50.260 --> 01:58:09.980
Over whether a C- forty- six contractor should be limited in their ability to install yard as battery technology at any scale is absurd with these regulations is proposed the CSLB will simultaneously be hurting small businesses. The, the generation of jobs here in Californ.

215
Andrew Tanner Yotta Energy 01:58:10.700 --> 01:58:14.460
The rise of energy storage and the consumers that we all serve.

216
Hearing Room 01:58:14.540 --> 01:58:15.100
I support...

217
Andrew Tanner Yotta Energy 01:58:15.740 --> 01:58:19.540
's proposition propose alternative language. Thank you.

218
Hearing Room 01:58:24.060 --> 01:58:27.900
All right, Agopian, you are unmuted. You have two minutes to speak.

219
Ara Agopian 01:58:29.460 --> 01:58:44.540
Opian, I'm the CEO of solar insurer now living close to Masa and the license insurance broker specializing in the solar industry for twenty

years. I'm imposed proposed solar battery regulation because it'll have a significant negative impact on the sole indus.

220
Ara Agopian 01:58:45.260 --> 01:59:01.820
There's no evidence from a risk management perspective that C- forty- six contractors increased risk and solarence for installations. Our data across tens of thousands of installations do not support this regulation and I support counsel's proposed change to the proposal. Thank you for your time.

221
Hearing Room 01:59:08.220 --> 01:59:24.980
The next, several comments are from people on the phone, so I don't have names. So if you are calling in, please be listening to be prompted to unmute yourself. I am sending an unmute request now to a caller, you get a prompted please unmute and you have two minutes to speak.

222
Hearing Room 01:59:42.140 --> 01:59:45.220
You are unmuted, You can go ahead and speak.

223
Call-in User_10 01:59:46.620 --> 01:59:49.820
My name is, I live in the city of Lakewood.

224
Call-in User_10 01:59:50.580 --> 02:00:10.940
Most of the proposed regulation on solar battery installations, training and locational trade schooling is common and much utilized necessity for solar trade. We need to accept the fact that the education obtain my solar workers is a valuable and it's accredited as electricity's tradar experience necessary.

225
Call-in User_10 02:00:11.420 --> 02:00:31.420
Battery storage is basic to the solar insulation trade already to date. That doesn't mean every solar worker journey. Ben has certified to do this work, but necessary and required for these workers to be trained and eventually become certified to impose a new regulation on solar battery work and with Decert.

226
Call-in User_10 02:00:32.060 --> 02:00:51.900
The existing traits people in the field and have already been doing the work to the code of regulations is not only ridiculous, but Ludicus solar contactors are currently licensed by the state board and their ability to install batteries should not be any frenched, so we're contractors already studied battery Insul.

227
Call-in User_10 02:00:54.540 --> 02:01:00.300
Thank you quality work. So there's no need for ship to a trade that actually does pharmace work with.

228
Call-in User_10 02:01:00.980 --> 02:01:16.820
And consequently from this training and the solar battery field, the proposed regulation will only drive up the cost of solar batteries to consumers and put thousands of solar workers out of work. Thank you for listening to a work in class trade.

229
Hearing Room 02:01:18.860 --> 02:01:21.060
Can you please repeat your name?

230
Call-in User_10 02:01:25.300 --> 02:01:26.420
Retired.

231
Hearing Room 02:01:31.660 --> 02:01:39.220
We'll be sending another caller a prompts to unmute once you are unmuted, you will have two minutes to speak.

232
Call-in User_12 02:01:45.100 --> 02:02:06.220
Hi, my name is Tom Perez. I live in San Diego. I'm a blind veteran who relies on experience and expert professionals to do work on my house. I'm opposed to the proposed solar battery regulation because it impedes my right to contact my solar provider to install a solar battery solar optimum is an excellent solar provider.

233
Call-in User_12 02:02:06.420 --> 02:02:26.700
Power company they streamline the installation implementation process to ensure very timely activation of my solar power system, their licensed solar power installers did an awesome job of putting the panels on my roof. They worked well with the city to ensure their work permits were pulled and the inspector was there at the right time, of course solar opt.

234
Call-in User_12 02:02:26.980 --> 02:02:47.180
Installers work was passed inspection the first time changes the way solar batteries are installed, is unnecessary right now. All license solar installers receive the training know how to get the job done, right? As the same goes, if it ain't broke, don't fix it solar power companies, installing battery storage systems is working.

235
Call-in User_12 02:02:47.340 --> 02:02:52.620
Very well right now there's no need to change how it is working. Thank you.

236
Hearing Room 02:03:01.900 --> 02:03:07.380

I've said another color request to unmute once you are unmuted, you will have two minutes to speak.

237
Call-in User_13 02:03:13.420 --> 02:03:33.900
My name is Jeff Wellnesbury. I'm with Calcom Energy, excuse me in Fresno, California. We employ a hundred employees installing solar and battery for farmers. I've been working installing batteries and solar for farmers for fifteen years in California and I oppose these regulations.

238
Call-in User_13 02:03:34.540 --> 02:03:54.380
The threshold is far too small and I also want to make everyone aware that the California Public Utility Commission has passed a net billing tariff and now we're revised net energy metering aggregation tariff that both clearly incentivize the installation of Battery St.

239
Call-in User_13 02:03:55.660 --> 02:04:06.540
They disincentivize solar PV and are incentivizing contractors, like Calcom and others to work on battery storage, if you take this opportunity away from us.

240
Call-in User_13 02:04:07.180 --> 02:04:27.020
This is going to be headwinds that the industry cannot handle and many many jobs are gonna be lost because this is the opportunity for us to find work and make work in this new difficult regulatory environment. So please take a look at these new proposed net billing tariff and revised net energy metering aggregation tariff.

241
Call-in User_13 02:04:27.100 --> 02:04:38.540
To understand that battery storage is critical and retrofits the battery storage to the work of our workforce and moving forward. Thank you.

242
Hearing Room 02:04:47.500 --> 02:04:51.980
Daniet, I sent you a request to unmute once you're unmuted, you'll have two minutes to speak.

243
Danett 02:04:54.540 --> 02:04:55.820
Hello, can you hear me?

244
Danett 02:04:56.460 --> 02:05:16.860
Thank you, my name is Janet Abot Wicker and I live in Orange California. I am opposed to the proposed solar battery regulation because most solar and battery systems are installed by license solar contractors rather than a Lectricians, the solar contractors license is a specialty trade that has been around for over forty years in California.

245

Danett 02:05:17.380 --> 02:05:37.420
Solar contractors train more extensively on battery installations than license electricians because it's such a core part of what they do. If a solar user wants to add a battery to their existing solar system or make repairs or modification to their existing battery. They usually have the original solar and solar.

246
Danett 02:05:37.540 --> 02:05:40.620
Do the work or risk avoiding their warranty.

247
Danett 02:05:41.900 --> 02:06:01.740
But the customer impossible situation in which state regulations would force them to hire someone else to do the work avoiding their warranty in the process. In addition, these rules are removed thousands of existing solar local solar companies and workers from the market, including very experienced battery installers. This would.

248
Danett 02:06:01.940 --> 02:06:09.020
Choices for consumers and drive up the cost of getting solar and, or a battery. Thank you.

249
Hearing Room 02:06:17.100 --> 02:06:22.580
I've sent a request to unmute to a caller once you unmuted, you will have two minutes to speak.

250
Call-in User_18 02:06:25.420 --> 02:06:30.540
Hi, good morning California. State Licensing Board. Thank you for the Open Forum.

251
Call-in User_18 02:06:31.180 --> 02:06:51.660
Her name is Renee Donaldson. I have a company in Carl's bad California and we specialize in battery storage. We've been in business since two thousand nine and we have a dozen over a dozen employees and we've built our business around battery storage from telecom through complete offgrade systems to hybrid residential and commercial applications and in that.

252
Call-in User_18 02:06:51.980 --> 02:07:12.140
We've designed thousands of systems that exceed eighty kilowatt hour threshold. The recommendation is far too small installing solar with storage has been synergized for a long time, and there's no reason to separate them. It's a single system lastly with our manufacturers we educate train and empower RC.

253
Call-in User_18 02:07:12.180 --> 02:07:32.500

Forty- six solar contractors to size design and install the assistance correctly. They're experienced skills and certified to install them the barriers on size. do not make sense when it's the training itself. That's the concern. This proposal is harmful to our industry and the communities we serve thank you.

254
Hearing Room 02:07:35.820 --> 02:07:37.740
One more on Webex.

255
Hearing Room 02:07:45.620 --> 02:07:51.780
So Celia, I think on, I sent you a request to unmute, we'll have two minutes to speak once you're unmuted.

256
Anonymous 02:07:57.940 --> 02:08:16.780
Consulting firm in San Diego, California. I've been in the energy solar energy business for more than twenty years, and since then I have, we have seen, I mean, if somebody there can will not deliver it that the amount of work that has been created through distributed generation solar has been incredible.

257
Anonymous 02:08:17.540 --> 02:08:36.180
Thousands and doses of new companies and all will trained. I worked for a manufacturer for seventeen years and as a manufacturer of a solar equipment, I can tell you that we all try to make it plug and play so that it is easy and is fast for training. So it is.

258
Anonymous 02:08:37.940 --> 02:08:57.740
To see that your board will propose or will want a pass regulation that will actually kill a thousands of workers jobs and companies in the state and I just please ask that you do not pass this regulation. I would, I support some, the MOD.

259
Anonymous 02:08:58.460 --> 02:09:18.220
Or the proposals from Kalsa and remind you that your responsibility is to help employment growth, but this regulation will do the opposite and will actually affect thousands of families that rely on solar business in their own work and also that to remind you that all these companies have been around for.

260
Anonymous 02:09:19.700 --> 02:09:33.460
Twenty- forty years and if nothing has been going wrong terribly wrong with what they're doing. Why do you want to stop them now when we need more batteries than ever. So please, please do not vote. Yes, on this. Thank you.

261
Hearing Room 02:09:36.780 --> 02:09:38.100

Thank you.

262
Hearing Room 02:09:39.340 --> 02:09:47.100
Now I asked to moderator to close a comment window and we'll resume comments in the hearing room.

263
Hearing Room 02:09:48.620 --> 02:09:52.260
Does anybody who actually provide a comment? Please come to the podium.

264
Hearing Room 02:10:01.100 --> 02:10:02.420
Great, thank you.

265
Hearing Room 02:10:03.740 --> 02:10:24.140
My name is Janine Clater. I'm the majority shareholder, co- founder and CEO of my husband and I co- founded Liminal in two thousand four and I became the C forty- six license qualifier for the May of twenty- eleven womenolism, Majority women- owned battery energy, solar battery energy, storage specialty, fine- built construction, compan.

266
Hearing Room 02:10:24.340 --> 02:10:44.620
In San Francisco for the last nineteen years, we've designed and built rooftop, solar and solar battery energy storage and systems for single and multi- family homes, nonprofits and businesses throughout the day area. According to the San Francisco Department of Building inspections permit data luminal installed sixty percent of the solar battery.

267
Hearing Room 02:10:44.980 --> 02:10:49.180
Storage systems in San Francisco in two thousand twenty- two.

268
Hearing Room 02:10:51.180 --> 02:11:10.860
C- forty- six contractors have the expertise to installer battery energy storage. The proposed rules would prevent them from doing the work that they do today, harming them the workers harming luminol leather, solar installers and in particular harmony.

269
Hearing Room 02:11:13.400 --> 02:11:32.520
Solar battery energy storage hours worked under the C forty, six license. Do not count towards electrical certification. Thus the rule would prevent solar workers from doing the work that they do today without offering a path to take the certified electrician's exam, which means that they would have to start.

270
Hearing Room 02:11:32.840 --> 02:11:53.000
Ground zero and not have any credit, thirty seconds California needs a diverse career pathway. Diverse career pathways to ensure professional

diverse workforce, the proposed rulemaking would use licensing to create additional barriers to career and professional progression for individuals whose life experiences precluded.

271
Hearing Room 02:11:53.400 --> 02:12:12.160
Rolling in traditional construction apprentices when they join the workforce to meet the workforce needs of the twenty- first century and beyond we need to provide additional and diverse career pathways to ensure talented women and others are included in the good jobs for our trade. Thank you, thank you.

272
Hearing Room 02:12:29.480 --> 02:12:49.320
Hi, my name is Pam Pampon and I'm a certified electrician and cruel solar of San Francisco. I started in March of twenty thirteen as a goal solder solar and solar training at that time I was uncertain of the trajectory in my life, but I was certain, I thoroughly enjoyed working into clean energy field my passion and solar has sparked my curiosity.

273
Hearing Room 02:12:49.960 --> 02:13:09.800
To further educate myself regarding all aspects of the build introducing me to the national Electrical code. I challenge myself to understand the code with each build I touch and be with pride with each inspection. I quality pass that became my new obsession. I've taken numerous code class at various educational FAC.

274
Hearing Room 02:13:09.800 --> 02:13:30.280
Facilities to gain a buried interpretation of the code to continually devolve myself in my craft in two thousand eighteen. I passed my California general electrician's exam on my first attempt. I would, if the proposed rule before you had existed when I started, I would not be where I am today. I've been on.

275
Hearing Room 02:13:30.280 --> 02:13:50.760
Thousands of roof and installed thousands of solar paired batteries storms system, which has been instrumental in the craft person. I am today. It would be judgmental to the clean energy industry and its consumers who's the opportunity of electrical certification and an equity equitably.

276
Hearing Room 02:13:50.840 --> 02:13:57.320
Available to my colleagues in the industry as it was me, thank you, thank you.

277
Hearing Room 02:14:02.920 --> 02:14:05.120
Anybody else that room.

278

Hearing Room 02:14:08.680 --> 02:14:27.240
Are you trying to moderator to open the window or comments? All right, just a couple reminders in case anyone joined the Webex late, if you are joining us by phone and not on the Webex and you have public comment offer and you can press star three of your code to RA.

279
Hearing Room 02:14:27.440 --> 02:14:47.720
Your hand, but it's your term speed. I will unmute your line and you will have two minutes to speak, but any point you decide to no longer want to comment God star three, again, delay for those on the Webex application with a computer tablet or smartphone. You can use the chat feature to send me the moderator to create a message. Let me know. You have a comment or.

280
Hearing Room 02:14:47.760 --> 02:15:08.200
You can use the handbrace function in the Webex application, but it's your turn I will answer your name and unmute you allow me two minutes to make your public comment at the end of your comment or when there are a lot of time ends, the line will again be music. I'm sending a request to unmute a caller right now. Accept that request and once you are unmuted.

281
Hearing Room 02:15:08.320 --> 02:15:10.080
Two minutes to speed.

282
Hearing Room 02:15:21.640 --> 02:15:27.840
I've said one more request to that same color. Do I need to please accept the request and you have two minutes to speak.

283
Call-in User_20 02:15:30.120 --> 02:15:49.800
This is Mike Beg, say homeowner in San Jose. I'm opposed to the proposed solar battery regulation because would make it more difficult to install whole home backup or off grid systems. This proposal will limit Rooftop solar when we should be doing everything we can to promote more rooftop solar.

284
Call-in User_20 02:15:49.920 --> 02:15:56.920
And the limit of eighty kilowatts is too low. So please vote... no, on this proposal. thank you.

285
Hearing Room 02:16:04.520 --> 02:16:10.600
I sent a request to another caller to unmute please accept the request and we'll have two minutes to speak.

286
Call-in User_22 02:16:18.600 --> 02:16:20.520
This is Dennis. Can you hear me?

287
Hearing Room 02:16:21.160 --> 02:16:22.280
Yes.

288
Call-in User_22 02:16:22.520 --> 02:16:23.080
Thank you.

289
Call-in User_22 02:16:24.360 --> 02:16:40.360
My name is Dennis and I live in Cypres, California. My family and I are new solar system owners and we are very proud that we have already offset over nineteen tons of carbon from the twenty- sixth megawatt hours, solar power producer. It was turned on.

290
Call-in User_22 02:16:40.480 --> 02:17:00.840
In September, twenty- twenty- one, we also have a ten K battery backup that helps offset our electricity use during, on peak times and protects us during power outages. Now we tired and living on a fixed income. We believe that we've had a firm twenty- year deal with our license solar system contract.

291
Call-in User_22 02:17:01.480 --> 02:17:17.880
But now the California State License Board wants to change the rules to break our deal. Now we understand that the telephone state license board wants to allow only license electricians to repair my seller system or to have an additional battery to our system.

292
Call-in User_22 02:17:18.760 --> 02:17:39.240
Anyone other than my installing silver system contractor touches my solar battery system, it will avoid our twenty- year warranty who is going to cover the cost of this to homeowners and businesses is the, is the California State licensed board going to cover the cost of this loss to us solar system contractors have expertise in expanding bat.

293
Call-in User_22 02:17:39.599 --> 02:17:50.120
Systems like my ten K battery system, for example, it has specific built in micro- inverters that must be property programmed after being installed.

294
Call-in User_22 02:17:52.040 --> 02:17:59.960
License electrical contractor will be able to properly expand or repair my system, an existing battery system.

295
Call-in User_22 02:18:01.000 --> 02:18:17.000
All of these questions will be, will cause added costs and delays to me and other homeowners and businesses if you change the rules. So please

protect all California solders that owners and keep the existing rules in place. Thank you.

296
Hearing Room 02:18:26.800 --> 02:18:31.480
I sent you a request to unmute about two minutes to speak, once you unmute it.

297
Hearing Room 02:18:41.960 --> 02:18:46.719
Karine, I see you if I'm muted, but we cannot hear you. Make sure your mic is unmuted as well.

298
Hearing Room 02:18:54.320 --> 02:19:05.200
Sharina's lowered their hand and I'm just not there anymore. I'm sending another request to unmute to a caller, once you have unmuted, you will have two minutes to speak.

299
Call-in User_3 02:19:07.559 --> 02:19:10.760
Hello, my name is Patricia Levins. Can you hear me?

300
Call-in User_3 02:19:11.440 --> 02:19:31.880
Okay, I live in San Jose and up until this proposal, I believe the CSL page did important work protecting consumers and maintaining contractor standards over this proposal. Appears more about helping utilities, like the Felon DG and E- limit access to Rooftop solar and battery by destroying the solar contractor industry, then it does adopt protecting.

301
Call-in User_3 02:19:31.920 --> 02:19:52.360
Consumers, the proposal would revoke the ability of licensed solar contractors to install a repair batteries, leaving the consumer to deal with far less trained and, or skill licensed electricians to install a repair, their solar batteries. Your own research has clearly revealed the solar contractors have skilled workers with far more training.

302
Call-in User_3 02:19:52.840 --> 02:20:12.840
Installation and problem solving then licensed electricians do in two thousand eighteen the CSLB rejected the almost exact same proposal from the bower utilities. There is no reason the benefits, the consumer for the CSLB to pass the proposal. Now the only thing that has changed is we have five.

303
Call-in User_3 02:20:13.000 --> 02:20:33.320
More years of excellent results by the solar contractor skilled workers installing and maintaining solar batteries, including in two thousand nineteen on my home. However, if the CSLB passes this proposal and I have problems with my solar battery, I cannot call my solar contractor. Son

works my warranty will be voided and I would be forced to employ a license electrician.

304
Call-in User_3 02:20:33.320 --> 02:20:45.680
Who may have minimal skills with solar batteries. How is this remotely fair? I asked the CSLB to again, reject this proposal, which only harms the consumer. Thank you.

305
Hearing Room 02:20:55.080 --> 02:20:58.400
Kareen Burpose I have sent you a request to unmute.

306
Cherene Birkholz 02:20:59.720 --> 02:21:20.040
MRIN Berkal, Ton, I live in long Beach. I am posed to the proposed solar battery regulation because it could void the warranty in my existing solar system. I currently have only solar panels, my husband, and I would like to add battery to our system in the future, Your proposal would put me in an impossible situation in which state regulations.

307
Cherene Birkholz 02:21:20.920 --> 02:21:28.160
Hiring Electrician to do the batter install, which would avoid my solar system warranty, thank you.

308
Hearing Room 02:21:35.480 --> 02:21:41.560
Aaron kill, I sent you a request to unmute. I want you to accept the request. You will have two minutes to speak.

309
Erin Kiel - Sunnova 02:21:41.880 --> 02:21:48.280
Good morning, my name is Aaron Heal. I'm the senior manager of Government Affairs at Sanova Sinova.

310
Erin Kiel - Sunnova 02:21:49.000 --> 02:22:10.040
Residential rooftop, solar and storage company. We have over three hundred fifty thousand customers and work with hundreds of installers in California. The science is clear. We are not acting fast enough to mitigate the climate. Crisis, solar and storage is imperative to meet our clean energy goals restricting solar contractors, ab.

311
Erin Kiel - Sunnova 02:22:10.320 --> 02:22:14.520
To add boundaries or make repairs to existing solar and storage.

312
Erin Kiel - Sunnova 02:22:15.560 --> 02:22:29.240
Concerning like backwards the proposed restrictions would harm consumers by forcing them to hire different contractors to do the work. They would also remove experience battery installers from the market.

313
Erin Kiel - Sunnova 02:22:29.960 --> 02:22:37.560
Limit choices for consumers like myself. We also have a solar system and drive out the cost of solar powered bat.

314
Erin Kiel - Sunnova 02:22:38.200 --> 02:22:46.520
The board is well aware of the alarming shortage of C- ten contractors furthermore, there is no evidence to suggest that.

315
Erin Kiel - Sunnova 02:22:47.800 --> 02:23:04.920
Contractors are not equipped to safely service solar and storage. We should be expanding not restricting the categories of licensed contractors that can deploy solar and batteries. I support Calci's proposed alternative language.

316
Hearing Room 02:23:12.760 --> 02:23:33.120
As a reminder to those who are on Webex are on the phone, everyone who is in attendance will have a chance to make their comment. There are several dozen people at this moment for hand race. Please have some patients who will get to you and your comment will be third Chris Lee, I'm sending you a request to unmute, you'll have two minutes to speak. Once you do accepted.

317
Chris Gleed 02:23:34.240 --> 02:23:40.920
Chris Galid, senior project manager and the Renewables division at Baker Electric based in Econdido, California.

318
Chris Gleed 02:23:41.720 --> 02:24:02.040
Support the proposed regulations. Well, in energy storage system and PV system can be paired together. They are separate unique systems with independent utility requirements, furthermore and energy storage system carries significantly greater fire and safety risks than PV installation.

319
Chris Gleed 02:24:02.280 --> 02:24:20.600
Maintenance improperly installed energy storage systems can result in electric ARC flashes, fire explosion electric shock, hazardous gases, or chemical leaks, setting a size limit on energy storage systems that can be considered.

320
Chris Gleed 02:24:20.720 --> 02:24:41.720
Incidental and supplemental work will reduce safety risks and is good policy on eighty kilowatt hour threshold seems high to me. I understand that the CSLB desires to set a threshold that is high enough to essentially eliminate disruption in the industry. I urge the board to adopt these regulations and look.

321

Chris Gleed 02:24:42.440 --> 02:24:48.200
Seeing these positive changes implemented at the earliest possible time. Thank you.

322
Hearing Room 02:24:57.320 --> 02:24:59.480
I sent you a request to unmute.

323
Damon Franz 02:25:00.960 --> 02:25:21.400
Good morning I'm, David, France, Senior policy manager at Tesla Tesla is California Larges Manufacturing Employer, supporting nearly forty- three thousand jobs in the state, In addition to manufacturing the world's selling electric vehicles, test that also manufactures and installs battery storage systems at all scales from the small five kilowatt systems on single FAM.

324
Damon Franz 02:25:21.680 --> 02:25:41.880
Homes to massive grid scale systems in the hundreds of megawatts that keep the grid stable and running, Well, Tesla holds both a C- forty six and a. C- ten license. We oppose the regulations as proposed. We feel the thread could be safely raised to two hundred eighty kilowet hours as proposed by Kalsa. the small.

325
Damon Franz 02:25:42.640 --> 02:26:03.000
Plug and play batteries like our thirteen point five kilowattaur power wall system stack together or installed on different parts of a premises. Well, beyond the proposed eighty kiloweat hour limit without increasing the safety risk testa provides rigorous treating in Powerwell installation and safely to our employees and hundreds of solar providers across the state who act as our channel partners.

326
Damon Franz 02:26:03.640 --> 02:26:23.480
We also feel that C- forty- six contractors should be allowed lecture fit and maintain batteries to our systems on existing solar areas and outcome that we'd be consistent with the state's policy objectives of ensuring that all solar is paired with batteries going forward and we feel the implementation timeline should be extended by several years to allow businesses.

327
Damon Franz 02:26:23.520 --> 02:26:33.080
Sufficient time to get their employees. I'm trained and licensed his electricians with the state's ambitious climate goals requiring significant additions of battery storage to the grid and the.

328
Damon Franz 02:26:34.440 --> 02:26:48.640
Billing tariff, affect the requiring storage on all new solar rays. The CSW should be careful to ensure it's regulations. do not harm small solar and battery contractors and hinder those important objectives. Thank you.

329
Hearing Room 02:26:54.840 --> 02:27:00.000
The request to unmute to a color, once you've accepted the request, you'll have two minutes to speak.

330
Call-in User_29 02:27:03.160 --> 02:27:23.640
Good morning, my name is Renny Wise. I live in free Mont. I am in opposition to the contractor C license board proposal, returning home battery systems. I'm currently leasing a solar system in a free mont, which has been running for over ten years. Now a very successfully in the near future. I am plan on adding backup batteries to my system. What's that can afford it that these.

331
Call-in User_29 02:27:23.640 --> 02:27:44.120
New regulations go into effect. It will make it unaffordable for me as a retire to ever get batteries, in addition to poding my warranty with my current provider, this CSLB does important work protecting consumers and maintaining contractor standards. Unfortunately its proposal will any harm consumers rather than help them.

332
Call-in User_29 02:27:44.800 --> 02:28:05.240
Trying to solve a problem that does not even exist. It only benefits the utility companies efforts to eliminate their own competition for solar generation and battery storage utility and monopolies on energy only drive up brace for all consumers and eliminates the needs for innovation. I'm asking all the members of this board to reject their unfair proposal.

333
Call-in User_29 02:28:05.240 --> 02:28:07.960
Thank you for considering my views.

334
Hearing Room 02:28:15.560 --> 02:28:18.560
Christopher Smith, I sent you a request to unmute.

335
Christopher D. Smith 02:28:21.880 --> 02:28:41.720
Smith and I own and operate a utility scale and commercial energy storage microgate and solar company, and I would like to express my approval of the posed regulations concerning the size of the energy storage systems. The magnitude of these systems are escalating rapidly with behind the meter commercial configurations and the multiple megat level.

336
Christopher D. Smith 02:28:41.800 --> 02:29:02.160
Putting them on par with utility scale systems, if there are no clear parameters to define when an energy storage system is deemed incidental and supplemental, there's a risk utility scale systems could be installed by C- forty- six contractors merely by pairing them, but it's just a

handful of solar panels to gain the system. It is notable that no other state permits.

337
Christopher D. Smith 02:29:02.200 --> 02:29:22.680
Contractors to install energy storage systems. However, if the cl CSLB decides to authorize this, it is essential to have the proposed regulations in place. They offer an essential restriction on the maximum capacity of battery energy storage systems as a solar contractor can install there's a direct correlation between larger battery energy storage capacities.

338
Christopher D. Smith 02:29:22.760 --> 02:29:43.160
Elevated risks of arc flash fires and explosions, California has already seen big headline news about the failures of utility scale and large commercial systems furthermore, ARC flashes can produce extreme temperatures over twelve thousand degrees Celsius sufficient to melt meta- metal and trigger fires and explosions not for nothing tw.

339
Christopher D. Smith 02:29:43.400 --> 02:29:55.320
Thousand degrees Celsius is over two times hotter than the service of the Sun, feel free to fact check that. Therefore the proposed eighty kilowatt hour system limitations appears both reasonable and necessary given.

340
Christopher D. Smith 02:29:56.600 --> 02:30:12.480
Of, of allowing C- forty- six contractors a limited scope to incorporate storage into a solar energy system. I believe the proposed language strikes and effective balance between harnessing, solar energy and ensuring growth, public and labor safety. Thanks.

341
Hearing Room 02:30:18.360 --> 02:30:24.200
I'm sitting a request unmute to a caller once you've accepted the request, you'll have two minutes to speak.

342
Call-in User_4 02:30:31.800 --> 02:30:52.920
I'm Barbara Morton and I am opposed to the proposed Solar's battery systems. I wasn't the first to go solar because I couldn't afford it. These news new rules will harm me. I went solar to help against climate change and reduce my electric cost. I couldn't afford the system and a battery backup at the same time. I plan to add a battery later.

343
Call-in User_4 02:30:52.920 --> 02:31:13.400
But now it may never happen if these proposed rules are accepted, our world needs us to have complete solar systems. Texas learned this the hard way with complete grid failure, solar save them this summer. I appreciate the work that CSLB does to protect consumers, but from what I understand of the proposal, it would avoid my warranty.

344
Call-in User_4 02:31:13.480 --> 02:31:33.880
Because my original contractor couldn't install my battery. What is the benefit to consumers by requiring electricians to install batteries rather than the licensed solar contractors who have a lot more training than the electricians to do, so, and who have been doing so successfully without instant for years, what is what?

345
Call-in User_4 02:31:35.420 --> 02:31:55.820
Contractors aren't skilled and competent continue to do. So what is the consumer's benefit in reducing the number of more qualified sellar contractors to install service and modify solar batteries. Thus a reduction in consumer choices, which will increase both cost of getting solar and, or batteries. again, what is.

346
Call-in User_4 02:31:55.900 --> 02:32:05.420
Consumers benefit why limit the amount of storage storage should be based on the intended need in use. What if I want to live off the grid.

347
Call-in User_4 02:32:08.020 --> 02:32:20.100
Appropriate battery storage using more trained and skill professional and solar contractors. all in all this proposal is anti- consumer and solar and the consumer and the world blues.

348
Call-in User_4 02:32:21.420 --> 02:32:22.660
Thank you.

349
Hearing Room 02:32:25.260 --> 02:32:29.340
I had to go to scan the room. See if there's anybody here that would like to make a comment.

350
Hearing Room 02:32:44.460 --> 02:33:01.740
Can you hear me? Okay, so Bernade Dokiro, executive director of the California and Solar and Storage Association. We represented for seven hundred fifty businesses installing solar and energy storage systems throughout the state of California. I'm here to submit three separate letters, along with a.

351
Hearing Room 02:33:02.380 --> 02:33:22.220
Of over seventy individual letters, we will also email these to you for the record as you've heard today, the proposed regulations would do tremendous harm to the standard California's efforts to achieve cle energy goals to hundreds of small businesses and to consumers, we are opposed to the regulations as.

352
Hearing Room 02:33:22.460 --> 02:33:42.700

Proposed you say yourself, you have no evidence in the statement of reasons to support these restrictions on solar C- forty six contractors we believe that Kelsa, that there is no need to further restrict the C- forty six contractor, we do believe there's a need to restore and clarify the ability for the C- forty, six contractor to retro.

353
Hearing Room 02:33:42.940 --> 02:34:03.180
And repair and maintain existing systems in the spirit of compromise. However, Kasa is proposing ultimate language. This language would clarify and protect the ability for the C- forty, six contractor to retrofit repair and maintain battery energy, store systems connected.

354
Hearing Room 02:34:03.460 --> 02:34:23.660
Solar energy systems. It would also and provide retrofit what we mean by that is if a battery is being added to an existing solar system, that is a retrofit and that should be allowed, we are willing to accept a limit in the spirit of compromise that we don't think it is necessary for to protect public health and safety, and we.

355
Hearing Room 02:34:23.780 --> 02:34:41.260
Proposal limit of two hundred and eighty kilowatt hours and we would ask further commission to give us some several years in order to adjust our businesses, train up our workforce and comply with the restrictions for batteries, above two hundred eighty Kilowet hours, but with that we.

356
Hearing Room 02:34:42.220 --> 02:34:49.740
Thank you for allowing us to submit this, these documents and for hearing our testimony today, these to you, Mark.

357
Hearing Room 02:34:52.460 --> 02:34:53.660
Thank you.

358
Hearing Room 02:35:05.900 --> 02:35:26.380
Hi, my name is Fertie Cott. there. I'm with the California Nevadali. We're Management Cooperation committee. I support the regulations. The opposition is a small group, a subgroup of about three hundred solar contractors. We're looking for special treatment, so they can use low paid under trained workers to perform.

359
Hearing Room 02:35:26.420 --> 02:35:46.860
Potentially dangerous electrical installations a large Balary storage installations in context, there are over twenty- five thousand contractors currently fully licensed to install both solar and battery storage projects, including the vast majority of C- forty- six contractors who already hold.

360

Hearing Room 02:35:47.060 --> 02:36:06.900
C- ten license. those twenty- five thousand contractors installed ninety- four percent of the solar and energy sort of systems in the state and almost all of them are small businesses studies have shown that three hundred, the three hundred thirty c- forty- six contractors who don't already hold an additional C- ten license.

361
Hearing Room 02:36:07.380 --> 02:36:27.820
Would be allowed to install large energy sorts our responsible for just six percent of the solar installations in the state and only three percent of energy storage furthermore over ninety- five percent of energy storage system projects are under thirty kilowatt hours and size under the proposed eighty.

362
Hearing Room 02:36:28.260 --> 02:36:48.300
Threshold those three hundred contractors. Would that thus be allowed to install over ninety- five percent of the parent energy stored systems, even though they currently just install three percent of them thirty seconds. So the claim that this would somehow create a disruption in the industry has no merit and is not supported by the facts. The proposed eighty Kilow.

363
Hearing Room 02:36:48.980 --> 02:37:04.180
Our threshold would have no meaningful impact on solar and energy storage installation other than to improve safety and quality. No meaningful impact on jobs, fighting climate change, the cost of the installation and would not avoid warranty.

364
Hearing Room 02:37:15.820 --> 02:37:36.300
Good morning Tom, Anslo, we have the Statewide Association of Electrical Workers Electrical workers have that associates and represent that they support solar. They support entry storage. They install the vast majority of those systems. They also support these regulations. This is not about, you know, whether or not, you know.

365
Hearing Room 02:37:36.300 --> 02:37:56.780
We are solar goals and energy storage goals. It's, it's just about contractor classification and maintaining the integrity of the contract licenses right now. Most contractors have multiple license that they're gonna do more work than just with their specific reasons, especially license allows and I will say.

366
Hearing Room 02:37:56.820 --> 02:38:06.860
This idea that the sky is falling just just does not, you know, Compart with the facts every single contract in scope today has Tech solar.

367
Hearing Room 02:38:08.940 --> 02:38:10.180

Very cinimas.

368
Hearing Room 02:38:12.820 --> 02:38:31.980
Calcom Energy Luminol go solar, solar, Abdam. Every contractor that was mentioned, they all already have another license. Besides SEC, forty-six, it allows them to install energy storage, Almost all of them C- ten, in fact, so Abdam, it looks like they don't even have a C- forty six, li.

369
Hearing Room 02:38:32.260 --> 02:38:52.460
Because you don't need it, they have a C- ten license. So these regulations will not impact those contractors at all because they are already meet the requirements under this code and really always saying is that at certain point, it doesn't make sense that a energy sour.

370
Hearing Room 02:38:52.540 --> 02:39:12.940
System would be incidental and supplemental to a seller system. Once you get to a certain size, it's just no longer credible. You're not gonna install a whole roof new roof when you put on solar, although you are gonna be doing some minor roof work in order to actually install the seller on the roof, you know, there's a limitation on what's considered incidental and supplemental, there's been.

371
Hearing Room 02:39:13.020 --> 02:39:18.980
Dispute that is this settles that issue, once we draw good for the industry.

372
Hearing Room 02:39:23.820 --> 02:39:26.700
Either way it's sending an energy systems.

373
Hearing Room 02:39:29.780 --> 02:39:34.020
Comment about, he said I didn't use up my three minutes.

374
Hearing Room 02:39:37.500 --> 02:39:55.820
Basis for reports. This is a form for rebuttal or discussion. It's just providing, I'm sorry, like there was no, there's no, this was not set up for republes, right? But I don't have a C- time license just want to make that clear as X.

375
Hearing Room 02:39:57.940 --> 02:40:16.300
Down a license, it's allowed to do it license, obviously not the wall. Can we not have discussions in the room as we need to follow the administrator Procedure Act where we take your comments. We have to respond to your comments and writing. So we're just here to listen to.

376
Hearing Room 02:40:18.420 --> 02:40:36.780

Your input, okay, Megan similar with solar HUD, we are exclusively a C- forty- six contractor and we will not begin a C- ten license. We've been falling boundaries since two thousand and nine. Yep, the reason why we're not gonna change our license or add a new one is because.

377
Hearing Room 02:40:37.660 --> 02:40:52.940
Staff of installers who have over thirteen years experience would all have to replace in their libralihood to be broken. I would rather go into a different field and help them along the way then tell them with their job is responsible.

378
Hearing Room 02:40:54.820 --> 02:41:03.780
Yeah, that's definitely on the record taking notes if there's anything else I wanted to provide from that hasn't done. So already does anybody in the room.

379
Hearing Room 02:41:10.860 --> 02:41:30.540
In the room or return it to the Webex. All right, for those joining us by phone, you can dial star three to raise your hand and what's your term to speak? I will send you a request unmute and you will have two minutes to speak at that time, if you are on the Webex application on your computer, tell or a smartphone, you can either.

380
Hearing Room 02:41:31.180 --> 02:41:51.020
The moderator, a chat. Let me know you're on comment or you can click the raised hand button, but it's your return that one else, your name, send you a request to unmute and you will have two minutes to make your comment at the end of your comment or when you're a lot of time ends the line will again be muted. I know there are a lot of people waiting to make comments. thank you.

381
Hearing Room 02:41:52.380 --> 02:42:00.460
That we will get to everyone and hear everyone's comments. I'm sending a request to UNU to Zanob Body.

382
Zainab Badi 02:42:05.660 --> 02:42:08.100
Saying a buddy, I'm with grid alternative.

383
Zainab Badi 02:42:09.380 --> 02:42:29.860
Which is a non- profit that's installed single family solar for thousands of customers that are load of moderate income through state programs like SASH and Daxash. Thank you to the board for your time and efforts on clarifying this issue as it is a growing need for our customers. I wanted to raise one concern that we had with.

384
Zainab Badi 02:42:29.980 --> 02:42:50.340

Proposed language, is that, that it doesn't consider battery retrofits to solar to be incidental and supplemental to the work of C- forty, six, a solar under eighty kilowatt hours and so Walkrid pulls both to C- forty-six NSC ten were concerned that this could slow down our ability to provide storage to upwards of fourteen.

385
Zainab Badi 02:42:50.460 --> 02:43:10.820
Thousand low income solar clients that we have that already have solar and that have a huge demand for storage just because of the shortage of electricians in the small scale single family residential market. The state of California is investing very heavily in storage incentives, especially for disadvantage, California. So it would be a disservice.

386
Zainab Badi 02:43:12.100 --> 02:43:26.260
Any access that these communities have to storage, especially in the face of increasing natural disasters and resiliency needs. So I'd really encourage the board to take that into consideration as you make your decision and thank you very much again for your time.

387
Hearing Room 02:43:31.940 --> 02:43:37.740
I've sent a caller a request, It unmute once you accept the request, you'll have two minutes to speak.

388
Call-in User_21 02:43:40.900 --> 02:43:56.900
Good morning, my name is Jennifer Father Gill and I am from the National Electrical Contract Associations, Northern California Chapter, we represent more than a hundred electrical contractors who employed and trained state service electricians who have received.

389
Call-in User_21 02:43:58.900 --> 02:44:18.020
And training to properly and safely install these energy storage systems we are in support of the proposed regulations as these modifications provide greater protections and not only consumers split to the workers and first responders as well. The proposed regulations ensure that the larger, more complex battery energy.

390
Call-in User_21 02:44:18.020 --> 02:44:38.500
Storage system installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. Again, that's not only ensures the safety and quality of these installations, but also maintains the integrity of the ten license, although we'd like to see greater safety.

391
Call-in User_21 02:44:39.260 --> 02:44:49.020

For the smaller systems, we don't want to delay any further and therefore urge the bird to urge the board to adopt these regulations. Thank you for your time.

392
Cristina Marquez 02:45:02.140 --> 02:45:22.620
Good morning Christina Marquez. I live in San Diego, I work day in and day out with skilled electricians and I'm a journey myself, I support the proposed regulations and the establishment of an eighty kilowatt hour threshold, the difference in education and training between a solar installer and the license electri.

393
Cristina Marquez 02:45:22.940 --> 02:45:43.100
Is reflected in the high rate of consumer complaints against PV installers as compared to licensed electricians. There is a thirty- two percent complete rate complaint rate against C forty- six contractors and five point six percent complete rate against C- ten electricians, the.

394
Cristina Marquez 02:45:43.420 --> 02:46:03.580
Does not need to wait for additional consumer complaints, Specific to energy storage system installation against C- forty five contractors in order to determine that a size limit on what energy storage systems are considered incidental and supplemental is appropriate, please vote to support the proposed reg.

395
Cristina Marquez 02:46:04.380 --> 02:46:05.620
Thank you.

396
Hearing Room 02:46:12.540 --> 02:46:17.940
I'm sending a color a request to unmute. I want you to accept it. You'll have two minutes to speak.

397
Hearing Room 02:46:34.300 --> 02:46:38.780
Then the request one more time if you're prompted to accept the request, please do and you'll have two minutes.

398
Call-in User_5 02:46:39.060 --> 02:46:40.700
Hi, can you hear me?

399
Call-in User_5 02:46:41.980 --> 02:46:50.940
Hi, my name is Jeff Par, I'm the owner of solar Technologies. We are a C- forty six and C- ten contractor and the greater San Francisco Bay Area.

400
Call-in User_5 02:46:51.900 --> 02:47:06.940
About ninety full- time. So we're an energy storage experts in this region. We've installed close to six thousand solar systems roughly a

thousand energy storage systems and we've been safely installing service and maintaining energy storage systems.

401
Call-in User_5 02:47:08.940 --> 02:47:28.060
I'm here to express my strong opposition to the regulations as proposed. Contrary to the fear mongoing, we've heard today there is absolutely no data to support the claim that C- forty- six contractors are not properly trained and cannot safely install energy storage systems. I repeat there is no data.

402
Call-in User_5 02:47:28.700 --> 02:47:48.540
Support these claims and they should be considered baseless. We are, in fact, proof that there's strong precedence in C- forty, six contractors have safely installed and served synergy storage systems for decades contrary to these claims much of the commercial energy storage is subcontracted to us by large C- ten electrical contractors because they admittedly are not.

403
Call-in User_5 02:47:48.860 --> 02:48:09.660
Do not follow and do not understand energy storage in the market currently lastly, the CEC and CPUC are strongly instead of using the adoption of energy storage paired with solar through their policies and the CSLB policy restricting the usage of c- forty, six contractors makes absolutely no sense when there's an alarming shortage of certified electricians in California.

404
Call-in User_5 02:48:11.620 --> 02:48:28.980
We asked, you adopt tells us proposal alternative language. The current threshold is too small. The timeline is too tight. The decoration of battery storage is not considered part of a solar energy system is totally inaccurate and harmful to the state, our environment and tens of thousands of jobs. Thank you.

405
Hearing Room 02:48:34.620 --> 02:48:39.820
David Monder, I sent you a request to unmute once you've accepted, you'll have two minutes to speak.

406
Hearing Room 02:48:53.820 --> 02:48:56.620
David, but you request to unmute.

407
David Mautner 02:49:02.140 --> 02:49:03.380
Hold on.

408
David Mautner 02:49:05.980 --> 02:49:07.260
Can you hear me now?

409
Hearing Room 02:49:07.940 --> 02:49:09.460
Yes, go ahead.

410
Hearing Room 02:49:11.740 --> 02:49:13.900
Yes, we can hear you, go ahead.

411
David Mautner 02:49:16.860 --> 02:49:17.500
Can you hear me now?

412
Hearing Room 02:49:18.140 --> 02:49:18.780
Yes.

413
David Mautner 02:49:18.820 --> 02:49:20.700
Okay, thank you for your time. Sorry.

414
David Mautner 02:49:21.420 --> 02:49:22.940
I'm a little.

415
David Mautner 02:49:25.180 --> 02:49:45.660
In that department. Hello, my name is David Motner. I live in Canoga Park in the San Fernando Valley. I am opposed to the proposed salary battery regulation because I believe the CSLB is checking out a major fundamental, right? And vision by our state constitution and our forefathers that founded this nation that freedom of choice, and it also weakens our state.

416
David Mautner 02:49:45.820 --> 02:49:46.300
Mandate.

417
David Mautner 02:49:47.260 --> 02:49:51.420
State, I'm a seventy- two- year- old disabled individual that pins on Continu.

418
David Mautner 02:49:52.700 --> 02:49:55.260
Power and that is why I'm considering installing a battery.

419
David Mautner 02:49:56.540 --> 02:50:16.380
If the power company is absolutely guarantee in writing that I will have continuous electrical power a hundred percent of the time, twenty- four by seven, my need for a backup battery won't be as crucial. Can the power companies do that? Why is the CSO be allowed to determine which contractor I can, or cannot use as long as they are properly licensed.

420
David Mautner 02:50:17.100 --> 02:50:36.860
Insured, is it a safety of, is it a safety or qualifications? what about the fact that all work is inspected by the county or city department are building and safety and also requires approval by the local utility company before it can be used. Are we ignoring that along with the department's professional judgment capabilities? Most depart systems are LIC.

421
David Mautner 02:50:37.540 --> 02:50:45.140
Solar contractors rather than electricians, and they've had the specialty twade for over forty years.

422
David Mautner 02:50:46.460 --> 02:50:52.220
Most solar installers will not agree to work on an existing system done by the original scholar.

423
David Mautner 02:50:53.580 --> 02:50:56.660
Violating the original warranty.

424
David Mautner 02:50:59.900 --> 02:51:19.740
This has been an ongoing issue for seven years since two thousand sixteen mayor remind the board of that on September seventeen twenty- one, the California saw council verified a verified partition of ridden mandate and complaint declaratory and junctive relief, and then agreed not to enforce it on October. First.

425
David Mautner 02:51:20.380 --> 02:51:28.940
This change has been promo solely by the California is privately owned Power companies with their pockets. Thank you for.

426
Hearing Room 02:51:36.380 --> 02:51:40.340
David Reinerson, I'm sending you a request if I'm mute.

427
David Rynerson 02:51:50.460 --> 02:52:01.340
My name is David Reynerson and I live in Huntington Beach. I'm a top solder owner and I'm interested in adding a battery system in the near future. The proposed regulation makes no sense.

428
David Rynerson 02:52:02.020 --> 02:52:08.580
Are part of an integrated system with Driftop solar and should be able to be installed and maintained by the same contractor.

429
David Rynerson 02:52:10.100 --> 02:52:18.620

What I'm saying armors could install your pipes could not install showers, tubs, sinks, or toilets a time when California needs to triple rot top solar.

430
David Rynerson 02:52:19.260 --> 02:52:39.020
Climate goals and acting a regulation like this with Kneecap that effort it smacks if you had another underhanded effort by the electric utilities to sacrifice the, well being of California and its residents to their greed for profits, I need you to throw this proposal proposed regulation on the scrappy of history where it belongs and adopt tells those alternative proposal. Thank you.

431
Hearing Room 02:52:44.860 --> 02:52:49.980
Emily rank, I'm sending you a request if I mute, and then you'll have two minutes to speak.

432
Hearing Room 02:53:02.780 --> 02:53:08.580
And only branch I sent you another request to unmute is accepted request and you want two minutes to speak.

433
Anonymous 02:53:10.660 --> 02:53:23.900
President of California in the area of the county. I have forty- six panels and some of them are not producing maximum energy because they badly inst.

434
Anonymous 02:53:25.500 --> 02:53:45.020
Facing area with flat against the roof without elevation, if I were to add a battery to my system, I would avoid the warranty as many have said, in addition, when we got the system, we hired at great effort, finding.

435
Anonymous 02:53:45.100 --> 02:53:52.060
An electrician to change our panel because it wasn't large enough, so we need larger electrical panel after that.

436
Anonymous 02:53:52.700 --> 02:54:13.180
We had, we were able to go on and move forward, but we waited a good long time in order to do that. So this regulation would be just unworkable furthermore, I am really frankly shocked that the CSLB would come out with a proposal that.

437
Anonymous 02:54:13.940 --> 02:54:33.660
The number of contractors who are able and who are certified having been a pathway teacher in the curriculum for twenty- seven years. Some of the time was before the CTE program. Of course, I know how vital it is for students to have halfway.

438
Anonymous 02:54:33.700 --> 02:54:41.980
Is gonna lead somewhere to think now that you would change the game on them all the students that I sent into programs like this.

439
Hearing Room 02:54:42.340 --> 02:54:43.260
I'm gonna.

440
Anonymous 02:54:43.420 --> 02:54:56.060
They can't do this kind of installation work. I do not understand it and I urge you to adopt the Calca modifications. Thank you time. You've allowed us. I appreciate it.

441
Hearing Room 02:55:02.300 --> 02:55:08.220
George Colomba, sending you a request that I'm used, once you're acceptable of two minutes to speak.

442
Hearing Room 02:55:16.980 --> 02:55:21.980
George Elaba, sending you another request to unmute please accept the request.

443
George Galamba 02:55:23.180 --> 02:55:24.660
No, I did. So.

444
George Galamba 02:55:25.300 --> 02:55:30.420
I'm not in the business. I'm just a homeowner with a solar system and I just want to share an experience. I.

445
George Galamba 02:55:31.740 --> 02:55:39.380
I had my system installed about ten years ago and, you know, I've developed an interest in putting in a battery.

446
George Galamba 02:55:40.020 --> 02:55:45.500
And a few months ago I was in Costco got button hold by the guy from Sun Run.

447
George Galamba 02:55:47.180 --> 02:56:07.540
Put in by some power anyway, they came out and they gave me a bid to add a battery, but it required them to install additional panels on my roof on the east side and I said, well, I don't want more panels. I, I just want a battery and they said, no, we're sorry, we can't do that. We can't work.

448
George Galamba 02:56:07.820 --> 02:56:11.380

Competitor system, so.

449
George Galamba 02:56:11.500 --> 02:56:13.940
If I understand what you're proposing.

450
George Galamba 02:56:15.860 --> 02:56:28.460
Fun power won't be able to give me a battery because they installed the system and son Rotten can't help me and unless I add more panels, which I don't want to do.

451
George Galamba 02:56:29.940 --> 02:56:50.420
I don't understand the purpose of this. You know, I heard, I listen to a couple of previous callers who supported the union. I've been a Union member all my life. I support unions, but it looks to me like you guys are looking for a problem to find a solution for. I just don't see the need for it. I.

452
George Galamba 02:56:50.500 --> 02:56:55.540
Hope that you will think about what's best for the public. Thank you.

453
Hearing Room 02:57:03.860 --> 02:57:10.060
John boss, sending a request to unmute once you accepted, you will have two minutes to speak.

454
John Knox 02:57:24.340 --> 02:57:25.620
Yeah, can you hear me? Okay?

455
Hearing Room 02:57:25.900 --> 02:57:27.540
Yes, go ahead.

456
John Knox 02:57:27.540 --> 02:57:38.420
Okay, thank you. My name is John Knox and my family, and I live in Chila Vista first. Let me say that we have long had a good electrician. He is licensed.

457
John Knox 02:57:38.460 --> 02:57:44.180
He is experienced and we trust him now back in two thousand six, we decided to install a.

458
John Knox 02:57:45.580 --> 02:57:51.220
System at our home a process involving multiple steps permits and inspections.

459

John Knox 02:57:52.140 --> 02:58:12.340
This did we go to our trusted electrician? No, we did not because that isn't what he does. Instead we went to a good solar contractor because that is what they do within a year or two through no fault of our solar contractor. The inverter failed. Did we call our electrician? No.

460
John Knox 02:58:12.380 --> 02:58:18.740
We called our solar contract. We promptly and safely replace the inverter and got our system back.

461
John Knox 02:58:20.020 --> 02:58:27.060
In two thousand seventeen we decided to upgrade and expand our solar adding a few panels for more power.

462
John Knox 02:58:27.820 --> 02:58:37.300
Did we contact or electrician know? Again, we contacted our solar contract. They completed the upgrade safely and.

463
John Knox 02:58:38.220 --> 02:58:40.500
Manner and at a reasonable cost.

464
John Knox 02:58:41.140 --> 02:58:50.740
Soon we plan to add battery storage to our solar. Should we be required to have our electrician do this? Of course, not.

465
John Knox 02:58:51.380 --> 02:59:01.620
As I said, he is good, but doesn't do solar to get this done safely and correctly, we want our solar contractor to do it.

466
John Knox 02:59:02.340 --> 02:59:22.740
Electricians in California are going to be plenty busy in the coming years as more and more people take steps to electrify their homes. We plan to put our own electrician to work on several projects to electrify our home, but do we want him working on our solar? No, we don't eat.

467
John Knox 02:59:22.780 --> 02:59:28.500
Himself agrees for our shoulder. We want the expert, our solar contractor.

468
John Knox 02:59:29.260 --> 02:59:31.940
Efficient vote, no, thank you.

469
Hearing Room 02:59:36.820 --> 02:59:42.340

Gerald banning send you a request to unuse once you essential of two minutes to speak.

470
Anonymous 02:59:43.220 --> 03:00:03.060
Munning I'm a home owner which rooftop solar from Berling game. I'm opposed to the restrictions and battery work by solar installers. Let's face the harsh reality. Our world is about to be ravised by climate change and local resilient power generation will be critical to help deal with massive heat waves and grid failures. Thousands have.

471
Anonymous 03:00:03.340 --> 03:00:23.540
This year, from climate driven heat waves in the US alone, it will be tens of thousands in a decade and we're not ready for this and sorry, but that's the reality I think more rules and restrictions to the battery installation will just further restrict solar installations driving up climate change in heat disasters in years ahead in the absence of any clear.

472
Anonymous 03:00:23.620 --> 03:00:44.020
Evidence of increased risk and years of evidence of no increased risk coupled with a certainty of huge numbers of climate- related debts in the future. I ask that you reject this regressive regulation and do you want to thank you for all your ongoing work and keep in California and safe it's fantastic and I never think about it so that because you do, I do.

473
Anonymous 03:00:44.300 --> 03:00:50.100
You will also vote to help keep us safe from the climate disasters that are coming. Thank you very much.

474
Hearing Room 03:00:56.460 --> 03:01:00.860
Provided a comment yet if you want to come up to the podium is provide a comment.

475
Hearing Room 03:01:07.060 --> 03:01:23.060
See none I will return to Webex to say a quick reminder if you were on the phone and you would like to speak dial star three for raise your hand. What is your turn to speak? I'll send you a request to unmute and you'll have two minutes to speak that for you, if.

476
Hearing Room 03:01:24.780 --> 03:01:43.540
The Webex app, you can either send me the moderator, a chat. Let me know. You have a common or you can use the raised- hand feature, but it's your turn I will announce your name and unmute you a lot of youtubes of a comment at the end of your comment. The more of your, a lot of time ends the liable. again, you muted, we do have several people still waiting.

477

Hearing Room 03:01:43.700 --> 03:01:53.300
Comment, we appreciate your patience. You will be heard during today's hearing something I request to unmute to Gretchen do some.

478
Hearing Room 03:02:04.660 --> 03:02:08.060
Richard Huston, sending another request unmute.

479
Anonymous 03:02:09.140 --> 03:02:29.620
New coordinator and international representative for the ninth district of IBW speaking in support of the proposed regulations and I share that like, you, I'm an appointed public member to a California board and like you, I take very seriously the impacts that policy and regulation reform have on California and some public safety, an energy st.

480
Anonymous 03:02:29.620 --> 03:02:50.740
Stage system carries significantly greater fire and safety risks than solar improperly installed energy storage systems can result in deadly electric arclashes, fires, explosions, electric shock, messages, gases, or chemical leaks, setting a size limit on energy storage systems that can be considered quote incidental and supple.

481
Anonymous 03:02:52.300 --> 03:03:11.220
Will reduce safety risks and is good policy. Well, I think that the eighty kilowatt is a little bit on the high end of what should be allowed. I support having the CSL be moved forward to create certainty for the industry and I find it strange that some of the opposition to these proposed public safety regulations already have C- ten.

482
Anonymous 03:03:11.300 --> 03:03:31.700
Licenses including grid alternatives and solar technologies by supporting the proposed regulations, you will take the high road and ensure that electrical work, including energy storage construction and installation is performed by C- ten contractors that are mandated and regulated to employ a skilled and trained workforce of.

483
Anonymous 03:03:31.780 --> 03:03:46.580
Certified electricians these individual workers that have achieved critical certifications and knowledge will protect the public from hazardous situations. Please support the proposed regulations as proposed. Thank you.

484
Hearing Room 03:03:52.820 --> 03:03:57.700
Other vendors that you were request to unmute once you accept below two minutes to speak.

485
Heather Minner 03:03:59.220 --> 03:04:19.060

Good afternoon, thank you. I'm Heather Miner with Shootmally and Weinberger. I'm legal counsel for Calsa. First, I wanted to thank the CSLB staff for holding the hearing IT Calci's request and offering to provide the webinar. I think you heard, we get a lot of great public participation this way and I.

486
Heather Minner 03:04:19.140 --> 03:04:39.540
Appreciate your efforts. My comments opposed the OR opposition to the proposed amendments to sixteen CCR section eight three, two point, forty-six, the solar contractor license classification and to the CSLBS rule, making procedures.

487
Heather Minner 03:04:40.180 --> 03:05:00.020
Counselor has submitted my written comments and they speak for themselves. I'm just here to give a, a brief overview of them and what's been submitted first of all, we have a letter to, to the CSLB, reminding them that these proposed regulations.

488
Heather Minner 03:05:01.100 --> 03:05:20.500
That is subject to SEQUA and could have significant environmental impacts that must be analyzed before the board could approve the regulations, you know, this proposed regulation will restrict the pool of experience contractors and workers suggesting that.

489
Heather Minner 03:05:21.320 --> 03:05:33.840
And they're certified electricians can quickly fill the gap ignores the fact that there is a critical shortage of certified electricians. We have submit Kalsa has submitted.

490
Hearing Room 03:05:33.920 --> 03:05:34.520
Analysis.

491
Heather Minner 03:05:34.760 --> 03:05:55.000
By an independent economic consultant who, who has verified this, you know, in addition to the multiple testimony, you've heard on this point and, and you've also heard testimony that, that existing solar workers who are already qualified to install these systems cannot easily become certified electricians. This is another barrier.

492
Heather Minner 03:05:55.080 --> 03:06:02.040
To them to their work that they do. We've also submitted a letter detail.

493
Heather Minner 03:06:03.320 --> 03:06:13.960
Violations of the APA. I'm sorry, did you say that was time? Yes, okay, thank you. So the APA violations of procedural subtases are outlined as well. Thank you.

494
Hearing Room 03:06:20.320 --> 03:06:24.800
Sending you a request to unmute once your circulate- two minutes to speak.

495
Anonymous 03:06:25.760 --> 03:06:46.200
Hey there, good morning. And thank you. My name is Laurenvitt. I'm a senior Director of Policy with Sunrun and I appreciate the opportunity this morning to provide comment on the proposedal, making Sunron is the nation's leading provider of residential solar battery storage and home energy services, nationally, we serve over eight hundred seventy thousand customers and to date.

496
Anonymous 03:06:46.200 --> 03:07:06.680
Have installed over sixty- five thousand residential energy storage systems. We offer homeowners the ability to maximize their electrical consumption during peak hours and power through outages with clean and reliable home energy as currently drafted. The proposed regulations will impede the ability of solar contractors to perform their livelihoods, serve custom.

497
Anonymous 03:07:06.880 --> 03:07:27.160
And execute on the state energy's goals. We at Sun run our, particularly concerned by the proposed regulatory language that would prohibit a C- forty six licensee from preparing. I'm sorry from performing or repair work on this very same energy storage system that was installed by that same licensee or crew or from retrofitting an existing system.

498
Anonymous 03:07:27.160 --> 03:07:45.000
Installed by a C. forty six licensee while we hold both C forty- six and C- ten licenses, the ability for retrofit or repair work to be done by similar crews is very important. We support Counsel's proposed alternative language and we really appreciate your time this morning. Thank you.

499
Hearing Room 03:07:52.200 --> 03:07:56.280
I sent you a request, once you exempt, you have two minutes to speak.

500
Hunter Stern IBEW 1245 03:08:05.080 --> 03:08:13.160
My name is Hunter Stern. I'm with the IBW local twelve forty five, which represents utility workers in Northern Central California.

501
Hunter Stern IBEW 1245 03:08:17.080 --> 03:08:37.560
Support the proposed regulations. These modifications provide a much needed excuse me a much needed clarity to the industry while also providing greater protection to consumers workers and particularly first

responders such as firefighters and utility workers. We need an upper limit in the size of best installations.

502
Hunter Stern IBEW 1245 03:08:38.840 --> 03:08:58.040
Considered incidental and supplemental, the greater storage capacity of, of the new best systems, the greater, the risk of fire or explosions, or the more difficult it is to extinguish such fires for that reason, the California Fire Code imposes escalating and more complex safety regulations for larger bes.

503
Hunter Stern IBEW 1245 03:08:58.040 --> 03:09:18.520
Installations the eighty kilo one hour threshold may be on the high side for some of our safety concerns, but I appreciate the board's interest in selecting a threshold that was essentially eliminate disruptions in the residential installation industry and we do understand that compromises are necessary in the development of.

504
Hunter Stern IBEW 1245 03:09:19.160 --> 03:09:39.000
Good sound regulations propose regul. These proposed regulations ensure the larger and more complex systems remain under the proper classification of qualified electrical contractors who were required by law to use state certified general electricians while we would like to see greater safety protections for the smaller systems as well.

505
Hunter Stern IBEW 1245 03:09:40.480 --> 03:09:57.080
This issue to rest. Therefore, I urge the board to adopt these regulations and I look forward to seeing these positive changes implemented at the earliest possible time. I appreciate the board's work and deliberation, and I thank you for hearing my comments.

506
Hearing Room 03:10:06.520 --> 03:10:10.440
Your request to unmute once you accept, you'll have two minutes to speak.

507
Hearing Room 03:10:19.960 --> 03:10:23.400
Are you a bar again, sending you another request to unmute.

508
Hearing Room 03:10:35.440 --> 03:10:42.760
Michael Breeden, sending you a request to unmute once you accept, we'll have two minutes to speak.

509
Anonymous 03:10:48.760 --> 03:11:09.240
My name is Michael Breeden. I'm the Chief Financial officer at all Terra Solar, we're based in Santa Cruz, California. We've been in business for twenty years and we focus on residential and commercial solar and batteries towards systems. I oppose the proposed legislation is there's no.

510
Anonymous 03:11:09.280 --> 03:11:19.880
Data that supports the position that c- forty- six contractors are not trained properly or qualified to install energy storage systems.

511
Anonymous 03:11:23.320 --> 03:11:36.120
Hopefully the threshold is too small. The timeline is too tight and the declaration of the battery storage is not considered part of a solar energy system is inaccurate and harmful I support Calci's proposed alternative language.

512
Anonymous 03:11:36.960 --> 03:11:38.400
For your time.

513
Hearing Room 03:11:45.080 --> 03:11:51.120
Jeff, I sent you a request to unmute once you accepted about two minutes to speak.

514
Anonymous 03:11:53.400 --> 03:12:13.880
It's an unprecedent of planet plan sets and Annahem, California, we're up drafting we draft permitting plan sets for solar contractors throughout the state and together with our sister company, Go Green Solar, who supplies turnkey, solar kits nationwide, we employ twenty people in the state of California. I also chair the CALC codes and Standards committee service secretary for Nap.

515
Anonymous 03:12:14.080 --> 03:12:29.880
The solar industry certification organization and serve on the ul ninety-five, forty standard technical panel, which is the safety standard for energy storage systems. So I care about safety and I care about quality. I'm here today to express my st.

516
Anonymous 03:12:30.640 --> 03:12:35.000
To the regulations that's proposed the eighty kilowatt hour threshold is too small.

517
Anonymous 03:12:35.960 --> 03:12:56.120
Are two tight and the declaration that battery storage is not considered part of the solar energy system. That's inaccurate and harmful for goodness sakes, batteries have been a core part of solar installs since the birth of the PV industry, I made a documentary film on that by the way, and while most systems installed over the past fifteen years did not use batteries from the nineteen seventies through.

518
Anonymous 03:12:56.200 --> 03:13:10.200

Early to mid- two thousands batteries were integral part of almost all solar systems and despite the incorrect statements made today the vast majority of residential commercial solar cost storage systems have been safely installed under permits by.

519
Anonymous 03:13:10.960 --> 03:13:22.360
Contractors like Mr. Spot from Star Trek, I believe in exercising logic based on facts and since the CSLB has acknowledged, there are no substantive safety concerns over the twenty plus years.

520
Anonymous 03:13:23.080 --> 03:13:26.200
Forty- six solar contractor installed systems. I feel.

521
Anonymous 03:13:26.840 --> 03:13:47.320
I feel these proposed restrictions would be arbitrary and unreasonable if the CSLB approves the regulation is proposed, it will hurt small businesses jobs and prevent residential commercial consumers access to the benefits of energy storage, which are growing in criticality due to, to increasingly hot summers and increasingly unreliable grid. I strongly support Kelsa's proposed alternative language.

522
Anonymous 03:13:47.480 --> 03:13:56.000
And would strongly encourage you CSLB support the calcium modifications to the proposed regulations. Thank you for the opportunity to comment.

523
Hearing Room 03:14:04.640 --> 03:14:10.040
Commercial Mariam, sending you a request to unmute. I'll see your exempt. You have two minutes to speak.

524
Anonymous 03:14:21.240 --> 03:14:22.360
Oh.

525
Hearing Room 03:14:23.800 --> 03:14:25.080
Yes, go ahead.

526
Anonymous 03:14:25.120 --> 03:14:41.080
Good morning folks. I'm Marshall Mariam. I'm a homeowner from San Jose with solar panels and storage installed. I'm here regarding proposed rules changes for battery installation, in particular, those were moving authorizations for battery installation.

527
Anonymous 03:14:42.520 --> 03:15:02.840
Solar contractors class C- forty, six, Why is a rule change necessary. I have not seen reports of safety or reliability problems with batteries,

if this is a concern, a better solution would be through permitting and inspections changes. It's the intent to make battery installation.

528
Anonymous 03:15:02.920 --> 03:15:04.120
More expensive.

529
Anonymous 03:15:05.160 --> 03:15:25.240
Common, if so consider the alternatives, greater dependence on the electrical grid with higher resulting costs and greater associated risks of rolling blackouts. California has identified electrification that is automobiles, heat pumps and water heaters as a strateg.

530
Anonymous 03:15:26.000 --> 03:15:46.240
Greenhouse gas emissions for residences that don't have enough electrical support from the grid batteries take on increased importance. I am urging you not to add this unnecessary roadblock to battery installation, a step that will impede California's achievement of climate go.

531
Anonymous 03:15:47.040 --> 03:15:52.040
And also decrease grid reliability. Thank you.

532
Hearing Room 03:16:01.600 --> 03:16:06.680
Casey, I sent you a request to unmute once you've accepted it up two minutes to speak.

533
Hearing Room 03:16:16.960 --> 03:16:22.480
Casey, sending you a second request to unmute please accept a request and the two minutes to speak.

534
Casey 03:16:23.680 --> 03:16:34.240
Name is Casey. So Koskus, I'm an IBW business representing the PGA employees in San Jose. I support the regulations. These modifications provide much needed clarity.

535
Casey 03:16:34.880 --> 03:16:56.640
Industry while also providing greater protection to consumer's workers and my first responders while I'd like to see greater, say to precautions for the smaller systems as well. This decision has been up in the air for many years. It's beyond time to put this issue to rest. Therefore, I urge the board to adopt these regulations and look forward to seeing these positive changes implemented at.

536
Casey 03:16:56.680 --> 03:16:59.000
Early as possible time, thank you.

537
Hearing Room 03:17:03.040 --> 03:17:08.400
Joey, I sent you a request to my mute once you accept, you will have two minutes to speed.

538
joey 03:17:10.800 --> 03:17:31.200
My name is Joey Applevan. I live in Northern California and I work as an electro- applications engineer at Freedom Forever and old a valid California electrical license. I'm here to express my opposition to the proposal by the CSLB to limit the C Forty- six contractors, which will unfairly limit the ability to properly serve customers by restricting the ability to provide energy upgrades for.

539
joey 03:17:31.280 --> 03:17:37.600
Changes and energy needs and more importantly the ability to provide quick incompetent service and maintenance for existing systems.

540
joey 03:17:39.000 --> 03:17:44.000
Battery technicians are trained and certified internally and by the manufacturers whose products we offer.

541
joey 03:17:44.640 --> 03:17:58.720
Meaning them the most qualified and competent individuals for installing maintaining and energy storage products. I believe the CSLB must reconsider this proposition. They continue to allow solar contractors to install and maintain.

542
joey 03:17:58.720 --> 03:18:09.600
Energy storage systems as we currently do we are, well trained qualified and competent trades, People that have a long record of safety and effectively installing and servicing PV and storage systems.

543
joey 03:18:09.640 --> 03:18:26.240
By allowing this proposal to go through the CSLB will jeopardize the jobs of seven hundred and seventy- six freedom forever employees in California and her ability to properly serve our customers that support Counsel's alternative language. Thank you for the opportunity to voice my opinion for your time and consideration.

544
Hearing Room 03:18:34.560 --> 03:18:40.000
Kathy declarence, sending you a request on you, once you accept, we'll have two minutes to speak.

545
Kathy Mac Laren 03:18:42.880 --> 03:18:53.120
Death now my name is Kathy Mcclarn and I represent the National Electrical Contractors Association and the IBW dot ELE.

546
Kathy Mac Laren 03:18:54.400 --> 03:19:01.440
Also an elected official at a water utility what I see care.

547
Kathy Mac Laren 03:19:02.720 --> 03:19:22.560
This very important issue that you're taking up and I am in support of the pro- proposed regulations energy systems and PV systems can be paired together, but they're separate and unique and.

548
Kathy Mac Laren 03:19:22.600 --> 03:19:27.200
I am concerned if we do not do that with the evercreasing.

549
Kathy Mac Laren 03:19:29.800 --> 03:19:44.320
That we are jeopardizing the safety for our first responder and, or different utilities or different things for public safety water and things that are.

550
Hearing Room 03:19:45.040 --> 03:19:46.880
Can you speak up? We're having a hard time period.

551
Kathy Mac Laren 03:19:48.160 --> 03:19:49.800
Can you hear me now?

552
Hearing Room 03:19:50.080 --> 03:19:53.240
It's a little bit better. You sound somewhat muffled.

553
Kathy Mac Laren 03:19:53.920 --> 03:20:13.760
Okay, so mostly I'm letting, you know that I support this because it is very important to have the most high- skilled trained people working on these many people that are gonna be using battery systems things does utilities for the.

554
Kathy Mac Laren 03:20:14.640 --> 03:20:33.600
Systems like my water utility and I'm putting in solar and I'm putting in energy to make sure when there are power outages that we are able to serve water to homes in everything, this is not something that we could take lightly. I'm glad you're taking it up. I support.

555
Kathy Mac Laren 03:20:34.400 --> 03:20:45.600
Language that you are saying because it is important to have the most skilled trained people working on these very important, large.

556
Kathy Mac Laren 03:20:47.080 --> 03:20:55.400

Systems, so thank you very much for your time and please I support you to support this. Thank you.

557
Hearing Room 03:20:59.840 --> 03:21:06.560
Thank you, let's get a room. Does anybody that had this booking yet? You want to provide a comment.

558
Hearing Room 03:21:11.480 --> 03:21:13.560
Return to Maria.

559
Hearing Room 03:21:15.200 --> 03:21:35.600
Right, if you were on the phone, you can now star three to raise your hand and we will allow you to speak for two minutes to provide your comment for those of you have been waiting. We appreciate your patience. We will get to you and your comments will be heard if you're on Webex through computer table or Spark phone. You can click the grays hand button or you can send create the moderator.

560
Hearing Room 03:21:35.720 --> 03:21:42.680
A message, let me know that you have a comment, but it's your turn I'll announce your name and unmute you and I'll give you two minutes to make your comments.

561
Hearing Room 03:21:44.680 --> 03:21:49.960
Anthony, first of all some of your request on you and she says you have two minutes.

562
Hearing Room 03:22:01.920 --> 03:22:05.120
Anthony Tursall, sending you a second request to unmute.

563
Antony Tersol 03:22:05.240 --> 03:22:25.600
Sorry, it was saying I couldn't unmute myself until the command came through Anthony Tercell with applied solar energy from Pacific Growth, California, small installation company with about twelve employees. I would point out that recent changes in utility trials approved by the CPU.

564
Antony Tersol 03:22:26.280 --> 03:22:33.280
Encourage the installation of PV in conjunction with storage and discourage standalone TV.

565
Antony Tersol 03:22:34.080 --> 03:22:42.880
These rules would effectively add to the burden that the small installers have had and pretty much wipe this out.

566
Antony Tersol 03:22:43.760 --> 03:22:51.200
The systems were installing now are with batteries. The systems are often integrated prod.

567
Antony Tersol 03:22:51.480 --> 03:23:11.680
By one manufacturer. So the idea that you would have two different contractors installing a system that has components that are designed to work together is sort of ludicrous and it just seems to be something to grab the business from small contractors and add more pressure to wipe us out.

568
Antony Tersol 03:23:11.720 --> 03:23:12.960
So I encour.

569
Antony Tersol 03:23:15.680 --> 03:23:16.160
Regulation.

570
Hearing Room 03:23:16.160 --> 03:23:17.320
Thank you.

571
Hearing Room 03:23:22.560 --> 03:23:28.040
I am sending a color, a request to unmute once you accept the left two minutes to speak.

572
Hearing Room 03:23:41.120 --> 03:23:48.720
Something a second request to unmute if you have dialed in by phone to this, please listen for a prompt to accept a request.

573
Hearing Room 03:23:59.040 --> 03:24:04.560
MARIO Merrigan, sending a request to unmute a few example of two minutes to speak.

574
Hearing Room 03:24:15.720 --> 03:24:18.320
American sending a second request to unmute.

575
Mario Barragan 03:24:22.120 --> 03:24:42.560
Mario Bergen, I've been a nutrition for over thirty- two years to Los Angeles and I stand with strong support of the proposal regulations that establishes the eighty kilowatt hour threshold. C- forty- seven contractors have have every ability to.

576
Mario Barragan 03:24:43.360 --> 03:25:03.040

A center license, but choose not to, they choose to hire. So called technicians Installers, everything, but, or nutrition I've gone to school for over seven years, and I went through a five year apprenticeship program that.

577
Mario Barragan 03:25:03.680 --> 03:25:23.520
Really trains you for not only your skills, but also safety in the national Electrical Code, it stipulates that you will do everything to protect people and property that does not come by becoming a tech.

578
Mario Barragan 03:25:24.440 --> 03:25:43.800
A crash course and panel installation or in this case a battery installation, I, I think you guys are on the right path to putting a minimum threshold and I support wholehartly support your efforts. Thank you.

579
Hearing Room 03:25:49.500 --> 03:25:55.260
Ramsey Stevens, sending you a request to unmute once you accept to have two minutes to speak.

580
Anonymous 03:25:58.460 --> 03:26:18.940
Clean energy project developer and I strongly support these proposed regulations given the safety risks of energy storage projects, your respective of their size or integration with a solar system. the use of license electricians is necessary for basic safety individual project success and overall market.

581
Anonymous 03:26:18.980 --> 03:26:39.420
Efficacy, let alone market fairness without these proposed regulations, responsible developers like myself who used licensed electrical contractors to do electrical work have to compete with developers and vendors to ignore the intensive electrical risks associated with battery batter.

582
Anonymous 03:26:39.580 --> 03:26:59.260
Energy storage projects. It is crucial that these regulations are imposed to ensure the long term growth of the clean energy marketing California only through responsible project development and construction practices will consumers and finance years be able to make the investments necessary to reach our clean economy goals. I asked the board to.

583
Anonymous 03:26:59.460 --> 03:27:04.740
Promptly adopt these regulations to ensure this critical outcome for us. All thank you.

584
Hearing Room 03:27:11.580 --> 03:27:15.900

Sending you a request to unmute what's your acceptable of two minutes to speak?

585
Micah Mitrosky 03:27:15.940 --> 03:27:22.940
Hi, everyone, my name is Michael Matrosky. I'm an international representative with Ibew's ninth district.

586
Micah Mitrosky 03:27:22.980 --> 03:27:43.420
Speaking in support of the proposed regulations. These proposed regulations ensure larger or more complex battery energy storage installations remain under the proper classification of qualified electrical contractors who are required by law to use state- certified general electrician.

587
Micah Mitrosky 03:27:43.820 --> 03:27:52.060
This ensures the safety and quality of those installations and maintains the integrity of the C- ten license. Thank you.

588
Hearing Room 03:28:03.260 --> 03:28:09.100
NINA Babyard request to unmute what's your example of two minutes to speak?

589
Hearing Room 03:28:22.540 --> 03:28:25.860
NINA Babyard, sending you a second request to unmute.

590
Nina Babiarz 03:28:32.060 --> 03:28:34.620
Good morning, can you hear me?

591
Hearing Room 03:28:34.740 --> 03:28:35.260
Yes, go, ah.

592
Nina Babiarz 03:28:35.980 --> 03:28:55.740
Thank you, my name is Nina Baby Aris. I'm director of Development with Public watch Dogs headquartered here in San Diego. I'm also a solar and electric vehicle owner, but additionally, I was director of an advanced Transportation Technology and Energy Center for the state of California. I just like to comment with regard.

593
Nina Babiarz 03:28:56.020 --> 03:29:16.220
To this particular license board issue that, every time an impediments add costs that are added to the advancement of renewable sources of energy and the California Air Resources Board in California energy mandates for electric.

594

Nina Babiarz 03:29:16.260 --> 03:29:28.980
Vehicle charging and energy independence. They've forwarding the states goals by implementing this proposal state contractors board is.

595
Nina Babiarz 03:29:30.540 --> 03:29:51.420
The state contractors board, the goals of the Energy California Energy Commission in California are resources boards are also thoughted to suggest that energy storage is not an integral part or component to the ultimate success of solar is nothing short of absurd inaccurate and irresponsible.

596
Nina Babiarz 03:29:52.980 --> 03:30:08.180
Highly recommend that you don't pass this initiative that you're discussing today. I think the electrical contractors have enough work without eliminating the little solar contractor competition. Thank you.

597
Hearing Room 03:30:20.220 --> 03:30:26.300
Robert gum sending you a request to unmute once you accept, you have two minutes to speak.

598
Robert Gumm 03:30:37.500 --> 03:30:38.620
Oh.

599
Hearing Room 03:30:42.620 --> 03:30:47.900
Robert, I can see you're unmuted. We can't hear you. Please make sure you're Mike is unmuted as well.

600
Hearing Room 03:31:01.820 --> 03:31:10.420
I don't try Robert again, shortly Sharon, the Mullin sending you a request to unmute once you accepted of two minutes to speak.

601
Sharon Mullen 03:31:12.700 --> 03:31:14.620
Hello, can you hear me?

602
Hearing Room 03:31:14.620 --> 03:31:15.900
Yes, go ahead...

603
Sharon Mullen 03:31:15.900 --> 03:31:36.380
Okay, my name is Sharon Mullen. and I'm a residential owner and user of solar energy since two thousand eighteen, I live in the Rock Ridge District of North Oakland. I am strongly opposed to the proposed solar battery regulation because I have been considering adding a battery to my solar system.

604

Sharon Mullen 03:31:36.460 --> 03:31:56.860
I have been researching batteries that might best work for my household and discovered that even adding solar panels would shove me into the NEM three rating when California is supposedly wants to go green with electric automobiles and now when I want to add a battery storage, so I can get an electric vehicle.

605
Sharon Mullen 03:31:56.900 --> 03:32:17.340
I would be forced to hire an electrician to install compatible battery system that could nullify my solar warranty. I strongly believe that solar technology should install my battery systems since I've purchased my solar system from them, solar technology knows my system Therefo.

606
Sharon Mullen 03:32:17.740 --> 03:32:37.820
They are the most competent technicians to install and service my chosen battery backup, which should not be limited in size and further would not be in jeopardy of losing my solar warranty. In addition, it make.

607
Sharon Mullen 03:32:38.020 --> 03:32:51.900
No sense to limit revenue from solar companies that have continued along with solar consumers to fight public utility companies and not surprisingly, they support this proposal.

608
Sharon Mullen 03:32:52.940 --> 03:33:03.420
Constantly try to cripple solar companies from providing their services to low and middle- class consumers who want to fight global warning and.

609
Sharon Mullen 03:33:03.540 --> 03:33:06.900
Utilize free energy of the sun. Thank you.

610
Hearing Room 03:33:14.940 --> 03:33:20.300
WALT velocity sending you a request to unmute once you accept to have two minutes to speak.

611
Walt Bilofsky 03:33:21.380 --> 03:33:22.620
Hi, I'm, I.

612
Walt Bilofsky 03:33:23.300 --> 03:33:43.740
Yeah, I'm at Philovsky from Tibron, California. I have a graduate degree in electrical engineering from NIT. I've been a rooftop solar homeowner for seventeen years, and I'll need to add storage soon because of them three. Well, I sympathize with you because now I know what you have to go through. I've been hanging around for two hours.

613
Walt Bilofsky 03:33:44.060 --> 03:33:56.540

And while I've been here, I've heard testimony on both sides by businesses and workers with something to gain or lose, and I also had time to look at your mission statement and it says to protect.

614
Hearing Room 03:33:56.540 --> 03:33:57.660
Consumers.

615
Walt Bilofsky 03:33:57.820 --> 03:34:18.300
Well, that's me, and this proposal is gonna put me in a position that makes no sense. I'd need one contractor to maintain and update my solar. Another one to add maintain battery storage and what if my next electric car has vehicle to grid grid capability who connects that in the car mechanic, this is a complex.

616
Walt Bilofsky 03:34:18.380 --> 03:34:38.780
System with multiple integrated components. It needs to be handled by a single competent specialist familiar with all of it, but this proposal requires the system to be installed integrated and maintained by a committee and, and what if there's a problem with the system and they each point the finger at each other while I'm.

617
Walt Bilofsky 03:34:39.100 --> 03:34:51.180
Both of them this proposal harms me as a consumer and makes absolutely no sense and like, every other consumer who's spoken today. I ask you to reject it. Thanks.

618
Hearing Room 03:34:59.260 --> 03:35:04.060
Do I sending your request to unmute? once you exemple of two minutes to speak.

619
Hearing Room 03:35:25.500 --> 03:35:30.100
You've unmuted, but we still cannot hear you. Make sure your microphone is also unmuted.

620
Michael M. Bluetti 03:35:31.500 --> 03:35:32.540
Can you hear me? Okay?

621
Hearing Room 03:35:32.540 --> 03:35:33.820
Yes, go ahead.

622
Michael M. Bluetti 03:35:33.820 --> 03:35:54.940
Okay, sorry about that. Okay, I'm, Michael, I'm with Bluety. Could we company that produces energy storage systems, and today I'm here to express my opposition to the regulations as proposed. The threshold is

too small timelines too tight and declaration that battery storage is not part of a solar energy system Is inaccurate and harmful.

623
Michael M. Bluetti 03:35:55.800 --> 03:36:16.040
Solar and sworage have been part of the same systems for years, many many, so installers already have the expertise and knowledge to install and repair these complicated solar systems, which are often highly integrated with energy storage systems. There's no need to restrict restrict a C- forty six contractor from retrofitting and installing energy storage systems.

624
Michael M. Bluetti 03:36:16.440 --> 03:36:32.240
Reasons of lack of knowledge and experience with these regulations as proposed, the CSLB will be simultaneously hurting small businesses jobs and the rise of energy storage and the consumers we all serve. I support Calci's proposed alternative language.

625
Hearing Room 03:36:43.000 --> 03:36:46.800
New request to unmute once you accept for those two minutes to speak.

626
Phil from SolarCraft 03:36:50.600 --> 03:37:11.720
With, and the CEO of solar craft. We're a forty- year old solar contractor in Nevado, California. We have forty- five employees and install both residential and small commercial systems installed about over two hundred commercial systems over the years, and I am absolutely.

627
Phil from SolarCraft 03:37:11.800 --> 03:37:32.200
Opposition to the regulations as they are, are proposed. I, you know, I could go on about how I'm in agreement with most of the other people who opposed it here, but just as a nice anecdote, just two weeks ago, we got a call from a basic residential solar customer who had we installed their system.

628
Phil from SolarCraft 03:37:32.200 --> 03:37:52.680
System about three years ago. They did an electrician come out just recently to do some general workaround, their house, They saw the solar connection and they scared the customer because they said, oh, it was installed correctly and what it turned out is that this electrician license electrician nothing to do with solar didn't know about solar.

629
Phil from SolarCraft 03:37:52.800 --> 03:38:13.160
Interconnections and breakers and thought it was over, you know, overloading the, the system, it wasn't, it's way within the hundred twenty percent rule and within the regulations, this scares me, it's, if we have these kinds of licensed contractors who are not specialists, they are gonna cause more problems. It's sort of.

630
Phil from SolarCraft 03:38:13.920 --> 03:38:33.120
If I have a heart problem, I'm not gonna hire my GP, my general practitioner to perform hert surgery on me. I'm going to hire specialist a heart surgeon and that's what this compares to. So I do oppose the regulations and my support counsel's proposal. Thank you.

631
Hearing Room 03:38:39.400 --> 03:38:44.480
Andrew Kimbel said that you were request to unmute once you sent them up two minutes to speak.

632
Andrew Campbell 03:38:46.520 --> 03:38:50.160
Campbell, I'm a co- owner of Corange Group Incorporated.

633
Andrew Campbell 03:38:50.920 --> 03:38:55.240
C- forty- six contractor, and I'm also a licensed engineer in California.

634
Andrew Campbell 03:38:55.400 --> 03:39:09.480
I just want to drive home the idea that we are a specialty contractor, this idea that the solar and battery are not interconnected or play with each other is completely out. It's just wrong.

635
Andrew Campbell 03:39:09.600 --> 03:39:15.880
Need to know basically how the two systems work together to provide.

636
Andrew Campbell 03:39:17.200 --> 03:39:27.480
The value and the functionality that you're looking for. So for that reason I support Calci's proposal, ternative language and it's Wann, thank you for your time. Thanks.

637
Hearing Room 03:39:35.720 --> 03:39:40.320
Anybody in the room that would like to brother comments.

638
Hearing Room 03:39:44.680 --> 03:40:02.600
I return to the Webex. All right, if you're on the phone, you can battle star free to raise your hand, and if you are on the Webex application, my computer's Heather's smartphone. You can click the raised hand button or you can send me the water investments that you have a comment, but it's your turn I went out your names and you will request.

639
Hearing Room 03:40:03.080 --> 03:40:11.920
You will have two minutes to make your comment. Justin Heel, sending you a request to unmute you're accept it. You'll have two minutes to speak.

640

Hearing Room 03:40:30.800 --> 03:40:36.000
Justin, I see you've unmuted, but we still can't hear you. Please make sure your microphone is unmuted too.

641
Justin Kiel 03:40:38.520 --> 03:40:58.880
My name is Justin Kill, I live and work in California as a firefighter. The proposed restrictions on C- forty, six solar contractors are not in the best interest of the public and do not enhance public health or safety. I trust our solar contractors to service our systems.

642
Justin Kiel 03:40:59.160 --> 03:41:19.280
Because they are the experts who are trained expensively in the special especialty areas. in addition, c- ten contractors are frankly not available to do this work is impossible to get these contractors and electricians to assist with even our basic electrical work on residential and with our city and county government.

643
Justin Kiel 03:41:19.840 --> 03:41:39.880
That use solar systems and batteries these proposed restrictions do not make any sense. In fact, the best course of action for public health and safety is to continue to support our solar contractors to do work on solar and batteries that they are specially trained, especially trained to do, so as I said, earlier our local fire department.

644
Justin Kiel 03:41:40.560 --> 03:41:45.000
Including the one I work for and our city and county governments contract with C forty, six.

645
Justin Kiel 03:41:46.440 --> 03:41:52.600
Their battery stations, their battery stations and solar systems. Thank you.

646
Hearing Room 03:41:59.080 --> 03:42:06.080
I'm sending a color a request to unmute please accept the request and I don't have two minutes to speak.

647
Hearing Room 03:42:15.080 --> 03:42:20.280
I can see you've accepted our request, but we still can't hear you. Please make sure your microphone is unmuted.

648
Call-in User_15 03:42:21.480 --> 03:42:22.760
Just me.

649
Hearing Room 03:42:23.640 --> 03:42:25.320
We got, you go ahead.

650
Call-in User_15 03:42:25.320 --> 03:42:45.800
Yeah, my name is Rich Borba. I'm with JKP Energy Interloc, California. We served the commercial industrial and agricultural industries. We hold a B. A. C Ten and a C. forty six and yet we strongly oppose this proposal. I find it laughable that other speakers claim this will have no impact on.

651
Call-in User_15 03:42:45.880 --> 03:43:06.280
Our business in the statement of reasons from page three, it says C, forty, six and C- ten contractors have installed PV systems paired with best over the years without any demonstrated harm to the public. If that's the case, what are we doing here today? The report also states the board has determined the proposed regulations.

652
Call-in User_15 03:43:06.920 --> 03:43:27.400
Small businesses yet in the very next sentence, it says the board does not maintain data relating to the number or percentage of licenses who own small businesses. Therefore, the number or percentage of small businesses that may be impacted cannot be determined. This is crazy California needs to increase installation by an order.

653
Call-in User_15 03:43:27.520 --> 03:43:47.880
Magnitude if it's to meet its goals, we need more employees. Not less this proposal where we reduced a number of qualified and experienced employees, many of which left other trades because they saw solar and storage as the future and wanted to be part of it, CSLB has determined that no reasonable alternative it considered to the.

654
Call-in User_15 03:43:49.200 --> 03:44:08.360
That otherwise had been identified and brought to its attention could be more effective in carrying out the purpose for which the action is proposed if the cob, if the CSLB has concerns, why not train up C- forty-six holders modify the exam why exclude them if there are no safety issues, I asking your written.

655
Call-in User_15 03:44:08.800 --> 03:44:28.840
Questions you explain by modifying exam is not a reasonable alternative. I also ask that you include how many questions on best they're in the C-ten versus the C forty six. I also find it embarrassing that utility workers union support this proposal when utilities are exempted from requiring certified electricians. I oppose this proposal and ask you reject it in its entiret.

656
Call-in User_15 03:44:28.840 --> 03:44:30.000
Thank you.

657
Hearing Room 03:44:36.520 --> 03:44:41.640
Are you heard spell sitting your request to unmute once you accept the, like two minutes to sp.

658
Martin Herzfeld, CA #833782 C46 C10 C7 + ICC Cert Resi Insp E1
03:44:42.920 --> 03:44:50.440
My name is Smarton Hertz. Fell. I am a licensed contractor.

659
Martin Herzfeld, CA #833782 C46 C10 C7 + ICC Cert Resi Insp E1
03:44:53.160 --> 03:45:13.000
Six C- ten C- seventy, thirty one D, fifty, six. I'm also an interstate renewable energy master trainer Americas. I'm a federal Ocea authorized destruction trainer and also a Cal Ocha, authorized construction trainer as before, I'm strongly suggesting.

660
Martin Herzfeld, CA #833782 C46 C10 C7 + ICC Cert Resi Insp E1
03:45:14.920 --> 03:45:29.000
It fits today that it not be changed and in working as is working today and so I do not see any data or evidence at this time for supporting the, the.

661
Martin Herzfeld, CA #833782 C46 C10 C7 + ICC Cert Resi Insp E1
03:45:32.200 --> 03:45:33.440
Thank you.

662
Hearing Room 03:45:37.320 --> 03:45:41.920
We don't have anyone else. So hence ready's on the Webex any weathers.

663
Hearing Room 03:45:43.720 --> 03:45:49.360
Any others in the hearing room that happens to write a comment yet.

664
Hearing Room 03:45:57.100 --> 03:46:04.540
I will rewrap minute or two, and then anybody comes on.

665
Hearing Room 03:47:24.780 --> 03:47:37.220
Okay, thank you to everyone for me today for the period, the time is now twelve eighteen PM and I declared very close. Thank you.

From: A.Eric Perez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 4:56:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
A.Eric Perez
[redacted]

From: Aaron Francis
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:17:28 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Aaron Francis
[redacted]

From: Aaron Verduzco
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 6:06:22 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Aaron Verduzco
[redacted]

From: Abraham Contreras
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:14:24 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Abraham Contreras
[redacted]

From: Adalberto Gonzales
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:14:24 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Adalberto Gonzales
[redacted]

From: Adalberto Padilla
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:23:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Adalberto Padilla
[redacted]

From: Adam Orrill
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 6:49:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Adam Orrill
[redacted]

From: Adrian Hardesty
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 5:01:10 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Adrian Hardesty
[redacted]

From: Adrian Silva
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:17:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Adrian Silva
[redacted]

From: Agustin Torres
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:18:14 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Agustin Torres
[redacted]

From: Al Jellings
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:49:24 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Al Jellings
[redacted]

From: Alberto Aldana
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 4:12:25 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alberto Aldana
[redacted]

From: Alberto Pizana
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 9:43:46 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alberto Pizana
[redacted]

From: Aldo Angello
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 6:29:13 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Aldo Angello
[redacted]

From: Aldo Calvelli
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 5:16:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Aldo Calvelli
[redacted]

From: Alejandro Marquez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:35:10 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alejandro Marquez
[redacted]

From: Alexander sanchez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 2:03:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alexander sanchez
[redacted]

From: Allen Conner
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:57:52 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Allen Conner
[redacted]

From: Allister Sorrells
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 6:52:19 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Allister Sorrells
[redacted]

From: Alton Wilkerson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:19:50 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alton Wilkerson
[redacted]

From: Alvaro Rubalcaba
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 3:21:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alvaro Rubalcaba
[redacted]

From: Alvin Dayoan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 5:49:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Alvin Dayoan
[redacted]

From: Amauri Arista
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:02:14 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Amauri Arista
[redacted]

From: Amber Arnold
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 4:13:58 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Amber Arnold
[redacted]

From: Andrew Berg
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:07:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Andrew Berg
[redacted]

From: Andrew Gaebel
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:14:23 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Andrew Gaebel
[redacted]

From: Andrew Mendoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:51:20 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Andrew Mendoza
[redacted]

From: Andrew Zavala
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:14:30 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Andrew Zavala
[redacted]

From: Andy Hartmann
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:03:55 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Andy Hartmann
[redacted]

From: Angel Magana
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Sunday, July 23, 2023 1:51:48 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Angel Magana
[redacted]

From: Angel McDonald
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:23:15 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Angel McDonald
[redacted]

From: Anisa Thomsen
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 3:29:22 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Anisa Thomsen
[redacted]

From: Anthony Grandelli
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:26:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Anthony Grandelli
[redacted]

From: Anthony Oghassabian
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 7:10:39 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Anthony Oghassabian
[redacted]

From: Antonio Navarrete
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:08:37 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Antonio Navarrete
[redacted]

From: Antonio Rios
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 4:12:52 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Antonio Rios
[redacted]

From: Antonio Sanchez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 8:13:07 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Antonio Sanchez
[redacted]

From: April Crosby
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 9:36:28 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
April Crosby
[redacted]

From: Ara Izanian
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:47:34 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ara Izanian
[redacted]

From: aran rodgers
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 12:38:49 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
aran rodgers
[redacted]

From: Arnel Ornedo
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:01:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Arnel Ornedo
[redacted]

From: Arnold Gomez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Sunday, July 30, 2023 9:32:09 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Arnold Gomez
[redacted]

From: Barbara Dees
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Sunday, July 23, 2023 4:38:50 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Barbara Dees
[redacted]

From: Beau Kelly
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:27:48 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Beau Kelly
[redacted]

From: Benjamin Frank
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 7:11:17 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Benjamin Frank
[redacted]

From: Berkeley Blake
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:25:39 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Berkeley Blake
[redacted]

From: Bernard Kotlier
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 5:20:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Bernard Kotlier
[redacted]

From: Bill Baker
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:27:22 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Bill Baker
[redacted]

From: Bill Barlogio
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:59:54 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Bill Barlogio
[redacted]

From: Bill Nauta
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:30:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Bill Nauta
[redacted]

From: Bob McMakin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:32:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Bob McMakin
[redacted]

From: Bradley Steve
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 3:41:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Bradley Steve
[redacted]

From: Brandon Dennison-Borja
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:55:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brandon Dennison-Borja
[redacted]

From: Brandon Howard
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 8:47:09 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brandon Howard
[redacted]

From: Brendan Greene
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:07:33 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brendan Greene
[redacted]

From: Brendan King
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 9:08:10 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brendan King
[redacted]

From: Brett Boncher
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 2:54:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brett Boncher
[redacted]

From: Brett Harradence
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 8:47:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brett Harradence
[redacted]

From: Brett Nunes
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:05:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brett Nunes
[redacted]

From: Brian Campbell
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:03:45 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brian Campbell
[redacted]

From: Brian Iwashita
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 1:31:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brian Iwashita
[redacted]

From: Brian Malloy
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 6:46:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brian Malloy
[redacted]

From: Brian Morales
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 6:03:13 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Brian Morales
[redacted]

CBIA
CALIFORNIA BUILDING INDUSTRY ASSOCIATION

1215 K Street, Suite 1200
Sacramento, CA 95814
(916) 443 7933
fax (916) 443 1960
www.cbia.org

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

RE: Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines,

The California Building Industry Association (CBIA) is a statewide trade association representing over 3,000 member companies involved in residential and light commercial construction. CBIA member companies are responsible for over 85% of the new single-family homes built in California each year.

Please be advised that CBIA supports CSLB's proposed changes to Section 832.46 Class C-46 – Solar Contractor regarding battery energy storage systems (BESS). This has been an enduring issue and source of debate for many years. CBIA is glad to see CSLB taking steps to provide much-needed clarification.

We strongly support CSLB's proposal to allow a C-46 license holder to install battery energy storage systems providing that the system does not exceed a rating of 80 kilowatt-hours (kWh).
The 80kWh threshold is consistent with recent changes in the California Residential Code (*CCR Title 24 Part 2.5, Section R328.5*) and the California Fire Code (*CCR Title 24, Part 9, Table 1207.11.4*). This threshold will effectively allow the C-46 to do solar+battery on single-family homes and small multifamily buildings.

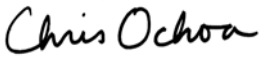
However, clarification should be made to the regulations regarding the repair and maintenance of these energy storage systems. While it is clearly stated in the proposed rule that the C-46 can do the BEES (less than 80kWh) when it's done as "incidental and supplemental" to the installation of a photovoltaic solar energy system, it's unclear if the C-46 can modify an existing residential solar energy system by adding a battery. It also needs to be clarified if a C-46 can repair or maintain an existing solar+storage system.

Since the C-46 is considered capable of installing a battery (less than 80kWh) with a solar energy system on a new home, it seems reasonable to allow the C-46 to modify an existing solar energy system by adding a battery and let the C-46 repair or provide maintenance on an existing battery, **providing the battery energy storage system is less than 80 kWh**.

Can CSLB modify the proposed language to make these clarifications? If so, CBIA would support such a clarification.

In closing, CBIA would once again thank the CSLB for proposing changes to their regulations that will finally address this longstanding issue. Please feel free to contact me or our consultant Robert Raymer (rraymer@cbia.org), at your convenience.

Sincerely,



Chris Ochoa

From:	Cameron Teofilo
To:	Godines, Diana@CSLB
Subject:	Support for Proposed BESS Licensing Regulations
Date:	Friday, July 28, 2023 11:22:58 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cameron Teofilo
[redacted]

From: Carlos Estrada
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 6:30:14 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Carlos Estrada
[redacted]

From: Carlos Mendoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:25:08 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Carlos Mendoza
[redacted]

From: Carlos Rodarte
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:30:58 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Carlos Rodarte
[redacted]

From: Carol Larson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 6:11:36 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Carol Larson
[redacted]

From: Casi Lozano
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 3:14:29 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Casi Lozano
[redacted]

From: CATHY O"BRYANT
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:31:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
CATHY O'BRYANT
[redacted]

From: Chad Frank
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 4:13:04 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Chad Frank
[redacted]

From: Charles Asendorf
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, August 1, 2023 4:17:20 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Charles Asendorf
[redacted]

From: Charles Huddleston
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 2:25:55 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Charles Huddleston
[redacted]

From: Charles Vella
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 4:57:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Charles Vella
[redacted]

From: Cheyne Chambers
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:07:26 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cheyne Chambers
[redacted]

From: Chris cossey
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:31:46 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Chris cossey
[redacted]

From: Chris Gleed
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:40:44 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Chris Gleed
[redacted]

From: Chris Longoria
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 7:20:31 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Chris Longoria
[redacted]

From: Chris Robb
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:29:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Chris Robb
[redacted]

From: Christine Austria
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:16:49 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christine Austria
[redacted]

From: Christopher Bertlin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:43:10 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Bertlin
[redacted]

From: Christopher Cooper
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:53:59 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Cooper
[redacted]

From: Christopher Foster
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:19:41 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Foster
[redacted]

From:	Christopher Huston
To:	Godines, Diana@CSLB
Subject:	Support for Proposed BESS Licensing Regulations
Date:	Tuesday, July 18, 2023 1:52:59 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Huston
[redacted]

From: Fong, Christopher
To: Godines, Diana@CSLB
Cc: R5CT@IBEW1245.COM
Subject: CSLB Letter
Date: Wednesday, July 26, 2023 7:21:13 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Christopher J. Fong
IBEW 1245 Member

From: Christopher Mueller
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 9:52:32 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Mueller
[redacted]

From: Christopher Olsen
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:45:40 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Olsen
[redacted]

From: Christopher Russell
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 31, 2023 9:45:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Russell
[redacted]

From: Christopher Salorio
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 10:15:12 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Christopher Salorio
[redacted]

From: Clint Freehauf
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:56:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Clint Freehauf
[redacted]

From: Clint Morgan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 1:40:17 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Clint Morgan
[redacted]

From: Cody Mahler
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 10:34:49 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cody Mahler
[redacted]

From:	Corey Clayton
To:	Godines, Diana@CSLB
Subject:	Support for Proposed BESS Licensing Regulations
Date:	Saturday, July 22, 2023 2:26:18 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Corey Clayton
[redacted]

From: Cori Schumacher
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:39:12 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cori Schumacher
[redacted]

From: Cortland Robins
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:59:10 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cortland Robins
[redacted]

From: Cory Black
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:00:47 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cory Black
[redacted]

From: Courtney Cabral
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 10:29:09 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Courtney Cabral
[redacted]

From: Craig Gini
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 3:25:33 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Craig Gini
[redacted]

From: Craig Knight
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 6:12:42 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Craig Knight
[redacted]

From: Cristina Marquez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:50:43 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Cristina Marquez
[redacted]

From: Crystal Herrera
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 8:40:14 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Crystal Herrera
[redacted]

From: Curt Berger
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:27:53 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Curt Berger
[redacted]

From:	Daire Gantley
To:	Godines, Diana@CSLB
Subject:	Support for Proposed BESS Licensing Regulations
Date:	Thursday, July 13, 2023 10:00:49 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daire Gantley
[redacted]

From: Dale Paris
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 8:46:50 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dale Paris
[redacted]

From: Dan Smith
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:05:36 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dan Smith
[redacted]

From: Dan Smith
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:27:28 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dan Smith
[redacted]

From: Daniel Boyd
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:22:16 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Boyd
[redacted]

From: Daniel Craft
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:27:35 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Craft
[redacted]

From: Daniel Gleason
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:56:02 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Gleason
[redacted]

From: Daniel Mounts
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 4:45:44 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Mounts
[redacted]

From: Daniel Munoz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 12:29:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Munoz
[redacted]

From: Daniel Pruett
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:44:33 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Pruett
[redacted]

From: Daniel Ramirez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 9:50:23 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Daniel Ramirez
[redacted]

From:	Danielle Bonds
To:	Godines, Diana@CSLB
Subject:	Support California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.
Date:	Friday, July 28, 2023 10:45:41 AM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government

regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Danielle Bonds

Sent from my iPhone

From: Darien Rosbach
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:10:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Darien Rosbach
[redacted]

From: Dave Alonzo
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:56:34 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dave Alonzo
[redacted]

From: David Hantman
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:09:11 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Hantman
[redacted]

From: David Hill
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:27:23 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Hill
[redacted]

From: David Hoo
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:58:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Hoo
[redacted]

From: David Mauro
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 4:57:19 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Mauro
[redacted]

From: David McClave
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:04:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David McClave
[redacted]

From: David Morearty
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 1:36:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Morearty
[redacted]

From: David Nicely
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:11:21 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Nicely
[redacted]

From: David Rivera
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:56:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Rivera
[redacted]

From: David Robinson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:01:21 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Robinson
[redacted]

From: David Roth
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:57:18 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Roth
[redacted]

From: David Salinas
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 24, 2023 4:04:50 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Salinas
[redacted]

From: David solis
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 4:08:30 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David solis
[redacted]

From: David Sztuk
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 10:08:27 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Sztuk
[redacted]

From: David Wilson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 5:44:44 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
David Wilson
[redacted]

From: Dayn Richardson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 8:26:02 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dayn Richardson
[redacted]

From: Dean Knupp
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:12:50 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dean Knupp
[redacted]

From: Demian Murray
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 11:47:49 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Demian Murray
[redacted]

From: Derek Cole
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 6:43:41 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Derek Cole
[redacted]

From:	Diana Limon
To:	Godines, Diana@CSLB
Subject:	Support for Proposed BESS Licensing Regulations
Date:	Thursday, July 27, 2023 8:53:07 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Diana Limon
[redacted]

From:	Donyale Davis
To:	Godines, Diana@CSLB
Subject:	Strong Support for CSLB Regulations for BESS C-46 Contractors
Date:	Wednesday, July 26, 2023 5:15:19 PM
Attachments:	Support for CSLB Regulations for BESS C-46 Contractors.docx

Sent from my iPad

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Donny Davis

From: Doug Rodriguez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Saturday, July 29, 2023 6:59:46 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Doug Rodriguez
[redacted]

From: Douglas Mangione
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 3:35:32 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Douglas Mangione
[redacted]

From: Douglas Nelson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 8:38:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Douglas Nelson
[redacted]

From: Dustin Ispas
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:40:04 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dustin Ispas
[redacted]

From: Dustin king
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:29:57 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dustin king
[redacted]

From: Dwayne Henry
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:29:54 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dwayne Henry
[redacted]

From: Dylan Keldsen
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:03:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Dylan Keldsen
[redacted]

From: Earl Hampton
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 8:31:03 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Earl Hampton
[redacted]

From: Earl Restine
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 14, 2023 1:03:25 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Earl Restine
[redacted]

From: Eduardo Cardenas
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 6:53:20 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Eduardo Cardenas
[redacted]

From: Purcell, Eileen
To: Godines, Diana@CSLB
Subject: SUPPORT FOR CSLB REGULATIONS FOR BESS
Date: Thursday, July 27, 2023 7:37:38 AM
Attachments: 7-27-23 Support for CSLB Regulations for BESS C-46 Contractors.docx

Dear Ms. Godines,
Attached please find my sgatement in support for CSLB regulations for BESS C-46 Contractors.
Many thanks for your consideration.

Eileen

Eileen Purcell
Sr. Advisor to Business Manager
IBEW Local 1245
415-828-3731
EMP3@ibew1245.com

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Eileen Purcell

From: Enrique Ramos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:12:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Enrique Ramos
[redacted]

From: Eric Grapes
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 10:02:40 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Eric Grapes
[redacted]

From: Eric Smith
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 2:15:44 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Eric Smith
[redacted]

From: Erik Estrada
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 8:18:36 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Erik Estrada
[redacted]

From: Everardo Gutierrez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:00:47 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Everardo Gutierrez
[redacted]

From: Fabian Chavez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 3:10:37 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Fabian Chavez
[redacted]

From: Felix Cortez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:09:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Felix Cortez
[redacted]

From: Foster Goree
To: Godines, Diana@CSLB
Cc: [redacted]
Subject: Diana Godines
Date: Tuesday, August 1, 2023 11:02:15 PM

CAUTION: This email originated from outside of CSLB. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely, Foster Goree

From: Francisco Castano
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 8:18:52 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Francisco Castano
[redacted]

From: Franklin Emery
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:05:11 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Franklin Emery
[redacted]

From: Fred Geiger
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 10:00:40 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Fred Geiger
[redacted]

From: Gary Maschio
To: Godines, Diana@CSLB
Subject: CSLB Campaign
Date: Thursday, July 27, 2023 5:40:33 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.
While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Gary Maschio
IBEW Local Union 1245

From: Gavin Loggains
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 4:03:32 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gavin Loggains
[redacted]

From: Gene Parkes
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:05:14 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gene Parkes
[redacted]

From: Gilbert Rea
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 1:54:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gilbert Rea
[redacted]

From: Gilberto Contreras
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:09:33 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gilberto Contreras
[redacted]

From: Glenn Goodwin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 1:16:57 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Glenn Goodwin
[redacted]

From: Gordon Reed
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:24:46 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gordon Reed
[redacted]

From:	Andrew Gordon Young
To:	Godines, Diana@CSLB
Subject:	Proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.
Date:	Friday, July 28, 2023 5:45:32 PM
Attachments:	Support for CSLB Regulations for BESS C-46 Contractors.docx.pdf

Dear Diana Godlines,

Please see my attached letter regarding proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

Sincerely,

Gordon Young
IBEW 1245

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide a long needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creating a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or non functioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Gordon Young
Organizing Steward
IBEW 1245

From: Gorgina Halaufia
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 5:41:13 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gorgina Halaufia
[redacted]

From: Greg Bonato
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 11:18:17 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Greg Bonato
[redacted]

From: Gregg Holt
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 5:41:20 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gregg Holt
[redacted]

From: Gregory Flekal
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 4:33:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gregory Flekal
[redacted]

From: Gretchen Newsom
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 4:47:41 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Gretchen Newsom
[redacted]

From: Hans Gonzalez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 1:47:10 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Hans Gonzalez
[redacted]

From: henry ramirez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:59:34 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
henry ramirez
[redacted]

From: Herb Watts
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 5:48:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Herb Watts
[redacted]

From: Hunter Stern
To: Godines, Diana@CSLB
Subject: Fwd: CSLB Regulations
Date: Thursday, July 27, 2023 9:37:52 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Diana Godines

Regulations and Legislation Specialist

Contractors State License Board
9821 Business Park Drive, Sacramento, CA 95827

Ms. Godines,

Please accept the attached letter in support of the CSLB proposed regulations on installation of Battery Energy Storage systems by licensed contractors.

Respectfully,

Hunter Stern

San Francisco

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential means to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion on components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

Frankly, I would like to see greater safety protections for the smaller systems as well. But this action has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed BESS create hazards for the property owners that buy them, and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments. Respectfully

Hunter Stern
[redacted]

ADAMS BROADWELL JOSEPH & CARDOZO
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721
TEL: (916) 444-6201
FAX: (916) 444-6209
tenslow@adamsbroadwell.com

SO. SAN FRANCISCO OFFICE
601 GATEWAY BLVD., SUITE 1000
SO. SAN FRANCISCO, CA 94080
TEL: (650) 589-1660
FAX: (650) 589-5062

ARIANA ABEDIFARD
KEVIN T. CARMICHAEL
CHRISTINA M. CARO
THOMAS A. ENSLOW
KELILAH D. FEDERMAN
RICHARD M. FRANCO
ANDREW J. GRAF
TANYA A. GULESSERIAN
DARION N. JOHNSON
RACHAEL E. KOSS
AIDAN P. MARSHALL
TARA C. RENGIFO

Of Counsel
MARC D. JOSEPH
DANIEL L. CARDOZO

August 2, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Diana.godines@cslb.ca.gov

Re: IBEW-NECA LMCC Comments in Support of Proposed Rulemaking Concerning Battery Energy Storage Systems

Dear Ms. Godines:

I am writing on behalf of the California State Labor Management Cooperation Committee for the International Brotherhood of Electrical Workers and the National Electrical Contractors Association ("LMCC") in support of the proposed Contractors State License Board ("CSLB") amendments to clarify the contractor classification jurisdiction over the installation of battery energy storage systems ("BESS"), including clarification of when such installations may be treated as "incidental and supplemental" to the installation of solar photovoltaic systems ("Solar PV"). The LMCC's members employ and represent over 30,000 California electricians, who have installed the vast majority of all major solar and energy storage projects in the State of California. The LMCC strongly supports California's aggressive Solar PV and BESS installation goals, both because it is good policy and because its members install these projects.

The proposed regulations amend Title 16, California Code of Regulations (CCR), Sections 810, 832.10 and 832.46. The amendments: (1) define BESS for the purposes of specialty contractor license classifications; (2) specify that a BESS, as a separate electrical system, is not part of a PV system and is not required to install a PV system; (3) preclude a C-46 Solar Contractor from installing BESS except as specified; and (4) clarify that installation of a BESS by a C-46 Solar Contractor may be incidental and supplemental to the installation of a PV system if the BESS does not have a storage capacity greater than 80 kilowatt hours (kWh).

The proposed regulations are consistent with the existing contractor classification regulatory framework allowing incidental and supplemental work because they are based on recognizing that, at a certain size threshold, a battery energy storage system may be so large that it cannot reasonably be considered incidental and supplemental to a Solar PV system installation.

For many years now, there has been a longstanding debate over when a battery energy storage system would be considered too big to be deemed incidental and supplemental to installation of a solar PV system. It creates an absurdity not to have some sort of size threshold over which a BESS is no longer considered "incidental and supplemental" work. An apt analogy is roofs. Solar installers can do minor roof work when they install solar panels on a roof under the "incidental and supplemental" provisions of the CSLB regulations on specialty contractor licenses; but they are not allowed to install an entire new roof under the "incidental and supplemental" provisions. Here too, at a certain size, it creates an absurdity to call a BESS "incidental and supplemental" work. Without a reasoned and rationale size threshold, we could have C-46 contractors installing one small solar panel and then installing a 10 MW, utility -size BESS as "incidental and supplemental." In such a case, which work is incidental and supplemental to which work?

The proposed regulations settle this issue by adopting a threshold based on one of the BESS size thresholds set forth in the California Building Standards Code for when additional safety and installation measures are required. While the LMCC has long advocated for a much smaller threshold, the proposed 80 kWh threshold is justifiable from technical, safety, economic and regulatory perspectives. But even more importantly, it creates certainty for the industry.

Furthermore, as discussed in detail below, the proposed threshold creates no economic or policy concerns because it is large enough that well over 95% of battery energy storage system projects that are paired with Solar PV projects would still be allowed to be installed by contractors that only hold a C-46 license. To put this in context, contractors that only hold a C-46 license currently install just 3% of all paired Solar PV and BESS projects. The proposed regulations would thus allow contractors that only hold a C-46 license to significantly *expand* their current share of the energy storage system installation market. Any suggestion that these proposed regulations would have a negative economic impact on C-46 contractors is simply not based on fact.

I. THE CURRENT PLAIN LANGUAGE OF THE C-46 SOLAR CONTRACTOR LICENSE CLASSIFICATION DOES NOT ENCOMPASS INSTALLATIONS OF ENERGY STORAGE SYSTEMS

Under State law, specialty contractors that are licensed in one class are prohibited from performing work in the field of another class unless they are also licensed in that class or the work is "incidental and supplemental" to the work in the craft for which the contractor is licensed.[1] The scope of work a licensed specialty contractor may legally perform is set by the classification regulations adopted by the CSLB.[2] For solar contractors, section 832.46 of the CSLB regulations authorizes licensees to perform the following work:

> A solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems.
>
> A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system.

Thus, under the CSLB's regulations, whether or not C-46 contractors are authorized to install battery energy storage systems turns on whether battery energy storage systems are a part of PV solar energy systems, or, instead, are separate systems that may be paired with and used in conjunction with each other.

The fact that these are separate systems is shown most plainly by the separate definitions of a Solar PV System and a BESS system contained in the California Electrical Code. Article 100 of the California Electrical Code defines these systems as follows:

> "Battery System. Interconnected battery subsystems consisting of one or more storage batteries and battery chargers, and can include inverters, converters, and associated electrical equipment."
>
> "Photovoltaic System: The total components and subsystem that, in combination, convert solar energy into electrical energy for connection to a utilization load."

[1] Bus. & Prof. Code § 7059; 16 C.C.R. § 830(b).
[2] See 16 C.C.R. § 832.

As described in the above definition, a solar photovoltaic system converts solar energy into electrical energy. A BESS does not convert solar energy into electrical energy, it stores electrical energy.

Moreover, because of the unique risks and hazards associated with battery energy storage systems, their installation requires different skills and knowledge than what is needed for solar installations. This is demonstrated by the separate code, installation, and fire and life safety standards for solar PV systems and BESS.[3] These systems have different code requirements because energy storage systems pose different types and scales of risk compared to PV systems. A system that is improperly installed could cause serious public safety hazards, including electrocution, arc flashes, explosion, arc blasts, and fires caused by shorting or a thermal runaway of a battery storage system.[4]

For example, California Fire Code requirements that apply to BESSs but not PV solar systems include:

- Safety cap, thermal runaway management, spill control, neutralization, ventilation, seismic protection and smoke detection requirements that can vary based on energy storage technology and configuration.

- A failure modes and effects analysis (FMEA) or other approved hazard mitigation analysis when certain technologies or configurations are used.

- Specific location and room design requirements that vary depending on technology, size and configuration.
- Specific permit application requirements, including providing the following information:
    - Location and layout design of the storage room.
    - Details on hourly fire-resistant-rated assemblies.
    - Quantities and types of storage batteries and systems.
    - Details on fire suppression, smoke detection and ventilation systems.
    - Rack storage arrangement, including seismic support criteria.

[3] See [Exhibit 2] NEIS, American National Standard, NECA 416-2016, Recommended Practice for Installing Energy Storage Systems (ESS). See also [Exhibit 3] ESAMTAC, Energy Storage and Microgrid Training and Certification (August 2016).
[4] [Exhibit 1] Declaration of Dan Henrich.
4103-20tae

PV Systems and Large Scale PV Systems are covered by the rules in the National Electrical Code (NEC) Articles 690 and 691 respectively. These articles do not cover or address BESSs. Section 690.71 of the PV Systems Article references Article 706 for the rules related to energy storage systems. These are separate systems, thus covered by separate articles. Section 690.1 makes it clear that these are separate systems that may be interconnected to energy storage systems.

While energy storage systems can be connected to solar energy systems, they are not "required" to install PV systems. These systems may be connected so that each system may utilize the energy generated by the other, or they may be powered independently by any other source of energy, including the utility power grid.

Because energy storage systems are independent electrical systems that are not required for the installation of a solar PV system, they can only be installed by C-46 contractors if such work falls within the scope of CSLB's "incidental and supplemental" provisions.

II. SUBSTANTIAL EVIDENCE SUPPORTS SETTING A SIZE THRESHOLD ABOVE WHICH A BESS SHALL BE CONSIDERED A SEPARATE SYSTEMS THAT IS NOT INCIDENTAL AND SUPPLEMENTAL TO THE INSTALLATION OF A PV SYSTEM

A. Battery Energy Storage Systems Pose Significant Fire and Life Safety Risks that Increase with Increased BESS Capacity

During prior proceedings, the LMCC and other stakeholders submitted extensive documentation to CSLB of the significant fire and life safety risks associated with battery energy storage systems such as electric shocks, fire, flash burns, explosions, and exposure to hazardous chemicals and gases.[5] Because most

[5] See, e.g., *Battery Energy Storage Systems: A Guide for Electrical Contractors*, Department of Commerce, Government of Western Australia (March 2017); S. Vorrath, *Household Battery Storage Is a Game Changer – But Is It Safe?*, One Step Off The Grid (Nov. 25, 2015), https://onestepoffthegrid.com.au/household-battery-storage-is-a-game-changer-but-is-it-safe/; *Fire Codes for Energy Storage Systems*, Klausbruckner & Associates (Jan. 2017), http://www.klausbruckner.com/blog/fire-codes-for-energy-storage-systems/; U. Irfan, *Battery Fires Reveal Risks of Storing Large Amounts of Energy*, Scientific American (Nov. 2011), https://www.scientificamerican.com/article/battery-fires-risks-storing-lareg-amounts-energy/; *Lithium-ion Battery Energy Storage Systems: The Risks and How to Manage Them*, AIG Energy

battery energy storage systems cannot be powered off during maintenance, electrocution and short-circuiting is a major risk which can cause burns and, in extreme cases, fire and explosions from surges in heat.[6] Arc flashes resulting from short circuiting can result in temperatures above 12,000 degrees Celsius.[7] Lithium-ion batteries contain a flammable electrolyte which makes them prone to "thermal runaway"—when damage and overcharging lead to a positive feedback loop of more heat production and eventual overheating.[8] Thermal runaway incidents result in excessively high temperatures, gas build-up, and potential explosive rupture of the battery cell.[9]

The ISOR for the regulations misleadingly states that the risk of fire does not increase when you install multiple BESS systems. This is incorrect for two reasons. First, the more systems you install, the more opportunities there are for installation mistakes that could lead to fires or other hazards (e.g., dropped or physically damaged BESS units, grounding or wiring failures, etc.). Second, the risk to be evaluated is not just the increased risk of a fire occurring, but also the increased risk due to the amount of energy being stored *if a fire does occur*. The greater the capacity for a BESS to store energy, the greater the risk when a fire does occur.

Studies previously provided to the commission included substantial evidence that *the fire and life safety risks of battery energy storage systems increase with larger systems*.[10] "Larger cells exhibit slower heat transfer to their exteriors, and they usually have higher capacities. Thus, they have the potential to convert more electrical energy to internal heat."[11] The San Francisco Fire Department says that "lithium-ion batteries in buildings with capacities larger than 20 kilowatt-hours must comply with city and California fire codes for stationary battery systems" in

---

Industry Group; A. Blum & R. Thomas Long Jr., *Hazard Assessment of Lithium Ion Battery Energy Storage Systems*, Fire Protection Research Foundation (Feb. 2016), p. 25–28.
[6] *Battery Energy Storage Systems: A Guide for Electrical Contractors*, Department of Commerce, Government of Western Australia (March 2017), p. 3.
[7] *Battery Energy Storage Systems: A Guide for Electrical Contractors*, Department of Commerce, Government of Western Australia (March 2017), p. 3.
[8] *Battery Energy Storage Systems: A Guide for Electrical Contractors*, Department of Commerce, Government of Western Australia (March 2017), p. 1; *Lithium-ion Battery Energy Storage Systems: The Risks and How to Manage Them*, AIG Energy Industry Group, p. 5–6.
[9] *Lithium-ion Battery Energy Storage Systems: The Risks and How to Manage Them*, AIG Energy Industry Group, p. 5.
[10] [Exhibit 7] Exponent Failure Analysis Associates, Inc., *Lithium-Ion Batteries Hazard & Use Assessment*, Fire Protection Research Foundation, pp. 61–62.
[11] *Id.*
4103-20tae

order to mitigate the risks of these higher capacity systems.[12] "Generally higher battery energy storage capacities have a higher risk of arc flash."[13] The graphs below illustrate the positive correlation between kWh capacity and the risk and intensity of a fire.[14]

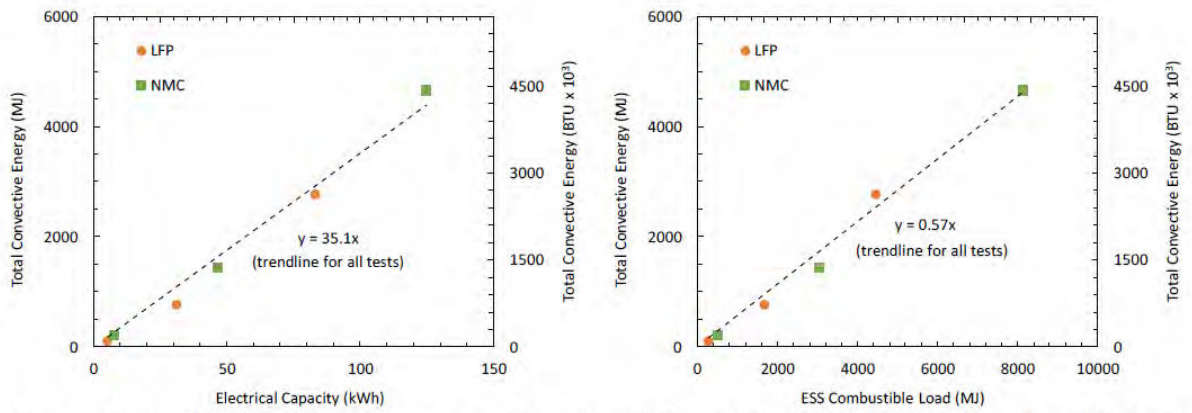


Figure 7-4: Total convective energy as a function of electrical capacity (left) and combustible load (right) for the LFP and NMC tests.

The evidence that the fire and life safety risks posed by battery energy storage systems increase with the size of the system supports setting a size threshold above which installation of a battery energy storage systems should no longer be considered incidental and supplemental to the installation of PV systems by C-46 contractors.

B. The risk of poor installation increases when installation is performed by technicians with inadequate training

The ISOR also fails to reflect that the risk of poor installation increases when installation is performed by technicians with inadequate training. The difference in education and training between a solar installer and a licensed electrician is reflected in the high rate of consumer complaints against C-46 PV installers as compared to C-10 contractors that use licensed electricians. There is a 32%

[12] M. Chediak, *Big-Battery Boom Sparks City Fears*, L.A. Times (June 7, 2018), https://enewspaper.latimes.com/infinity/article_share.aspx?guid=01f277ed-aaf5-494a-8d13-e1bb3f459391.
[13] [Exhibit 2] Letter from former San Jose Fire Captain Matthew Paiss (Feb. 20, 2018), p. 1.
[14] [Exhibit 8] B. Ditch, D. Zeng, Development of Sprinkler Protection Guidance for Lithium Ion Based Energy Storage Systems, FM Global (June 2019), Figure 7-4.
4103-20tae

complaint rate against C46 contractors and a 5.6% complaint rate against C10 electricians.[15]

As BESS becomes more and more common, the risks of poor installation will increase simply due to the increase in the number of installations. This has already been seen in Solar PV installations. There have been at least 155 residential PV fires since 2015, with about one third in California.[16] Lawsuits file by Walmart against Tesla/Solar City identified numerous rooftop Solar PV fires and hazardous conditions due to the use of undertrained technicians.[17] According to the lawsuits:

- At least seven Walmart stores had Tesla installed solar PV systems catch on fire.[18]

- A 2019 inspection of 29 of Walmart's remaining Tesla solar installations found 157 action items requiring repairs or replacement of system components, 48 of which Tesla itself characterized as rendering the sites *unsafe or potentially unsafe.*[19]
    - Tesla solar technicians failed to tighten connectors adequately, due at least in part to their failure to use proper tools.[20]
    - Loose and hanging wires were present at multiple Walmart locations, resulting in abraded and exposed wires, resulting in electrical arcing.[21]
    - Tesla solar technicians cross-matched connectors, "meaning that incompatible connectors had been used with one another. When

[15] According to data provided by the CSLB, in 2017, there were 24,391 C-10 contractors and 1,372 complaints filed against C-10 contractors, which calculates to 5.6 complaints per every 100 C-10 contractors – a 5.6% complaint rate. In 2017, there were 1,167 C-46 contractors and 376 complaints filed against C-46 contractors, which calculates to 32.2 complaints per every 100 C-146 contractors – a 32.2% complaint rate.
[16] https://www.pv-magazine.com/2020/04/23/solar-system-fires-are-on-the-rise-in-the-u-s/.
[17] [Exhibit 13] *Walmart Inc. v. Tesla Energy Operations*, Supreme Court of the State of New York, New York County, Case No. 654765/2019e, Complaint at p. 4; Amazon also had issues with poor solar PV installations as well (https://www.latimes.com/business/story/2019-08-29/tesla-residential-rooftop-solar-panels-catch-fire-and-the-lawsuits-start-flying). The Kohl's in Temecula caught fire as well (https://www.pe.com/2013/03/15/temecula-fire-at-kohls-triggers-evacuation/.
[18] *Walmart Inc. v. Tesla Energy Operations*, Supreme Court of the State of New York, New York County, Case No. 654765/2019e, Complaint at p. 4.
[19] *Ibid* at p. 8.
[20] *Ibid* at pp. 6, 38.
[21] *Ibid* at pp. 6, 9.
4103-20tae

connectors are not matched properly, electric current flowing between the connectors is more likely to encounter resistance-and resistance generates heat, which generates fires."[22]

- Tesla solar technicians failed to properly "ground" solar photovoltaic systems at multiple sites. Improper grounding can cause an electric system to arc, which can result in fires.[23]
- Actual installation was often not consistent with the design, layout and installation locations set forth in the system plans and drawings. "That meant that system components, including safety switches and other critical portions of the systems, could not be readily located at the sites in the event of a fire or other emergency."[24]
- One fire was caused by an improperly sealed inverter housing.[25]
- Another fire was caused by an inverter fuse box that contained incompatible brass/metal bolts.[26]

The failures were blamed on Tesla's reliance on untrained, unqualified, and inadequately supervised personnel to install the systems.[27] Walmart's own consultants had to "educate Tesla's personnel on how to conduct solar system inspections properly, including the types of conditions that can contribute to the risk of fire, how to use equipment and tools properly to look for and correct such conditions, and how to follow site safety and inspection protocols."[28]

The Board does not need to wait for additional consumer complaints, specific to energy storage systems installation, against C-45 contractors in order to determine that a size limit on what energy storage systems are considered incidental and supplemental is appropriate and will likely result in greater public safety.

[22] *Ibid* at p. 38.
[23] *Ibid* at pp. 6, 9, 42-43.
[24] *Ibid* at p. 7.
[25] *Ibid* at p. 22.
[26] *Ibid* at p. 22.)
[27] *Ibid* at p. 9.
[28] *Ibid* at p. 5.
4103-20tae

C. The Proposed 80 kWh Threshold Is Consistent with Existing Codes and Standards

Existing codes and standards support both the 20 kWh threshold previously proposed by the LMCC and the 80 kWh threshold that the CSLB is now proposing to adopt.

State and National code and standard setting bodies have consistently identified lithium-ion BESS with capacities above 20kWh as posing a significant enough risk to require additional standards for installation, permitting, hazards assessment, and other safety measures.[29] The California Fire Code (CFC)—California Code of Regulations, Title 24, part 9—requires lithium-ion BESS above 20 kWh in storage capacity to comply with the following additional requirements:

- Flame-arresting safety caps[30]
- Thermal runaway management[31]
- Smoke detection and fire suppression systems[32]
- Gas detection and ventilation[33]
- Spill control and neutralization capabilities[34]
- Seismic protection[35]
- Failure modes and effect analysis (FMEA) or other approved hazard mitigation analysis must be done when some technologies are used to ensure that fires and explosions will be contained[36]
- Battery energy storage system location and room design are technology-, size-, and configuration-dependent[37]

NFPA 855, Standards for the Installation of Stationary Energy Storage Systems is a national standard which "provides the minimum requirements for

[29] See e.g., CFC § 1206.2; CFC Table 1206.2; NFPA 855 § 1.3; NFPA 855 Table 1.3.
[30] CFC § 1206.2.10.6.
[31] CFC § 1206.2.10.7.
[32] CFC § 1206.2.11.
[33] CFC §§ 1206.2.11.3, 1206.2.11.4.
[34] CFC § 1206.2.11.5
[35] CFC § 1206.2.4
[36] CFC § 1206.2.3.
[37] CFC § 1206.3.2.
4103-20tae

mitigating the hazards associated with [battery energy storage systems]."[38] This standard uses the same thresholds as the California Fire Code, above which additional fire, life, and safety requirements are imposed. NFPA 855 sets forth similar standards to the CFC but provides more detail on the specific requirements.[39]

California Fire Code Section 1206.11.4 and California Residental Code Section 327.5 also set forth total aggregate limits for BESS capacity, including an aggregate limit of 80 kWh for multiple units in a single location. Residential ESS installations exceeding these aggregate thresholds must meet the following additional code requirements: construction and operational permit requirements (§1206.1.2); construction documentation requirements (§1206.1.3); commissioning, decommissioning, operation and maintenance requirements (§1206.2); listing requirements (§1206.3); energy storage management system requirements (§1206.3.4); non-combustible enclosure requirements (§1206.3.5); electrical disconnect requirements (§1206.4.1); clearance requirements (§1206.4.2); Fire resistance separation rating requirements (§1206.4.3, §1206.7.4); seismic and structural requirements (§1206.4.4); vehicle impact protection requirements (§1206.4.5); combustible storage distance requirements (§1206.4.6); hazardous exhaust system requirements (§1206.4.7); signage requirements (§1206.4.8); security requirements (§1206.4.1); maximum elevation requirements (§1206.5.3); fire detection requirements (§1206.5.4); fire suppression requirements (§1206.5.5); maximum enclosure size (§1206.5.6); vegetation control (§1206.5.7); exhaust ventilation requirements (§1206.6.1); spill control and neutralization (§1206.6.2); explosion control (§1206.6.3); safety caps (§1206.6.4); thermal runaway controls (§1206.6).

While the LMCC has long advocated for setting a 20 kWh threshold, the proposed 80 kWh threshold is justifiable and is based on existing codes and standards. These existing industry thresholds provide a rational and reasonable basis for the CSLB to determine that battery energy storage systems above these thresholds are too large to be considered incidental and supplemental to the installation of a Solar PV system.

---

[38] NFPA 855 § 1.2.

[39] See, e.g., NFPA 855 §§ 4.1.3.2 (detailing emergency operations plan), 4.12.1 (laying out requirements for explosion prevention deflagration venting systems), 4.13 (providing for permanent source of water for use in fire suppression), 6.1.2–6.1.3 (setting forth need for commissioning plan).

D. An 80 kWh Threshold Will Have No Discernable Impact on Jobs or Businesses

The size threshold proposed by the regulation has substantial economic and policy justification. The 80 kWh threshold would allow just about all paired residential and small to mid-size commercial battery energy storage systems to be installed by C-46 contractors under their incidental and supplemental exception. A 2022 review of the market found that all standard residential battery energy storage units have a storage capacity of under 30kWh and that almost 99% of all battery energy storage systems installed through the CPUC SGIP program from 2017-2019 had a storage capacity under 30kWh – which is well under the 80 kWh threshold.

1. All standard Residential Battery Energy Storage Systems Have a Storage Capacity of Under 80kWh

A review of the 2020 review of all residential battery energy storage systems on the market found:

- A 2020 market review found 85 residential Battery Energy Storage Systems on the market
- 54 had a storage capacity under 10kWh
- 27 had a storage capacity between 10 and 20kWh
- 4 had a storage capacity over 20kWh (and none were over 30kWh)

Home Battery Storage Systems	BESS Count[40]	Percent
Under 10 kWh	54	63.5%
10 kWh to 20 kWh	27	31.8%
20 kWh – 30 kWh	4	4.7%
Total	85	100%

[40] Data obtained from: https://www.energysage.com/solar/solar-energy-storage/what-are-the-best-batteries-for-solar-panels/; https://www.energy-storage.news/news/siemens-launches-own-junelight-lithium-home-energy-storage-systems; https://www.businessinsider.com/rechargeable-battery-options-compete-tesla-2017-5; https://solartechonline.com/residential-energy-storage/; https://news.energysage.com/tesla-powerwall-vs-sonnen-eco-vs-lg-chem/; https://www.solarquotes.com.au/battery-storage/comparison-table/; https://www.cleanenergyreviews.info/hybrid-solar-battery-energy-storage-system-review.

2. According to the CPUC SGIP Database, 99 Percent of All Residential Battery Energy Storage Systems Incentives from 2017 to August 2019 Were for Projects with an Aggregate Storage Capacity of Under 80 kWh

A review of the California Public Utility Commission SGIP database of all residential battery energy storage system incentives from 2017 to 2019 found that approximately 99 percent were for projects with a power capacity under 80 kWh, with 80% of projects under 20 kWh.

- 13,248 residential Battery Energy Storage System projects received CPUC SGIP rebates from 2017 to August 2019 with information about storage capacity
- 63, or 0.48 percent, had a total storage capacity under 5kWh
- 6,164, or 46.53 percent, had a total storage capacity between 5 and 10kWh
- 4,234, or 31.96 percent, had a total storage capacity between 10 and 20kWh
- 2,558, or 19.31 percent, had a total storage capacity between 20 and 30kWh
- 229, or 1.73 percent, had a total storage capacity over 30kWh

Residential Electrochemical Storage Rate kWh	BESS Count[41]	Percent
Below 5 kWh	63	0.48%
5 kWh to 10 kWh	6,164	46.53%
10 kWh to 20 kWh	4,234	31.96%
20 kWh to 30 kWh	2,558	19.31%
Over 30 kWh	229	1.73%
Total	**13,248**	**100.00%**

[41] Data obtained from: https://www.cpuc.ca.gov/sgip/ - SGIP Weekly Projects & Budget Reports: https://www.selfgenca.com/documents/reports/statewide_projects, SGIP Weekly Statewide Report - 09/16/2019 - Column I.

3. Contractors Who Only Have C-46 Licenses Install Just 6% of All Solar PV Systems and Less than 3% of All Paired Solar PV/Battery Energy Storage Systems

The proposed threshold would also have no practical impact on the installation of Solar PV projects or the installation of paired Solar PV/ battery energy storage system projects because contractors who only have C-46 licenses install just 6% of all solar PV systems and less than 3% of all paired Solar PV/ battery energy storage systems.

A review of state data on the installation of rooftop solar projects and the installation of paired Solar PV/ battery energy storage system projects from January 2015 to December 2020 found contractors holding a C-46 license without a C-10 or General Contractors license were responsible for 6% of all Solar PV installations.

License Class	No. of Installs	% Share Installs	Installed PV System Size (kW AC)	% Share Installed PV Capacity	Avg. Size (kW AC)	Contract-ors	Installs per Contract-or
C-10	600,916	76%	4,217,082	73%	7.0	2,290	262.4
C-46 no A,B,C-10	48,126	6%	382,138	7%	7.9	421	114.3
Other	139,820	18%	1,155,005	20%	8.3	1,730	80.8
Grand Total	**788,862**	**1**	**5,754,225**	**1**	**7.3**	**4,441**	**177.6**

For solar paired storage, contractors holding a C-10 license performed 89% of the more than 29,000 solar-paired storage installations in California. Contractors holding a C-46 license without either an A, B, or C-10 classification performed only 753 rooftop solar-paired storage installations, 3% of the total.

LicClass	Installations	% Share	Installed Storage Size (kW AC)	% Share Installed PV-Storage Capacity	Avg. Size (kW AC)	Contractors	Installations per Contractor
C-10	26,167	89%	192,976	77%	7.4	470	55.7
C-46 no A,B,C-10	753	3%	6,205	2%	8.2	106	7.1
Other	2,516	9%	51,591	21%	20.5	174	14.5
Grand Total	**29,436**	**1**	**250,772**	**1**	**8.5**	**750**	**39.2**

These numbers are not surprising considering that contractors holding only a C-46 license without either an A, B, or C-10 classification represent less than 1.3% of the over 26,000 C-10 and C-46 contractors that have licenses allowing for the installation of Solar PV systems.

The proposed regulations will thus affect less than 1.3% of all contractors that can currently install solar PV systems and would allow that small subset of contractors to install battery energy storage systems in over 95% of all paired Solar PV projects *despite currently only installing 3% of all paired rooftop Solar PV projects*.

4. The Proposed Regulations Will Have No Impact on the Availability of Contractors to Install Large Battery Energy Storage Systems and Will Have No Meaningful Impact on the Cost of Installation

As a preliminary matter, the CSLB should not permit jurisdiction creep from one specialty contractor license to another specialty contractor license without compelling justification. Here there is no economic reason to allow C-46 contractors to expand their license to encompass installation of large battery energy storage systems.

First, allowing this expansion is not needed to ensure availability of contractors or workers to install BESS. No credible argument exists that the Proposed regulations will negatively impact the availability of contractors or workers to install battery energy storage systems. As of March 2021, there were a

total of 25,386 C-10 contractors in the state. All of these contractors are licensed to install both battery energy storage and PV installations, either separately or concurrently. In contrast, there are only 1,244 C-46 contractors. Of these C-46 contractors, only 341 don't already have a C-10, A or B contractor's license that would allow them to independently install a battery energy storage system without an expansion of the C-46 license scope. **Allowing C-46 contractors to install very large battery energy storage systems would thus only increase the number of overall contractors that can do this work by 1.3%.**

Furthermore, the number of C-46 contractors that also hold a C-10 contractor license has been rapidly expanding, demonstrating that requiring a C-10 license to install battery energy storage systems is not a burdensome barrier to the concurrent installation of both a PV system and a battery energy storage system. C-46 Contractors that want to install battery energy storage systems can, and do, apply to add the C-10 classification to their licenses. "A licensee may make application for classification and be classified in more than one classification if the licensee meets the qualifications prescribed by the board for such additional classification or classifications."[42] Holding an additional classification does not increase the fee for renewing the license.[43] In 2019, 375 contractors held both C-46 and C-10 licenses; two years later 444 contractors hold both C-10 and C-46. This is approximately a 20% increase in two years. This increase reflects the recognition by most C-46 contractors that if they want to expand the scope of their business beyond PV installation, they need to obtain the applicable contractor's license for that new work.

Second, there is no evidence that allowing installation of very large battery energy storage systems by C-46 contractors using workers that are not certified electricians would significantly reduce costs over the installation of battery energy storage systems by C-10 contractors using certified electricians. The increase labor cost from using a C-10 contractor employing certified electricians has been estimated at just $100 per system when comparing with a C-46 contractor that uses low-paid non electrician. There cost differential between the average solar worker and average non-union electrician is in the range of $12.00 – 17.00 per hour. According to the CalSSA video produced for the CSLB, installing a residential battery energy storage system is no more than a one-hour job. Even if CalSSA's estimate was wildly optimistic and it took six to eight hours, the additional cost

[42] Cal. Bus. & Prof. Code § 7059.
[43] 16 CCR § 811.
4103-20tae

would be in the range of $90.00 – 120.00. That aligns well with the CSLB's estimate (based on a Stanford study) that the increased cost would be around $100. A typical California residential battery energy storage system installed cost (without PV) is in the range of $12,000 – 16,000. $100 is less than 1% of $12,000 which means that such a small difference would not have any discernible impact on affordability or achieving policy objectives.

Moreover, this minimal impact in cost would only apply to very large projects that would not already be installed by C-10 contractors. Since contractors that hold only a C-46 license currently install almost no BESS projects with storage capacity over 80 kWh, the overall impact on BESS installation cost (and housing costs in general) would be practically imperceptible.

5. No Evidence Exists that the Proposed Regulations Would Result in Any Net job Losses or Business Closures

The number of BESS systems installed is expanding exponentially, and will continue to expand exponentially for the next decade. Even with the 80 kWh threshold, the overall jobs available for contractors holding only a C-46 license will increase dramatically over the coming years. No current workers will be losing jobs based on these regulations and no C-46 contractors will be driven out of business due to these regulations.

Even if the regulations result in more new jobs being performed by better trained, higher paid certified electricians than by lower trained, lower paid solar technicians – this is not a job loss for purposes of a regulatory business impact analysis. Regulations that would result in more new jobs being higher paid career jobs instead of lower paid, dead end jobs create a net job benefit – not a loss.

III. CONCLUSION

The proposed regulations provide much needed clarity to the industry while also providing greater protection to consumers, workers and first responders. While the LMCC continues to support a lower threshold of 20 kWh, the LMCC appreciates the Board's interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations generally remain under the proper classification of the appropriately

qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license. The LMCC respectfully urges the CSLB to adopt these regulations.

Sincerely,

Thomas A. Enslow
Counsel for IBEW-NECA LMCC

:tae

Attachments

4103-20tae

EXHIBIT 1

Declaration of Dan Henrich

1. I am President of PDE Total Energy Solutions (PDE). PDE has been designing and installing Battery Energy Storage Systems (BESS) and Microgrids for over 25 years. We have installed systems for the US Military, , Universities, Utilities, commercial buildings, and remote islands, such as our microgrid on the Island of Anguilla in the Caribbean that provides 100% renewable power for a desalination plant.

2. BESS are fundamentally different systems from Solar PV Systems (SPVS). A BESS can connect to SPVS, but a BESS is neither "required" to install solar PV systems, nor is it "incidental" to the installation of solar PV systems. A SPVS can produce energy for use by a connected BESS, but it is not, itself, an energy storage system. A BESS both stores and provides energy, but requires connection to an energy source in order to be charged. These systems may be connected in order that each system may utilize the energy generated by the other, or they may be powered by any other source of energy, including the utility power grid.

3. SPVC and BESS may be connected in a wide variety of configurations. SPVS and BESS can be connected independently of each other and they can also be connected to the same inverter. The systems can be grid connected, and can also be designed to disconnect or "island" from the grid, in the case of a loss of power from the grid. BESS systems can be designed to automatically reconnect to the grid once power from the grid is restored. There are also off grid systems that operate independently of the grid. These systems are called microgrid systems.

4. Just because a SPVC may be connected to a BESS does not make installation of the BESS incidental to the installation of the SPVC. Such adefinition would make anything connected to, or powered by, a SPVC "incidental" work. The power generated from a SPVC may be conveyed through a building's wiring and outlet system, but that does not mean that the building's wiring and outlet system is incidental work.

5. Because they are separate systems, the National Electrical Contractors (NECA) 416-2016 Installation Guide for energy storage systems refers to the "point of connection" between an energy storage system and an electric power production source. This point of connection must comply with the requirements of California Energy Code Article 705. Article 705 covers installation of "one *or more*" electrical power production sources operating in parallel with a primary source. The SPVC and the BESS are each electrical power production sources that can work together or separately.

6. Safety is a huge concern with BESS, both for installers and occupants. Installation of a BESS requires different skills and poses unique risks and hazards from installation of a SPVS. A system that is improperly installed could cause serious public safety hazards, including electrocution, arc flashes, arc blasts, fires caused by shorting or a thermal runaway of a battery storage system. As prescribed in National Fire Protection Association, NFPA 70E, an arc flash hazard calculation needs to be performed to

determine the proper Personal Protective Equipment (PPE) to be worn when working on these systems. The NEIS "Recommended Standards for Installing Energy Storage Systems" 416-2016 states that "A battery is an independent source of stored energy. Voltage is always present in each battery string. Opening the battery disconnecting means does not de-energize the voltage within the battery string itself. The potential for electrocution is greatest at the battery terminals."

7. Requiring appropriately trained electricians and licensed contractors for electrical energy storage installation is necessary to ensure that these systems are installed properly and safely. Because they are distinct systems, energy storage systems have their own distinct national installation and safety standards, such as set forth in the National Electrical Code (NEC), National Fire Protection Association (NFPA 70E), and the National Electrical Installation Standards (NEIS).

I declare to the best of my knowledge that the foregoing is true and correct.

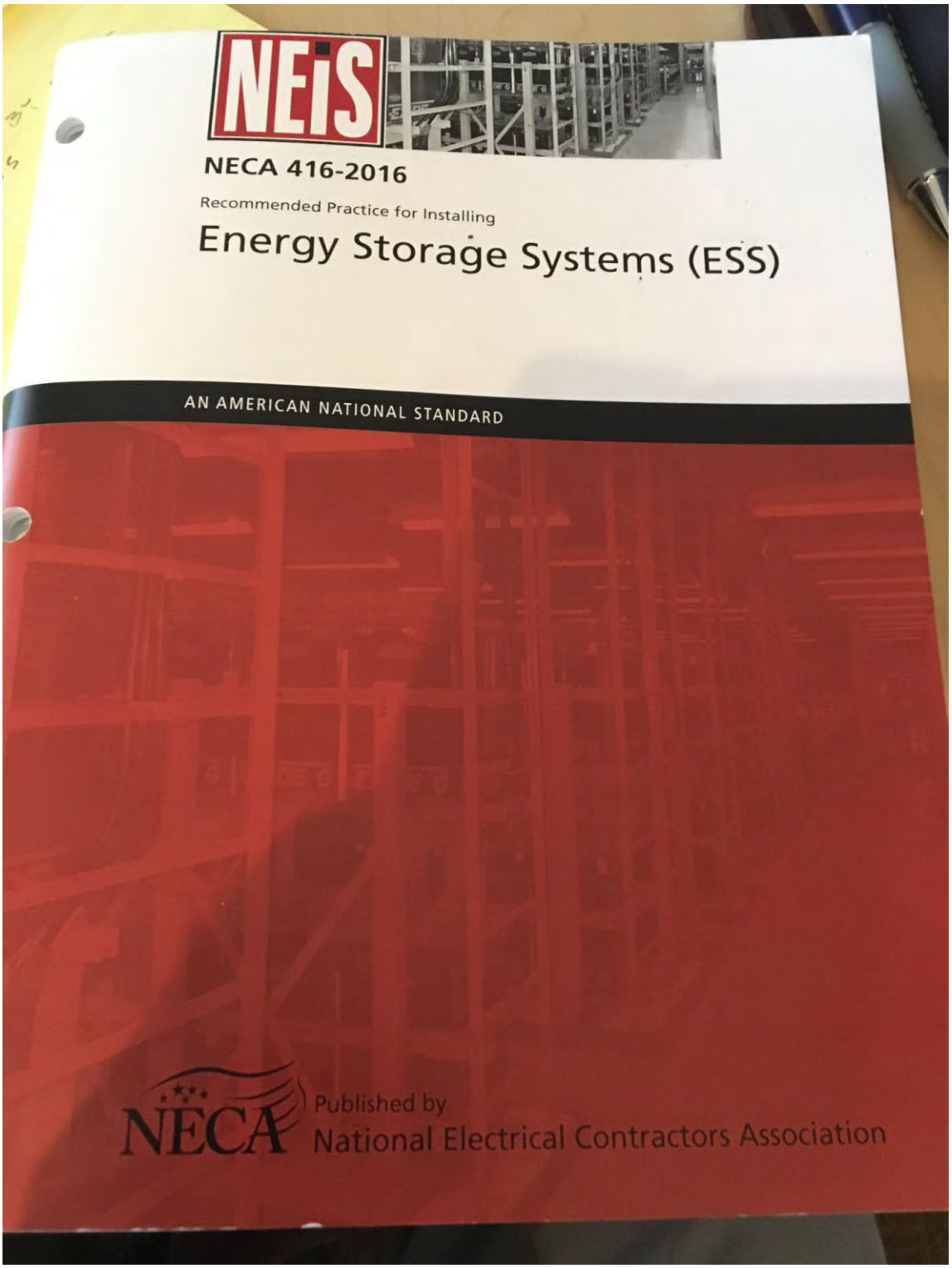
Date: October 9, 2017

//s//

_____

Dan Henrich
President
PDE Total Energy Solutions
9970 Bell Ranch Drive, Suite 109
Santa Fe Springs, CA 90670
Tel 562.204.3550 mobile 562.307.5555

EXHIBIT 2


NEiS
NECA 416-2016
Recommended Practice for Installing
Energy Storage Systems (ESS)
AN AMERICAN NATIONAL STANDARD
NECA
Published by
National Electrical Contractors Association

Additionally, Superconducting Magnetic Energy Storage (SMES) is not covered by this Recommended Practice due to the extremely short discharge time and limited energy capacity that restricts its application to power quality applications only, and not to longer-duration energy storage applications.

1.3 Regulatory and Other Requirements

All information in this publication is intended to conform to the NEC (ANSI/NFPA 70). Installers shall follow the NEC, applicable state and local codes, manufacturer's instructions, and contract documents when installing Energy Storage Systems (ESS).

Only qualified persons as defined in the NEC familiar with the construction and installation of Energy Storage Systems (ESS) and ESS devices and system components shall perform the technical work described in this publication. Administrative functions such as receiving, handling and storing, and other tasks may be performed under the supervision of a qualified person. All work shall be performed in accordance with NFPA 70E, *Standard for Electrical Safety in the Workplace.*

General requirements for installing electrical products and systems are described in NECA 1, *Standard for Good Workmanship in Electrical Construction* (ANSI). Other *NEIS* provide additional guidance for installing particular types of electrical products and systems. A complete list of *NEIS* is

must not be connected to three-phase electric power production systems unless the interconnected system is designed to prevent significant unbalanced voltages. Three-phase inverters and AC modules for ESS must have all phases automatically de-energize upon loss of or imbalance in voltage in one or more phases of the electric power production system unless the interconnected system is designed to prevent significant unbalanced voltages.

7.3 Point of Common Coupling

The point of connection between an ESS and electric power production sources must comply with the requirements of NEC Article 705, and the following:

- An ESS is permitted to be connected to the supply side of the service disconnecting means

e

in accordance with NEC Article 230, provided that the sum of the ratings of all overcurrent devices connected to power production sources does not exceed the rating of the service.

- The outputs of ESS are permitted to be interconnected at a point or points elsewhere on the premises where the system qualifies as an integrated electrical system and incorporates protective equipment in accordance with all applicable sections of NEC Article 685.
- The outputs of ESS are permitted to be interconnected at a point or points elsewhere on the premises when the aggregate of non-utility sources of electricity has a capacity in excess of 100 kW or the service is above 1000 volts, when the conditions of maintenance and supervision ensure that qualified personnel service and operate the system, and when safeguards, documented procedures, and protective equipment are established and maintained.

for not less than 90% of their length. For battery racks, provide a minimum clearance of 25 mm (1 in.) between a cell container and any wall or structure on the side not requiring access for maintenance.

8.2 Battery System Safety

NOTE: A battery is an independent source of stored energy. Voltage is always present in each battery string. Opening the battery disconnecting means does not de-energize the voltage within the battery string itself. The potential for electrocution is greatest at the battery terminals.

EXHIBIT 3

Energy Storage and Microgrid Training and Certification

A collaborative of energy storage and microgrid industry organizations has come together to create Energy Storage and Microgrid Training and Certification, or ESAMTAC. Led by Penn State University, this group includes the National Fire Protection Association (NFPA) which produces the National Electrical Code, the Electric Power Research Institute (EPRI), the National Electrical Industry Standards (NEIS) project which utilizes the American National Standards Institute (ANSI) approval process, the National Electrical Contractors Association, NAATBatt International, the IBEW, the GridSTAR Resource Center at the Philadelphia Navy Yard, The California Clean Energy Fund (CalCEF), and CalCharge.

The Market:

- The energy storage and microgrid (ESM) industry is taking off and revenue is projected to grow at a considerable pace. According to a conservative forecast by Stratistics MRC, the Global Advanced Energy Storage Systems market accounted for $13.64 billion in 2015 and is expected to reach $19.59 billion by 2022, growing at a CAGR of 5.3%.
- ESM revenue forecasts are supported by a number of likely growth factors including a rapid decline in the cost of battery cells that are used in mobile and stationary applications. ES prices are dropping on a trajectory similar to PV solar. Since GM purchased the batteries for the first 2011 Chevy Volts, their costs have dropped more than 70%. The Tesla "gigafactory" in Nevada will be one of many additional contributors to the economies of scale that are forecasted to pull prices down even more. A number of experts have projected that within a few years the cost of Li-Ion cells will drop to a range of $125 - $150 per kWh.
- ESM industry growth will produce substantial business opportunities including a broad array of applications:
  - Backing up and leveling generation produced by rapidly growing PV and wind sources
  - Shoring up the reliability of an aging power grid
  - Managing grid stress to avoid brownouts and blackouts with ES capacity
  - Enhancing grid security (to better withstand physical and/or cyber-attack) by creating smaller, more resilient micro-grids in buildings, public and private campuses, neighborhoods, cities, and regions
  - Energy arbitrage to buy at low cost night rates, store, and use during the day
  - Peak shaving to avoid high utility demand rate charges
- ESM projects range from residential and small commercial applications to large commercial, industrial, defense, and utility-scale projects.

- The ESM opportunity also has a broad geographic footprint. According to the U.S. DoE Energy Storage Exchange, ESM projects and initiatives are active in every region of the United States.

The Challenge: While the exciting and rapidly growing ESM industry is developing, and billions of dollars are being invested, industry stakeholders are concerned about the industry's ability to overcome a number of challenges. Among those are deployment, performance, safety and image. The recent history of the energy storage industry is unfortunately rife with poor execution, bad publicity, or both:

- Sony Battery Plant Fire
  On Nov. 4, 1995, in Koriyama, Japan, a fire erupted at a Sony Corp. plant which produced lithium ion batteries. The 200,000 square foot factory was heavily damaged as the fire raged for seven hours. More at http://www.science-bbs.com/50-chem-electrochem-battery/2d847ee2d95eb1be.htm

- Panasonic (Matsushita) and LG Chem Plant Fires
  In October 2007, Matsushita Battery Industrial Co. halted production of lithium-ion battery cells at their Osaka, Japan production facilities due to a fire which destroyed a significant part of Matsushita's Moriguchi City plant.

  In a similar situation, LG Chem experienced a devastating fire early March, 2008. The fire damaged one of the company's rechargeable battery plants south of Seoul, South Korea. Damages were about $85 million in loss of sales, with production capacity halted for more than two months. More at https://www.frost.com/sublib/display-market-insight.do?id=123729013

- Laptop Battery Recalls

  In 2006, the massive global recall of lithium-ion laptop batteries made by Sony Corp. grew to a total of more than 7 million units, according to the U.S. Consumer Product Safety Commission.

  The recall affected brands including Sony, Fujitsu, Dell, Apple, HP, Lenovo and Toshiba. More at http://www.nbcnews.com/id/15254251/ns/technology_and_science-security/t/sony-laptop-battery-recall-widens/#.U4ZtEixOWUk

- Fires Blamed on the Chevy Volt
  Numerous news stories, with headlines like CHEVY VOLT INVOLVED IN GARAGE FIRE were aired or published in 2011 and 2012. Reports included a Chevrolet Volt investigated for a fire that destroyed a garage in rural Connecticut, and another in North Carolina. More at http://www.leftlanenews.com/chevy-volt-suspected-in-garage-fire.html#ixzz333W6CCGk

While those initial stories made headlines, Fire Marshall's reports - which cleared the Volts - did not make the front page. More at http://www.autoguide.com/auto-news/2011/11/chevy-volt-not-the-cause-of-garage-fire-says-fire-marshall.html

- Boeing Dream Liner Becomes "Nightmare Liner"
  Boeing's global fleet of 787 Dreamliners was grounded in 2013, with airlines suspending service on the most advanced civil airliner, to comply with an order from regulators following an emergency landing by one of the planes. The Federal Aviation Administration instructed airlines to prove that lithium-ion batteries in the model, which went into service in late 2011, "are safe and in compliance," prompting regulators in Europe and Japan to follow suit and putting all 50 Dreamliners operated by eight airlines worldwide out of duty. More at: http://www.bloomberg.com/news/2013-01-16/boeing-787-dreamliner-fleet-grounded-by-u-s-after-emergency.html
- Tesla Vehicle Fire Concerns
  During six weeks of 2014, three fires were reported in the Tesla Model S. More at http://www.usatoday.com/story/money/cars/2013/11/07/third-fire-in-tesla-model-s-reported/3465717/
- Lithium-ion Batteries Banned as Cargo on Passenger Planes
  April, 2016: According to a new ban enacted by the U.N.'s International Civil Aviation Organization, lithium-ion batteries cannot be shipped as cargo on passenger planes. More at http://money.cnn.com/2016/02/23/news/companies/lithium-ion-battery-ban-airplanes/index.html
- Half Million 'Hoverboards' Recalled Over Battery Fires and Explosions
  July 6, 2016: U.S. regulators announced recalls of more than 500,000 "hoverboards". The motorized, self-balancing scooters contain lithium ion batteries that can overheat and catch fire or explode, the Consumer Product Safety Commission said. More at https://www.washingtonpost.com/news/the-switch/wp/2016/07/06/half-a-million-hoverboards-recalled-over-battery-fires-and-explosions/

Considering the public relations challenge, it is not surprising that many energy storage companies and industry organizations are very concerned about safety and what can be done to improve their performance and their image. The U.S. Dept. of Energy (DoE), the National Alliance for Advanced Technology Batteries / NAATBatt (http://naatbatt.org/), and CalCharge (http://www.calcharge.org/) have all stated that energy storage standards, training and certification are a high priority

Energy Storage and Microgrid Training and Certification (ESAMTAC)

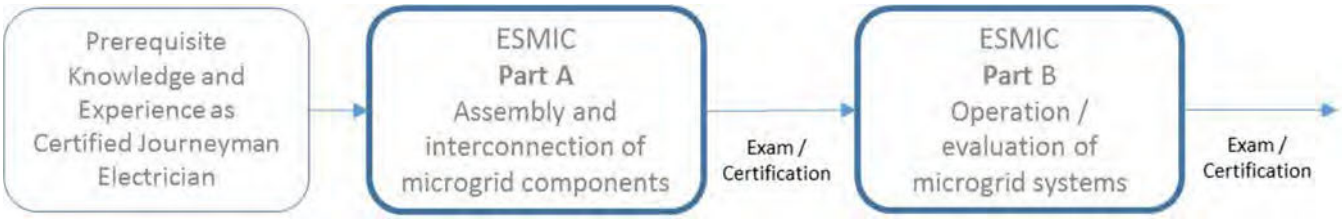
Purpose: To create an education and training program, and credential, that will prepare electrical workers for the safe and effective assembly, testing, commissioning, maintenance, repair, and retrofitting of energy storage and microgrid systems. This will be pursued in a way that leverages expertise in the manufacturing, construction, and energy sectors which are participating in the design and construction of residential, commercial, and utility scale energy storage and microgrid systems. In doing so, ESAMTAC will help advance the growing potential of energy storage systems and microgrids by contributing to the growth of the high quality workforce needed to build and maintain an efficient and resilient electric grid and, at the same time, support the deep penetration of renewable energy in the marketplace.

Development: The Penn State led ESAMTAC team has convened subject matter experts including experienced designers and builders of next generation ESM systems to define the knowledge, skills, and key competencies required to assemble, commission, maintain and retrofit grid interactive ESM systems. Tasks for the credential are now being defined by experts in the ESM industry, and verified through the observation of actual ESM construction on select case study projects. The knowledge, skills, and competencies for each task are being defined with corresponding testing and skills demonstration requirements for each. Curriculum and online learning modules are being designed, including simulation tools and active learning exercises that address the gaps in existing education and training programs. These tools will be evaluated this fall (2016) for their effectiveness in classroom and online learning settings including an instructor training workshop in which participants are provided opportunities to experiment and provide feedback.

Training Sites: ESAMTAC will be taught at industry training centers, community colleges, and utility training facilities by ESAMTAC instructors beginning in early 2017.

Schematic Program Concept: ESAMTAC consists of two courses and related credentials. The Primary Course (or Part A) builds knowledge and skills to construct and test microgrid systems and components with an emphasis on energy storage systems. The Primary Course focuses on a ***component-level*** understanding of microgrid systems.

The Advanced Course (or Part B) builds upon Part A with an emphasis on the processes and tasks to support the more advanced commissioning, operation, maintenance, repair and retrofitting (C-O&M) of ESM systems and the electrical skills and safety competencies needed to supervise the safe execution of C-O&M activities by crews which may include some non-credentialed individuals. The Advanced Course focuses on a ***systems-level*** understanding of microgrid systems.



Energy Storage and Microgrid Installation Certification Program Design

Primary Course: Energy Storage and Microgrid Systems Construction Certification (32 hours)

Description: This credential is designed to recognize knowledge and skills required for the safe and productive assembly of micro grid systems with an emphasis on the construction of large stationary battery systems. The training and certification process is designed to build upon a robust background in electrical construction including knowledge of safety codes and standards. A significant emphasis is placed on the knowledge of micro grid system components and attributes related to safe assembly and handling, and the interconnection of micro grid system components. The laboratory portion of this certification focuses on the handling and assembly of battery cells, assembly of strings in open and cabinet conditions, and the steps required to energy and de-energize strings of cells in support of safe assembly and cell removal/replacement.

ESAMTAC Primary Course, Major Tasks and Subtasks Included
EPRI Approved Certification: *Assembly of ESM Systems*

1. Plan EMS Construction
    a. Plan review
    b. Identify safety hazards
    c. Re-examine conditions in the event of a change
2. Identify Interconnection Requirements
    a. Verify utility approval
    b. Interconnection permitting
3. Assess Site Conditions
    a. Verify design drawings for existing/proposed conditions
    b. Assess existing site characteristics (Subsurface conditions, Power quality, load profile, utility capacity)
    c. Assess conditions of existing equipment and maintenance records of existing equipment
    d. Arc flash risk assessment / incident energy analysis
    e. Verify existing equipment locations / conduit / space conditions / size, working space, access / labeling
    f. Verify access to and condition of communication systems
    g. Identify points of coordination with communication, emergency systems
    h. Verify high hazard area / egress (NFPA 101)
    i. Overcurrent protection coordination study

4. Manage ESM Materials / Equipment
    a. Verify equipment / materials / Storage requirements
    b. Acceptance testing
    c. Verify equipment functions
    d. Vendor supplied / owner supplied / contractor provided equipment /supplies
    e. Existing lighting, outlets & power
5. Prepare Tools and equipment – Training Where Required
    a. Specialty tools
    b. Fall protection
    c. Rescue equipment
    d. Materials handling / lift
    e. Unique PPE
    f. Test instruments w/ ratings
6. Perform Layout / Location of Equipment
    a. Equipment
    b. Distribution Hangers
    c. Clearances
    d. Penetration / sealing
7. Set ESM Equipment
8. Install Cabling
    a. Verify size/type of conductors based on field conditions / layouts
    b. Verify types size of tools
    c. AC conductor installation
    d. DC conductors installation
    e. Battery connections / terminations – accumulation of hazards as strings are assembled – procedural and order is key
    f. Battery monitoring
    g. Terminations / crimping
    h. Torqueing
    i. Document termination / torque level
    j. Grounding and bonding
9. Energizing, De-energize, Isolate Equipment
10. Turnover Training to Operator / Owner / Manager
11. Complete Labeling / Documentation

ESAMTAC Skills Testing

A hands-on skills test will be included in the Primary Certification. Laboratory design:

1) The focus of the lab will be on energy storage systems and potentially battery management systems and controllers that are immediately connected to and required for the operation of strings of battery cells. *Task list*:

a) Demonstrate knowledge and use of protective equipment, clothing, and tools
b) Demonstrate safe handling methods of battery cells
c) Demonstrate knowledge of assembly and working in enclosures including containers and battery racking systems
d) Assemble string of cells with either or both bus bars and cables and record measured voltages from individual and strings of cells
e) Demonstrate understanding of string isolation systems
f) Demonstrate ability to make connections between battery array and battery management systems including DC conductors and monitoring/instrumentation systems.
g) Demonstrate ability to complete appropriate documentation of ESM work as required for warranty assurances, permitting, inspection, and commissioning activities

2) A set of standards for the lab apparatus defined to enable training and certification bodies to conduct the examination on equipment that is available based on their unique site and conditions.
3) The design of a standard "kit" for the laboratory will also be pursued from at least one industry partner who could make the system available for purchase.

Primary Course Curriculum Topics:

I. Introduction
    a. Advantages and benefits
    b. Markets and Applications
    c. Development process
    d. Preview & Role of credential
    e. Terminology
II. Science and Technology, Economics of most common systems & life cycle
III. Safety, Codes, and Regulations
    a. Battery technologies and chemistries
    b. Rigging and material handling
    c. Processes and applications
    d. Inside-out, O&M (NFPA 70E integration)
    e. Outside-In (first responder support)
IV. Systems and topologies
    a. Components
    b. Systems & Topologies / Inverter types / Monitor & Control strategies
    c. Generation technologies: CHP, solar, wind
    d. Storage technologies
        i. Methods
        ii. Battery chemistries
V. O&M, replacement, decommissioning
VI. Mechanical and structural considerations
VII. Lab Component: Emphasis on tools and PPE related to assemble of stationary BESS systems

ESAMTAC Advanced Course: Energy Storage and Microgrid Commissioning, Operations, and Maintenance (32 hours) - EPRI Approved Certification

Description: This advanced credential will build upon the Primary course/credential and will focus on the development of systems-based competencies of energy storage, photovoltaic, and microgrid systems and the knowledge and skills that will enable the recipient to support and or supervise the commissioning, operation, maintenance, troubleshooting, upgrading, and replacement of microgrid components and systems. This credential prepares the recipient for roles including: (1) supporting functions required to interface and coordinate with component systems and respective manufacturing and application engineering professionals; (2) performing tasks associated with regular testing, maintenance of energy storage and PV systems; (3) maintaining documentation and communications related to operations and servicing of microgrid systems, and (4) supervising any or all of the functions above. Prerequisites for the Advanced Course will include the Primary Course and Credential as well as experience working with customer relations and servicing of occupied and/or operational facilities.

Topics:

I. Smart Building Systems
II. Power systems communication infrastructure
III. Component parts & protocols of ESM systems
IV. SCADA / interface systems
V. Operations and reset procedures
VI. Cyber security networking / Network segmentation
VII. Design & code compliance / certification
VIII. Site controller interface and programming
IX. Evaluation of monitoring data
X. Sensors and monitoring systems
XI. Commissioning and testing standards
XII. Advanced troubleshooting methods for BESS systems
XIII. O&M processes & Retrofit procedures


PENNSTATE
1855


CalCharge


PENNSTATE
GridSTAR
Grid Smart Training Application & Resource Center


NAATBatt
National Alliance for Advanced Technology Batteries


EPRI
ELECTRIC POWER RESEARCH INSTITUTE


NECA
NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION


NFPA®


CALCEF


INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
ORGANIZED NOV. 28 1891


ANSI
American National Standards Institute


NEIS

EXHIBIT 4

Battery Energy Storage Systems

A guide for Electrical Contractors

Battery Energy Storage Systems (BESS) are being installed in increasing numbers in electricity distribution networks, homes, remote area power supplies and commercial/industrial installations. Electrical contractors may be asked to recommend and quote for a BESS or install, commission and test a system designed or selected by others. The BESS may or may not form part of a solar PV installation. It is important they familiarise themselves with the systems and relevant safety requirements prior to doing work on BESS.

Over the last few years battery technology has undergone rapid change, with a range of new chemistries being developed. Current Australian Standards do not cover many critical aspects, creating potential safety hazards for installers, owners/operators and the general public.

Standards Australia is developing a new standard (AS/NZS 5139) for battery installations but its release date is not yet clear.

For this reason, Energy*Safety* has prepared the following guidance to alert electrical contractors and electricians to the safety issues associated with BESS. The guiding principle is one of careful design and specification of equipment for each specific installation to achieve the highest practicable standard of "safety in design". This is the responsibility of all parties providing the equipment to the customer.

The Clean Energy Council's publication *Grid-Connected Energy Systems with Battery Storage* provides comprehensive requirements for its accredited installers (http://www.solaraccreditation.com.au/installers/compliance-and-standards/accreditation-guidelines.html). The Australian Energy Storage Council (ESC) also has produced a *Guide for Energy Storage Systems* (www.energystorage.org.au).

Network operator requirements

Network operators may have requirements affecting selection and installation if the BESS is to be grid-connected. Electrical contractors need to check with the relevant network operator to ascertain all compliance requirements.

Electrical contractors may have to submit a Preliminary Notice to the relevant network operator as a means of ensuring its requirements are known and understood. The network operator may require full technical details of the proposed BESS. Approval from the network operator is required before it will agree to connect. Battery storage may mask a customer's true demand which can be suddenly imposed on the network if the BESS ceases to operate.

BESS Risks

Batteries can be a serious safety risk for occupants and installers if incorrectly installed and operated, potentially leading to electric shock, fire, flash burns, explosion or exposure to hazardous chemicals and released gases.

Various battery types will have different probability of failure and varying consequences of that failure (ie a different risk profile). Those responsible for the specification and/or supply of the BESS must ensure that an appropriate risk assessment is undertaken for the specific customer circumstances, location, the equipment proposed and its installation.

Any business installing a BESS must ensure the safety of workers and customers. The BESS must be installed, commissioned and maintained correctly to ensure this. Electrical contractors may need to train customers so they can operate and shut down their BESS safely. Some customers may have technically competent staff on site but most will not.

Department of **Commerce**
Energy*Safety* Division

Energy*Safety*
Level 1/303 Sevenoaks Street (entrance Grose Avenue)
Cannington Western Australia 6107
Administration: 6251 1900
Licensing: 6251 2000
Facsimile: 6251 1901
Email: energysafety@commerce.wa.gov.au
www.energysafety.wa.gov.au

Battery types

Many different battery technologies are available for use as a BESS. Some of these have been in use for many years while others have only recently been developed. Some of the common battery technologies on the market are:

- lead-acid;
- nickel cadmium;
- lithium ion;
- nickel metal hydride;
- sodium ion;
- sodium sulphur; and
- vanadium Redox Flow.

Each of these has different performance characteristics which must be considered when selecting a BESS to suit a customer's needs.

Manufacturers also offer a few options for BESS, including:

- a pre-packaged battery module (enclosed factory- connected batteries);
- a pre-packaged system (enclosed factory connected batteries with other components such as a charger control or inverter); or
- a custom-made battery bank (individual batteries installed with other components and interconnected).

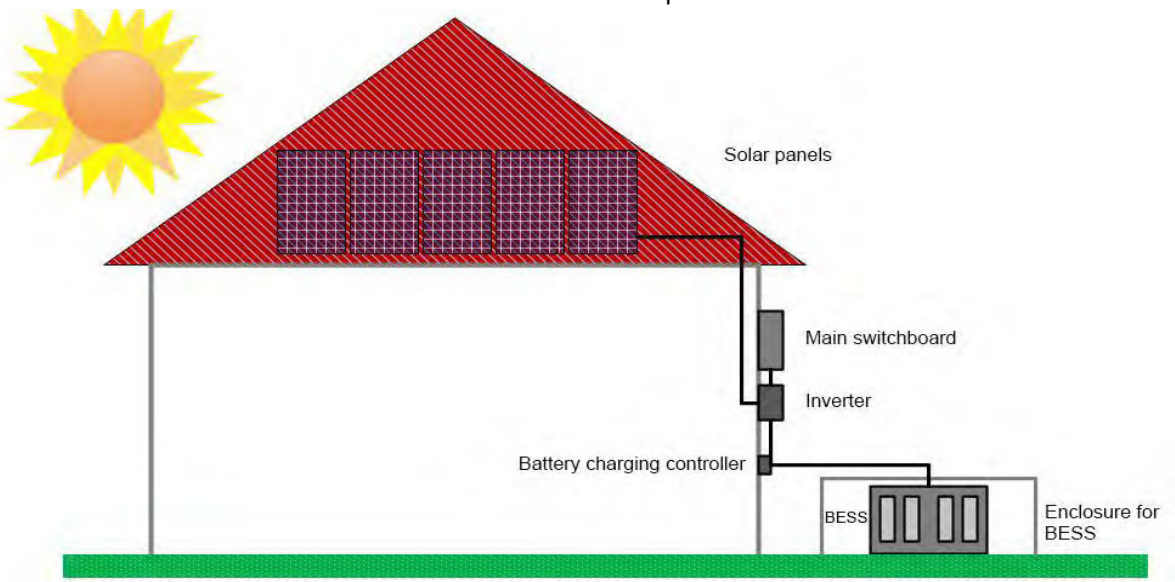
BESS selection

A BESS needs to suit a customer's electricity demand profile. Customer installations connected to network operator distribution systems are designed to export power into the grid, while remote area supplies are not. BESS in remote installations may have to be integrated with wind and/or diesel generators as well as solar PV panels.

Competency requirements

Electrical contractors must ensure their employed electricians have been trained and are familiar with the particular BESS they are asked to install or maintain. BESS designers must be competent in electro-technology and be familiar with such systems, including risk assessment methodologies.

The following sketch depicts one typical example of a solar photo-voltaic installation with battery storage for a domestic dwelling. Many other designs and installations are possible to reflect site-specific circumstances



Domestic installation with solar panels and battery storage

Hazards associated with BESS

Installers and owners must be aware of hazards associated with the chosen technology and know how to handle, install and operate the system safely.

Electric shock

Banks of battery cells can deliver a severe electrical shock. There are likely to be 230 volt-rated parts or other system components operating at hazardous voltages.

The battery bank must be electrically isolated while any work is being performed on it or upstream or downstream parts of the system. Battery terminals must be isolated with secure insulating barriers.

Before proceeding, a risk assessment is to be carried out, a Safe Work Management Procedure is to be prepared and suitable protective equipment and insulation barriers must be used.

A drawing showing any remote battery bank locations must appear on the main switchboard. Minimum labelling for grid-connected inverter systems are set out in AS 4777.1:2016, which includes requirements for battery storage.

Arc flas

A battery has sufficient energy to cause an arc flash if it su fers a short circuit or fault. An arc flash can have temperatures above 12,000°C, capable of melting metal or causing fires and explosions. Generally higher battery energy storage capacities have a higher risk of arc flash. Arcing faults may cause catastrophic failure of battery cell enclosures unless the fault currents are removed quickly by correctly rated electrical protective devices.

Fire and explosion

Most lead-acid batteries generate hydrogen and oxygen when charging. Other battery types also emit flammable gases and need adequate ventilation to avoid an explosion, fire or risk to occupants.

Lithium-ion batteries do not produce any exhaust gases during normal operation, but they can produce flammable and toxic gases if there is a fault.

Fire and explosions can result from component failure, a short circuit or loose connections. The chemistry of lithium-ion batteries makes them prone to ‘thermal runaway’ if they are damaged or overheated by overcharging. Elevated ambient temperatures should be considered by the installer when locating a BESS on a customer premise. Some brands of lithium-ion batteries have superior features intended to prevent the uncontrolled rupture of cells under runaway conditions making them inherently safer.

Hazardous chemicals

Battery casings can degrade or be damaged by impacts. They can also rupture as a result of excessive temperatures and excessive pressure generated from a change in chemical reaction from over-charging or following a short circuit. Electrolyte (fluid or gel) can leak from a ruptured casing, resulting in toxic fumes, burns, corrosion or explosion.

Some compounds produced during the failure of a cell can be extremely toxic. The clean-up, decontamination and disposal of damaged equipment may require specialised equipment and skills. Disposal of contaminated items or batteries at the end of their service life usually will require treatment as a hazardous waste.

Electrical safety requirements in Western Australia

BESS installations in WA must comply with applicable regulatory requirements, including:

- *Electricity Act 1945*;
- AS/NZS 3000:2007;
- The Australian Building Code;
- WA Electrical Requirements (WAER);
- The network operator’s technical rules;
- The network operator’s consumer connection agreement; and
- AS 4777 - Grid connection of energy systems via inverters - Installation requirements and, where applicable, AS 5033 – Installation and safety requirements for photovoltaic (PV) arrays.

Depending on the battery technology used, the following Australian Standards may be applicable:

- AS 3011-1992, Electrical installations — secondary batteries installed in buildings;
- AS 2676.1-1992: Guide to the installation, maintenance, testing and replacement of secondary batteries in buildings - Vented cells;
- AS/NZS 4509.1:2009;
- AS/NZS 4509.2:2010: Stand-alone power systems – System Design; and
- AS 4086.2—1997: Secondary batteries for use with stand-alone power systems – Installation and Maintenance.

Minimum Installation Requirements

As a reminder, the following key requirements from the Wiring Rules apply:

- All components of the electrical installation must be properly selected and installed for the application (Clause 1.7 of AS/NZS 3000:2007).
- All components of the electrical installation must be installed in accordance with the BESS's manufacturer's instructions.
- Installation work practices must be in accordance with the Wiring Rules.
- Wiring systems and cables must be selected and installed in accordance with the Wiring Rules and be adequately protected against external influences i.e. mechanical impact, UV and environmental damage.
- The short circuit circuit/fault current ratings of BESS are specified by the manufacture . It is imperative that the overcurrent protection device (fuse/circuit breaker) is adequately sized to cope with such currents.
- Battery Isolation - Correctly-sized DC switch/ isolators must be installed to completely isolate a battery from all circuits connected to it during maintenance.
- AC and DC circuits must be properly segregated from each other with the DC circuit labelled.
- All switches must be clearly labelled.
- Adequate signage should be provided with the BESS, including:
    - Signage for Grid-connected BESS shall be provided according to AS/NZS 4777.1:2016.
    - Signs for stand-alone power systems incorporating BESS shall be according to AS/NZS 4509.

      For all other systems as a minimum the following sign must be provided
    - A sign must be provided indicating that the switchboard has alternative energy sources and showing the BESS location on the premise.

    - A sign indicating "Danger of battery explosion from open flames, sparks and smoking".

    - A sign explaining the shutdown procedures for the BESS.
- Main Battery Fuses – A battery's fault current is limited only by its internal resistance. If short-circuited, a battery can deliver an extremely high current in a short space of time, in the order of 100 to 1,000 times the typical discharge current normally used. This will cause explosive failure of the battery unless circuit protection operates very quickly.

A protection device should be located as close as practicable to the main output terminals of the battery. Any cabling to the location of protective fuses or circuit breakers should be double insulated.

Location

Given their particular risks, some BESS batteries are not suitable for installation in habitable parts of homes or an attached building, while others may be specifically designed for indoor locations such as laundries or garages.

Prior to the selection of the installation location, a risk assessment should be conducted by a competent person familiar with the chosen technology, with due consideration for the consequences of a contingency event. Where batteries are sensitive to operating temperature, particular consideration should be given to this matter in the risk assessment. A copy of this risk assessment should be provided to the customer as part of the equipment documentation.

Manufacturer's guidelines should be strictly followed.

A BESS may be mounted on a suitable outside wall (with an appropriate IP rating) or installed in a fire and weatherproof enclosure. The fire rating of an enclosure is particularly important if the BESS is to be indoors. Installers must pay due regard to the manufacturer's recommendations about operating temperature limits, exposure to direct sunlight and avoidance of impact risks. Pre-packaged BESS may include weatherproof enclosures for outdoor mounting and may not need any additional protection.

Enclosures should prevent access by untrained people, children, pets or vermin.

The following should be considered when selecting a suitable location:

- Building codes applicable to batteries (national and local) and changes to floor loadings. The National Construction Code (NCC) also has specific requirements for battery installations. Please refer to the NCC for more details;
- if located in an electrical switch room, the room complies with Wiring Rules requirements;
- the location complies with the manufacturer's recommendations to protect the system from weather and extreme heat, light and temperature, which may reduce performance, the life span of the system or trigger one of the hazards mentioned above. Most batteries have an optimal operating temperature range to achieve their design life and maintain safety. In Western Australia, locations exposed to north and west-facing aspects are undesirable for BESS installations for reasons of high solar radiation;
- the room or enclosure must be suitably ventilated for the location and the type of BESS;
- the enclosure must be capable of containing any electrolyte spills (if applicable);
- adequately fire-rated walls are used to avoid or delay the spread of fire, should it occu , giving fire authorities time to attend the scene
- suitable means of access/egress to the area is provided during installation and for maintenance work; and
- the enclosure provides adequate mechanical protection to the BESS.

Testing, verification and commissioning

The BESS must be tested and commissioned in accordance with the network operator's requirements, manufacturer's instructions and relevant standards, including the Wiring Rules.

When the BESS installation is complete, the electrical contractor must submit a Notice of Completion to the relevant network operator or to Energy*Safety* for non-grid connected or remote installations. In either case, the installation may be subject to a safety inspection by an Inspector (Electricity), who may require access to the BESS owner's documentation package, including the risk assessment. In addition, the electrical contractor is also required to provide an Electrical Safety Certificate to the customer/owner of the electrical

installation in accordance with the Electricity (Licensing) Regulations 1991.

Hand-over must include owner and user training on:

- how to operate the BESS safely and shut it down in an emergency;
- the purpose of various safety warnings and lights; and
- safety data sheets.

Maintenance

The BESS owner's documents must include the maintenance requirements specified by the manufacturer, which should be followed. They must be performed by a licensed electrical contractor unless operating at ELV.

National Relay Service: 13 36 77
Quality of service feedback line: 1800 30 40 59
Translating and Interpreting Service (TIS) 131 450

This publication is available in other formats on request to assist people with special needs.

Regional Office

Goldfields/Esperance	(08) 9026 3250
Great Southern	(08) 9842 8366
Kimberley	(08) 9191 8400
Mid-West	(08) 9920 9800
North-West	(08) 9185 0900
South-West	(08) 9722 2888

March 17/ online only
ESWA E072 0417

EXHIBIT 5

Household battery storage is a game changer – but is it safe?

By **Sophie Vorrath (https://onestepoffthegrid.com.au/author/sophie-vorrath/)** on November 25, 2015

Amid all the hype about the booming residential battery storage market, remarkably little has been said about the safety of putting what amounts to a mini-power plant in your home.

As ZEN Energy founder and boss Richard Turner told One Step last month (http://onestepoffthegrid.com.au/how-garnaut-co-plan-to-help-communities-take-the-power-back-from-the-grid/), installing a residential battery storage system is no small thing – indeed, we have heard it described, on numerous occasions by various energy industry insiders, as the most dangerous item you will ever put in your house.

(http://onestepoffthegrid.com.au/wp-content/uploads/2015/11/170-44Yewdall-n.jpg)

"We've got a bit of a challenge in educating people about energy storage," Turner said, referring not only to the way batteries work as part of a residential energy system, but also to "all these people bobbing up saying they're energy storage experts.

"It takes years to understand lithium-ion batteries. It's a very very slow process. ... People need to be mindful that, with solar and storage, you're putting a full power plant in your home."

Turns out, the Clean Energy Council has also noticed this knowledge gap and, with the launch this week of Australia's first home energy storage safety guide in collaboration with CSIRO, is doing something about it.

Backed by ARENA, the consumer safety guide and the energy storage safety report were completed by CSIRO as part of the Clean Energy Council's Future-Proofing in Australia's Electricity Distribution Industry (FPDI) project.

CSIRO Energy Group Leader Dr Sam Behrens said it identifies a number of safety challenges and knowledge gaps to overcome in the next few years, as energy storage technologies are rolled out across Australian domestic and small commercial markets.

"We're seeing a lot of momentum with domestic energy storage system safety among government, industry and research bodies, so this is a timely point to release our findings," he said.

CEC chief, Kane Thornton, said the lead-out time provided the industry with a rare opportunity to work on standards and regulations to ensure the integrity of energy storage technology before it had been widely adopted.

(http://onestepoffthegrid.com.au/wp-content/uploads/2015/11/Screen-Shot-2015-11-25-at-11.47.58-am.png)

"The CSIRO Energy Storage Safety report takes an in-depth look at the different kinds of batteries, best practice safety and installation requirements, safe operation, disposal and recycling of energy storage products and systems," he said.

"(It) identified a lack of information on battery systems in general, as well as a need for standards to be updated for these new technologies, Australian battery disposal and recycling initiatives, and better education for emergency services.

For ZEN Energy's Turner, this general lack of understanding of how batteries work, and how their power output and storage capacity is rated, is another key knowledge gap to address.

"You need to be pricing energy storage systems not only by the kWh, but also by its capabilities," Turner told One Step.

"It's very important to understand the amount of power that a battery can put out. What we're finding is majority of imported systems can only put out 2kW of power, and that only just covers the air-con.

"People need to be very very aware, not only how many kWh their storage system is, but how much power the battery system can put out."

But the good news, says Thornton, is that the CEC has already started work on addressing many of the recommendations in the CSIRO report through its Australian Energy Storage Roadmap, we released at the beginning of the year.

Here are the CSIRO's top recommendations:

– Improve awareness of and access to information on the variety of battery energy storage technologies and their appropriate operation and care among consumers (general public), designers (engineers and electrical tradespeople) and installers (electrical tradespeople).

– Research and identify the best methods for lithium-ion battery storage system recycling, and establish a lithium-ion battery recycling initiative.

– Research and identify the best methods to safely (passively) extinguish domestic and small commercial-scale lithium-ion battery storage fires.

– Align Australian and international standards, and improve local regulatory and building codes relevant to energy storage systems.

– Establish a set of best practices specific to the battery storage industry, including development and upkeep of an installation, maintenance and incident reporting database for energy storage systems in Australia.

– Develop training and nationally recognised accreditation pathways for designers and installers specific to energy storage in domestic and small commercial scales.

Energy Storage Safety: Common consumer questions and the report Energy Storage Safety: Responsible installation, use and disposal of domestic and small commercial systems are available on the FPDI website (http://fpdi.cleanenergycouncil.org.au/).

The Clean Energy Council released the Australian Energy Storage Roadmap (http://www.cleanenergycouncil.org.au/policy-advocacy/storage-roadmap.html) at the beginning of 2015, to provide a framework for the development of the emerging sector.

5 25

Categories Battery/Storage (https://onestepoffthegrid.com.au/category/battery-storage/)

Tags battery storage (https://onestepoffthegrid.com.au/tag/battery-storage/)

energy storage (https://onestepoffthegrid.com.au/tag/energy-storage/)

solar plus storage (https://onestepoffthegrid.com.au/tag/solar-plus-storage/)

Theme Households (https://onestepoffthegrid.com.au/themes/households/)

Previous Post: An innovative business model makes solar accessible to all (https://onestepoffthegrid.com.au/an-innovative-business-model-makes-solar-accessible-to-all/)

Next Post: Private electricity grids fuelled by renewable energy the future for communities (https://onestepoffthegrid.com.au/private-electricity-grids-fuelled-by-renewable-energy-the-future-for-communities/)

WE RECOMMEND

More solar beer as Melbourne boutique brewer installs 100kW...

(https://onestepoffthegrid.com.au/beer-melbourne-boutique-brewer-installs-100kw-rooftop-pv/)

Solar

Solar Insiders Podcast February 7

(https://onestepoffthegrid.com.au/insiders-podcast-february-7/)

Battery/Storage,Solar

Explainer: 12 things to know about Tesla's world's biggest...

(https://onestepoffthegrid.com.au/12-things-know-teslas-worlds-biggest-virtual-power-plant/)

Battery/Storage,Solar

Healing with solar in Puerto Rico

(https://onestepoffthegrid.com.au/solar-puerto-rico/)

Solar

Solar + Tesla battery storage offered as sweetener for...

(https://onestepoffthegrid.com.au/tesla-battery-storage-offered-

CSIRO virtual power station trial cuts household power costs by...

(https://onestepoffthegrid.com.au/virtual-power-station-trial-cuts-

Battery/Storage Energy Efficiency Solar

sweetener-knockdown-rebuild-Battery/Storage,Solar homes/)

household-power-costs-60/)

Subscribe via RSS (https://onestepoffthegrid.com.au/feed/)

Sign up for our weekly newsletter

Name

Email

Submit

FROM OUR SISTER SITE RENEW ECONOMY

Dispatchable wind and solar: They'll be the death of coal and gas (http://reneweconomy.com.au/dispatchable-wind-and-solar-theyll-be-the-death-of-coal-and-gas-45032/)

Adani coal plans take another hit, as Aurizon withdraws loan request (http://reneweconomy.com.au/adani-coal-plans-take-another-hit-aurizon-withdraws-loan-request-20213/)

CEFC invests $25m in Australia's first residential housing green bond (http://reneweconomy.com.au/cefc-invests-25m-australias-first-residential-housing-green-bond-70225/)

GOP congressman powers his off-grid solar home with Tesla battery

(http://reneweconomy.com.au/gop-congressman-powers-off-grid-solar-home-tesla-battery-58844/)

High German power prices, low monthly bills?

(http://reneweconomy.com.au/high-german-power-prices-low-monthly-bills-18559/)

EXHIBIT 6

ENERGY
RESPONSE SOLUTIONS

!

Energy Storage System Safety:

Comparing Vanadium Redox Flow and Lithium-Ion Based Systems

Energy Response Solutions, Inc. | 831-566-3057 | www.energyresponsesolutions.com

ENERGY
RESPONSE SOLUTIONS

Disclaimer

The information presented in this report, including any findings and conclusions, is for educational purposes only. Any references to specific products, manufacturers, or contractors do not constitute a recommendation, evaluation or endorsement by Energy Response Solutions, Inc. of such products, manufacturers or contractors. The recipient of this report must make the decision whether to take any action. Energy Response Solutions, Inc. undertakes no duty to any party by providing this report or performing the activities on which it is based. Energy Response Solutions, Inc. makes no warranty, express or implied, with respect to any product or process referenced in this report. Energy Response Solutions, Inc. assumes no liability by or through the use of any information in this report.

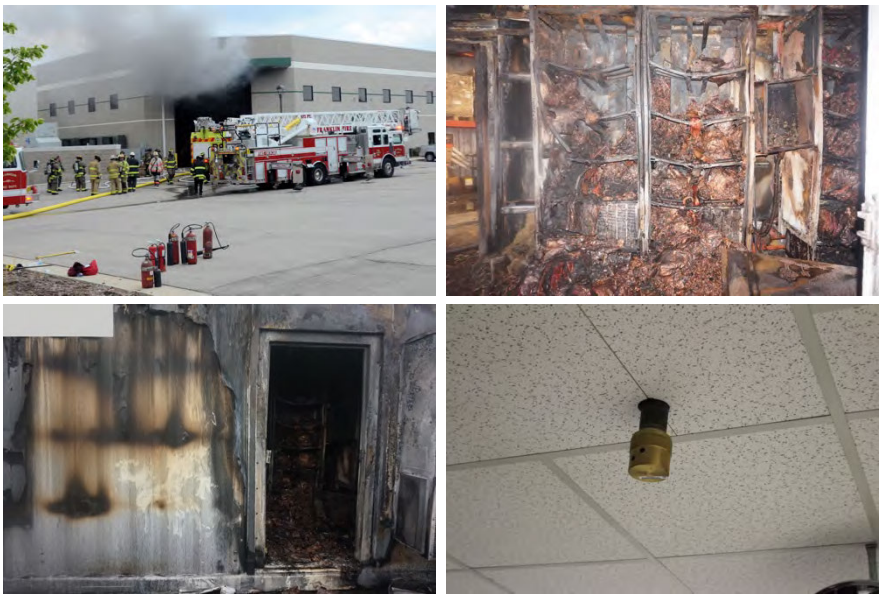
ENERGY
RESPONSE SOLUTIONS

Table of Contents

ENERGY
RESPONSE SOLUTIONS

"The flammable gases generated from (Li-ion) batteries are the main source of explosion risk".

- DNV-GL/ConEd Report



Introduction

The nascent field of large format stationary energy storage systems (ESS) is expected to experience significant growth in all sectors of the US power grid, from residential to utility installations. The specific technology and chemistry selected for a particular project takes into account many factors with safety taking a higher priority for many of these design decisions. The knowledge base of some ESS chemistries is also at an early stage in its development of installation codes, standards, and regulations (CSR).

The potential risks in early adoption of new technologies includes:

(1)! An immature regulatory landscape that may impose more stringent requirements than necessary out of an abundance of caution.
(2)! Imposing less stringent requirements than prudent, based on misconceptions of the inherent dangers of the underlying technologies.
(3)! Withholding any approvals until specific requirements and sufficient documentation on safety exist.

This paper will compare, at a high level, the safety considerations for lithium ion batteries and vanadium redox flow batteries and how the systems function and behave; it will also review the relevant standards for these technologies.

As of 2017, the current state of operational stationary ESS installations consists primarily of commercial and utility scale systems, both in front of and behind the meter.

Drivers for the wide deployment of ESS include both cost reduction and operational resiliency as well as additional grid services including, but not limited to:

•! Local and statewide energy storage incentives and mandates.
•! Reducing demand charges.
•! Load shifting for time-of-use savings or arbitrage.
•! Grid support services such as frequency regulation and ramping needs.
•! Smoothing or buffering of intermittent renewable resources (PV or wind).
•! Back-up of electrical loads in the event of outages.

ESS Types

Table 1: Common ESS Types

	Common types of ESS
Pumped Hydro	Water is pumped from a lower elevation source during periods with reduced electric rates to a higher elevation for storage and used to spin generators at higher electric rate periods.
Mechanical	Compressed air energy storage (CAES) pumps air into caverns or tanks at high pressures and releases it to spin generators. Flywheels utilize kinetic energy in large mass cylinders spinning at high RPMs in a vacuum. When power is needed, a motor engages to generate electricity as the wheel spins down.
Thermal	Solar radiation is focused on a heat transfer medium, which can be used to generate steam to spin generators for electrical energy production. This heat can also be stored in oils or other fluids, or as molten salt, for use when solar radiation is not available.
Electro-chemical	Electrical energy is stored via chemical bonds or via reversible chemical processes require an electrolyte and electrodes (cathode and anode)

Electrochemical Energy Storage

Though pumped hydro, based on storage volume of reservoirs and dams, still comprises the bulk of energy storage in the US, electrochemical energy storage is growing rapidly and poses more unique threats of greater consequence and likelihood than does elevated water.

Fire safety and prevention personnel should take special note of these technologies, as they are among the most rapidly declining in cost, technically mature, and are more widespread and are rapidly entering markets across the country.

Within the family of electrochemical batteries, there are several sub-types each with their own chemistries and fire protection needs. This paper will introduce this family of ESS, then provide further insight into the two most prevalent technologies – lithium-ion and flow batteries:

Lithium Ion:
LiCoO2 - Lithium Cobalt Oxide
LiMn2O4 - Lithium Manganese Oxide
LiNO2 - Lithium Nitrogen Oxide
LiAlO2 - Lithium Aluminum Oxide

These chemistries are mainly used in consumer products, like cell phones, laptops, hover boards, etc.

LiTiO3 - Lithium Titanate ("L-Titanate")
LiFePO4 - Lithium Iron Phosphate ("LFP")
LiNiMnCoO2 - Lithium Nickel Manganese Cobalt ("NMC")
LiNiCoAlO2 - Lithium Nickel Cobalt Aluminum ("NCA")

These chemistries are most common in mobile transportation (EV's) and stationary ESS.

Other Traditional Technologies: Lead-acid (flooded and AGM), Nickel-metal hydride, Nickel-iron.
Sodium Beta: Sodium sulfur most common
Flow Batteries: Vanadium redox, Zinc-Bromine, Iron-Chromium, Iron-Iron

Hazards

There have been concerns expressed from several groups of stakeholders— property owners, insurance underwriters, fire service, and building code officials— regarding the risk of overheating, flammable and toxic gas production, thermal runaway, leakage of hazardous materials, and stranded energy in damaged batteries.

The ESS field includes a variety of technologies, each with a range of potential hazards from corrosive spill hazard to explosion. The types of ESS and their sub-families, are important to understand so that the specific hazards can be better mitigated.

Table 2: Typical Hazards by ESS Type

Risk	Lithium-ion	Flooded Cell	Sodium Sulfur	VRB Flow Battery
Voltage	X	X	X	
Arc-Flash/Blast	X	X	X	
Toxicity	X	X	X	X
Fire	X	X	X	
Deflagration	X	X		
Stranded Energy	X	X	X	

Electrical Shock/Arc Flash

Electrical shock presents a risk to workers and responders as most ESS cannot be "turned off", with the exception of some flow batteries. Damaged batteries represent the potential for a significant hazard due to the inability to safely discharge the stored energy in the damaged cells. This is referred to as "stranded energy," and presents unique mitigation hazards. Arc flash or blast is possible for systems operating above 100V. Most lead-acid ESS in telecom settings operates at below 60V, yet there exists the potential for high fault currents present in the case of a short circuit even at these relatively lower voltages. Limited safe operating space may place personnel within the range of burn injuries. Li-ion systems operate from 48Vdc – 1000Vdc depending on the battery design. Currently there are limited inverter options suitable for higher voltage, but even now higher voltage systems are planned and will likely be coming online in the coming years.

Flow batteries do not have the same short circuit fault current potential present, and therefore do not present as great a shock or arc-flash hazard when the system is off. This will be discussed in more detail in the Flow Battery section.

Toxicity/Corrosiveness

Toxicity or corrosion risks may be present in aqueous electrolyte or from off-gassing produced by over-heating aqueous or vaporized electrolytes. In addition, lithium ion batteries and flow batteries in fire scenarios may generate toxic gas from the combustion of hydrocarbons, plastics, or acidic electrolytes.

Fire/Deflagration

Fire hazards may be present from either aqueous or vaporized electrolyte. Charging aqueous batteries (including flooded lead acid and AGM can electrolyze water into hydrogen and oxygen. Battery systems with this hazard are required to be equipped with exhaust & H_2 detection systems.

When li-ion cells are exposed to temperatures over 80C (176F), they can generate heat at a faster rate than they are able to dissipate it, presenting a thermal runaway risk. This can occur from a variety of abuse modes including thermal abuse, mechanical abuse, or manufacturing defects. Thermal runaway fires can produce temperatures above 2000 F while forcefully venting vaporized flammable and toxic electrolyte gases. Gas or aerosol based fire suppression systems in Li-ion battery systems are not recommended as they are not believed to be effective at stopping either the thermal runaway process or complete combustion; as cooling – not oxygen reduction – is required to stop the thermal runaway or combustion process. Deflagration hazards may be present in confined or enclosed spaces when flammable gasses, which are produced in great quantities, reach both the explosive range and auto-ignition temperatures, especially since ignition sources also exist due to the electrical nature of the components. Because of the dense configuration of many li-ion cells within modules, prevention of thermal runaway is critical and is one of the primary functions of a battery management system.

Ventilation, Exhaust and Deflagration Venting and Protection

One of the primary concerns with Li-ion ESS installed inside structures is the generation of flammable gasses created during thermal runaway and cell venting. Depending on the quantity of cells that enter runaway and the cause and conditions, the volume and type of gasses created can vary widely. Burn tests have identified many flammable gasses produced during overheating such as carbon monoxide, hydrogen fluoride, hydrogen chloride, methane, ethane, ethylene, and propylene. Depending on the rate of heating, gas production can be quite rapid and may vent from the cell with significant pressure. In fact, the rate of gas release could exceed the design capacity of the exhaust system.

In the DNV-GL/ConEdison testing, a recommendation was made for ventilation, based on the production of HCL found in all battery types tested:

> *"…it should be noted that in the smallest unit of failure scenarios, the recommended ventilation rate of 0.25 ACH is well below the typical rating of 3-4 for most general spaces which means that vanadium redox and Pb (lead) acid batteries, as well as single cell failure modes for Li-ion, are already within the implied code requirements " DNV-GL Report*[1]

Note that the recommendation assumes a single cell failure mode in Li-ion systems. This may not be an adequate failure assumption to address more significant failures with this technology where there could be thousands of cells wired together within modules making up numerous batteries in close proximity. This concern is particularly prudent for ESS installed inside occupied structures.

[1] Considerations for ESS Fire Safety, DNV-GL/ConEdison, Jan 18, 2017

Fire Suppression

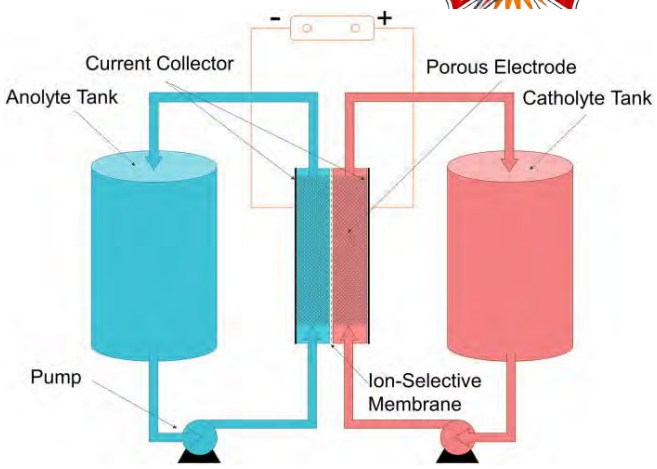
The need for engineered fire suppression systems is a challenging issue for fire protection engineers as current fire codes provide little in the way of recommendations. As a result, some are taking a proactive approach in the early stages based on limited available test data. Early large-scale fire tests with Li-ion ESS have shown that cooling of the cells during suppression is critical to terminating the production of flammable combustion gasses. The density of Li-ion cell configurations in large scale ESS, as well as the various cabinet configurations currently found in installed systems, make active cooling with water more complex. An installation sited in an existing building equipped with a NFPA 13 fire sprinkler system may still not allow the water to contact modules containing cells on fire. The DNV GL report cites testing in which aerosolized suppression system activation suppressed visible flame, yet had no effect on cell burning and combustion gas production. In fact, this condition could lead to an explosion as responders gain entry to the container, thereby allowing oxygen to bring the gas mixture into the explosive range. Included in their report are recommendations to include a cascading response where suppression systems may include a gas phase agent for initial discharge and deploy water if heat buildup continues.

More testing is needed on optimal suppression system design and placement to provide early system fire protection with indoor Li-ion ESS installations. The NFPA's Fire Protection Research Foundation along with FM, has completed three phases of research into managing Li-ion battery hazards as a commodity.[2] This has generated some data for sprinkler design but primarily for Li-ion stored as a commodity and not operational ESS.

2. http://www.nfpa.org/news-and-research/fire-statistics-and-reports/research-reports/hazardous-materials/lithium-ion-batteries-hazard-and-use-assessment

Flow Batteries

Flow batteries are based on two aqueous electrolytes serving as either the anolyte or catholyte with different charges that are pumped from separate storage tanks across a membrane in a fuel cell. Power is only produced when the pumps and control systems are operating, and as such there is no risk from "stranded energy" as with other electrochemical batteries.



The chosen electrolyte is based on the system design. This paper will address only Vanadium Redox as it is currently considered one of the safest flow battery technologies currently available. This is supported by operational and test data available from 20+ years of systems installed in various different applications, environmental conditions, and product configurations world-wide.

Vanadium Redox flow battery (VRB) systems do not represent the same fire or deflagration risk as Li-ion based ESS for several reasons. First, the aqueous electrolyte is not flammable. Secondly, any deviation from safe operating parameters will trigger the shutdown of system pumps, ceasing to charge the electrolyte, thus reducing the chance of accidental H2 generation. Additionally, the thermal mass of the electrolyte tanks can provide an additional barrier to overcharging conditions by allowing ambient temperatures during overnight discharge times to cool the VRB for the next charge cycle. In any case, H2 production is a common condition easily managed in all lead-acid ESS systems and better understood by fire protection engineers in the system design and commissioning if installed indoors.

While not flammable, the electrolyte in VRB systems is corrosive. It is comprised of a sulfuric-acid based solution similar to common automotive lead-acid batteries. While very similar to lead-acid batteries, VRBs are notably different and deemed safer than lead-acid for the following reasons:

(1)! Unlike traditional lead-acid batteries, VRBs do not include lead. Therefore, VRBs do not have the toxicity issues of lead that conventional car batteries do. The only potential source of toxicity in a VRB is when Vanadium is in powder form, but when mixed into liquid form in the final product and put into operation, the VRB is deemed non-toxic due to the very low concentration levels of Vanadium.

Some VRB batteries may also include hydrochloric acid, but will still be at a similar pH.

(2) VRB has a lower concentration of sulfuric acid further than traditional lead-acid batteries. By comparison, VRB electrolyte is 15% vanadium, 25% sulfuric acid, 60% water (by volume), whereas lead-acid is 25% lead, 25% sulfuric acid, and 50% water (by volume). Systems with HCl will maintain a similar or slightly higher balance of acid, but will operate at a similar pH.

Leaks must be expected in any hazardous fluid handling equipment. Secondary containment is typically designed into the system and standard corrosive PPE is required for liquid handling. Reliability of leak detection and annunciation is paramount. One manufacturer has addressed the reliability issues of sensors by placing the pump intake at a high level in the tank. A very small reduction in tank volume results in the pump running dry. This is identified by motor controllers as a possible system leak and pumps are rapidly shut down.

In the area of shock hazard, voltage is produced in a flow battery only when electrolytes are present in a cell stack. If one turns off the motors and fluids drain from the cell stack, then the cell stacks have no measurable voltage at the terminals. This happens not only when the battery is forcibly "turned off," but also in "standby mode," which the battery enters when it's not actively providing some sort of charge / discharge event. This safety characteristic is unique to Vanadium flow batteries. All other batteries maintain a charge and potential shock hazard depending on the voltage. Even Zinc-Bromine flow batteries don't have this characteristic because those batteries still include a metal plate that holds a charge, presenting a shock hazard. Vanadium flow batteries are the only "all-aqueous" flow battery since they don't include any metal plates to hold the chemical reactions / charges / voltages.

Vanadium flow batteries are also unique in terms of short circuit fault current potential, because:

(1) The internal dynamics of the battery are such that the energy discharge is limited to the fluid in the battery at any given time' typically this is less than 1% of total stored energy.

(2) Vanadium flow batteries have been tested under dead-short conditions resulting in normal system operation, with no danger to either equipment or personnel.

Currently flow batteries are found only in commercial, industrial, and utility-scale applications, however manufacturers are expected to introduce residential flow battery systems in the future. While its efficiency and energy density are lower than lithium-ion, flow batteries compensate with longer life and safety features that enable lower fire protection requirements.

Codes, Standards, & Regulations

Commonly grouped together and referred to as CSR, Codes and regulations typically dictate how a product is installed, while product standards dictate the tests a product must pass to receive a certification or listing as being safe when used per manufacturer's instructions.

Codes such as building, fire, or electrical codes are typically updated on a 3-year cycle and are adopted on often different schedules at the federal, state, local, tribal and territorial level as well as by utilities, insurance interests and other non-regulatory bodies.

Product standards are updated as needed based on either change in building codes or identified safety requirements.

The applicable published building, fire & electrical codes including chapter relating to ESS include:

2015 International Fire Code	Chapter 12
2015 International Residential Code	Chapter R327
2015 NFPA1 Fire Code	Chapter 52
2017 National Electric Code	Article 706

The NFPA has created a new standard for ESS, "NFPA 855: Standard for Installation of Stationary Energy Storage Systems" which is expected to be published in late 2018 to address the design, installation, and commissioning of ESS. This standard will likely be referenced by the NEC and both Fire Codes as a key document.

ENERGY
RESPONSE SOLUTIONS

UL STANDARDS

The primary applicable US standards relating to ESS include:

UL 1642 (Lithium Batteries)

UL 1973 (Batteries for Use in Light Electric Rail and Stationary Applications)

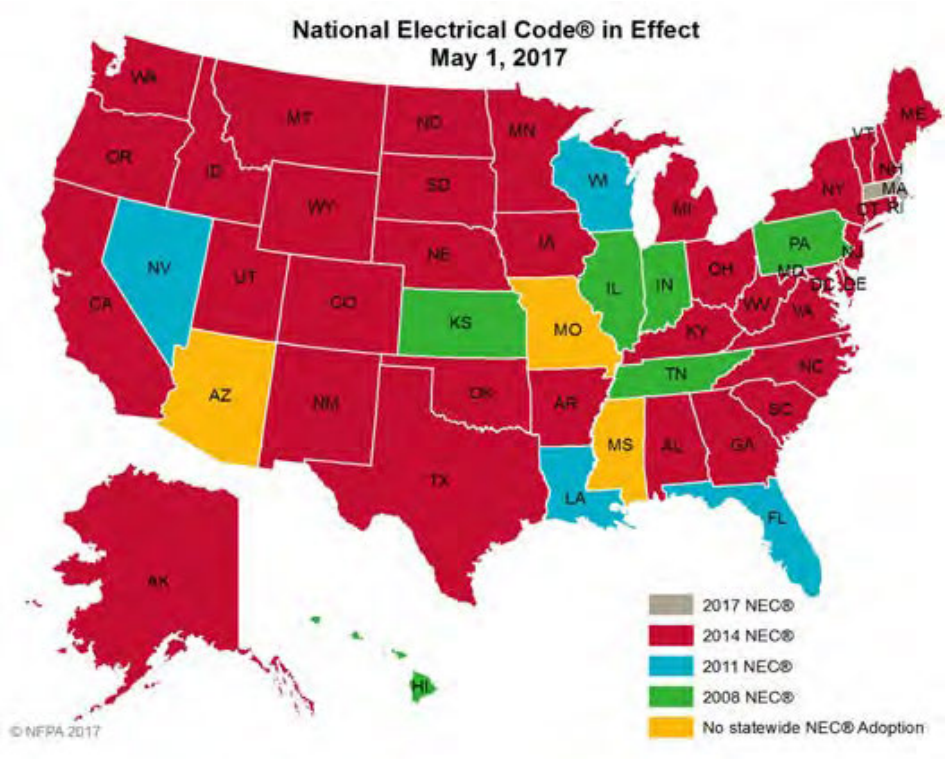
UL 1741 (Inverters and Power Electronics)

UL 9540 (Energy Storage Systems)

National Electric Code

Installation requirements for ESS are covered in the National Electric Code (NEC). The 2017 NEC includes a new article 706 “Energy Storage Systems” for the 2017 cycle. It covers classification of systems, requirements for disconnect locations and marking, over-current protection, ventilation, and their listing requirements.

All ESS systems will need to be listed to safety standards such as UL 9540 to address the batteries, inverters, and battery management systems. The system classification identifies whether the system is pre-engineered and comprised of listed components, or listed as a self-contained system. Adoption of the NEC is typically by state and the chart below shows the current cycle in each state as of May 2017.



ESS Installed in locations currently on the 2014 NEC (or earlier) have less guidance with only article 480 “Storage Batteries” available for reference. There is very little code language on safe installation practices for lithium-ion storage systems prior to the 2017 NEC.

Fire Codes

Fire Codes are being updated to address ESS beginning in the 2018 cycle of both the International Fire Code (IFC) and NFPA1 Fire Code. Technical committees are trying to ensure that both codes are harmonized to the maximum extent possible in order to avoid conflicting recommendations. The IFC section on ESS in Chapter 12 will address the following:

- Threshold quantities for various chemistries
- Listing of systems to UL 9540
- Requirement for Hazard Mitigation Analysis or Failure Modes Effects Analysis (FMEA) related to fire safety
- Location & Separation of battery systems
- Maximum allowable quantities and sizes requiring permitting based upon kWh instead of electrolyte quantities

In both the 2018 Fire Codes and the draft of NFPA 855, lithium-ion technologies will likely see more stringent requirements in terms of fire suppression systems and exhaust and/or deflagration venting. Early testing, such as DNV-GL/ConEdison’s research cited above, recommended allowances for reduced fire suppression systems in ESS with non-flammable electrolyte. For all others, water-based sprinklers were proposed for any ESS with a flammable electrolyte when installed indoors.

> *“If a battery is demonstrated to have a non-flammable electrolyte, there may be considerations for a reduced water extinguisher requirement, or at a minimum a water requirement equivalent to that required for the space without battery systems installed.*
>
> *The ventilation requirements should be the same for all battery chemistries tested in this program because they all have varying degrees of HCl or similar toxic emission upon heating.”*[3]

3. Considerations for ESS Fire Safety, DNV-GL/ConEdison, Jan 18, 2017

Written into the Fire Codes are exceptions for large scale fire testing. Key to this will be a standardized test protocol that produces repeatable results that can be used to determine safe clearances to ensure that a fire in a battery remains contained and does not extend to unaffected units, or the structure. Flow battery systems will only require exhaust if installed inside structures. As of the writing of this paper, UL is expected to release an outline of investigation covering full scale testing.

Summary

Vanadium flow battery systems offer significant safety advantages relative to li-ion in the areas of short-circuit fault, arc-flash / blast, "stranded" energy, fire suppression, and deflagration. This can lead to a streamlined review and approval process for all stakeholders involved.

When comparing available ESS technologies, many factors will affect the final system choice. From a safety perspective, significant questions remain unanswered when it comes to protecting Li-ion batteries from thermal runaway, even more so in an occupied structure. If codes continue developing along their current trajectory, many structures may not be suitable without significant modifications. As one designer of naval-based ESS explained, "A submarine must have a significantly higher level of safety than a land based structure, as escape is impossible". However, when looking at ESS installations inside high-rise apartment dwellings, these structures may be compared to submarines standing on end in terms of life hazard profiles.

This highlights the need for AHJ's to adopt current CSR, or "look forward" to published but not yet adopted codes to assist in the safe installation of ESS.

ENERGY
RESPONSE SOLUTIONS

Author Biography

Fire Captain Matthew Paiss is a 21-year veteran of the San Jose Fire Department. He is the IAFF primary representative to NFPA 70 (NEC) and NFPA 855 Energy Storage Systems standards. He is a subject matter expert for the National Fire Protection Association on energy storage, and President of Energy Response Solutions, Inc. (a training and consultation firm). He has contributed to the IFC & NFPA1 fire code sections on PV & ESS. CA Paiss has delivered PV & ESS Safety training to over 7000 firefighters across N. America including the FDIC and the National Fire Academy. He has spoken in Europe on fire safety and PV design and holds certificates as a credentialed California Technical Education Teacher, Registered State Fire Instructor, and Certified State Fire Officer.

He is a member of UL Standards Technical Panels 1703 & 1741, and has written for Fire Engineering, SolarPro and SFPE magazines.

About Energy Response Solutions, Inc.

Energy Response Solutions, Inc. provides electrical safety training development & delivery for the fire service community, fire and electrical safety codes & standards consultation to alternative energy system designers, integrators, and Authorities Having Jurisdiction (AHJ).

EXHIBIT 7

Fire Codes for Energy Storage Systems

January 4th, 2017 Print This Post

In recent years, there has been a marked increase in the deployment of various types of battery technologies for use in Energy Storage Systems (ESS). Code enforcing bodies, such as local Authorities Having Jurisdiction (AHJs), are asked to successfully address risks associated with these new battery technologies. However, there is little or no guidance and direction on how to deal with associated hazards, or more specifically, on how to review a successful fire protection approach.

Li-ion Battery Technologies

There are many different battery technologies used in the application of ESS. Let's consider Lithium-ion technology as an example. While Lithium-ion battery technologies are commonly used, it is easily forgotten that Lithium-ion is not one specific battery chemistry or technology, but rather a catch-all term for hundreds of different chemistries each fine-tuned for a specific product or application (e.g. Li-CoO_2, Li-MnO_2, Li-NO_2, Li-AlO_2, Li-TiO_3, Li-$FePO_4$, $LiNiMnCoO_2$, $LiNiCoAlO_2$). Furthermore, when talking about fire risks and how to negotiate these risks, many influencing factors come into play, such as the battery management system employed, the size and type of cooling (air-cooled vs. liquid cooled), whether these batteries are connected to an electrical grid or only stored for later use in a grid, etc.

In the case of storage and warehousing of low-capacity Lithium-ion batteries (e.g., power packs for power tools), fire tests have been performed[1,2,3] to evaluate the fire dynamics (fire behavior) in rack storage. It was found that storage configurations with cartoned power tool power packs burn similarly to cartoned Group A plastics. Furthermore, it was noted that changes in the components of the packaging can significantly impact the flammability characteristics of cartoned Li-ion batteries, such as the

divider used to separate the batteries within the cartons. [3] These tests also demonstrated that conventional water sprinkler systems can control or suppress these types of fires. For these kinds of storage scenarios NFPA 13[4] and FM Global's Property Loss Prevention Data Sheets[5], will provide directions on how to successfully protect cartoned (Lithium-ion) batteries.

Energy Storage Systems

However, these low-capacity power packs hold little electrical power compared to the large battery arrays deployed in Energy Storage Systems – the much larger cousins to 'household' batteries, capable of storing much more electrical energy. In many cases, the difference in power among these battery categories is orders of magnitude i.e., the typical industrial ESS array can store 100,000 times the power of a typical consumer battery system. Therefore, it is not surprising that the risks associated with Energy Storage Systems require careful review and assessment of all associated hazards. It is these types of ESS that we would like to discuss in more detail, namely to highlight some of their risks and provide ways of addressing them.

High-capacity Energy Storage Systems are often used in facilities like hospitals, data centers, airports, high-rise office buildings, residences (for the storage of solar energy), or electric utility companies to address swings in electric loads during spikes in demand. The specific hazards inherent in ESS are typically arcing, combustion, fire, toxicity, and voltage. Additional hazards arise from battery fires after suppression, such as re-ignition hazards and electrical shock to both first responders and removal personnel.

New and Emerging Battery Technologies

Battery chemistries for ESS have been in development for over a decade and new battery technologies will continue to be developed for the foreseeable future. Manufacturers are not incentivized to share proprietary information on their latest battery chemistry or technology, which makes the application of codes and standards, as well as the identification of a proper emergency response plan, more difficult. Information on the chemical makeup or physical and health hazards presented in the form of (M)SDS needs to be carefully reviewed and verified. All too often, systems are categorized based on energy capacity (kilowatt-hours) only, which is not very helpful in assessing their fire risks. For hazard assessment purposes, it would be better to categorize ESS batteries by technology and chemistry, as hazards differ significantly among those.

Many of the current battery technologies can be categorized into Lead Acid (vented, VRLA), Nickel Cadmium, Li-ion, Sodium Sulfur (NAS), and Flow Batteries (tank based energy storage). There are other types of batteries, sometimes in the form of a hybrid between these battery types or the materials used. Therefore, this categorization is somewhat of a simplification and may change in the future as new technologies emerge.

Regardless of whether active fire protection systems (water sprinkler systems, gaseous suppression systems, etc.) and/or passive fire protection systems (separation, location, etc.) are employed, they are all dependent on how ESS battery types and chemistries perform in fire situations. Oftentimes, different battery technologies perform differently under the same conditions.

Code Development

NFPA's Fire Protection Research Foundation sponsored an ESS safety workshop in November 2015. The event hosted a panel of 60 leading professionals from government, the insurance industry, the fire service, utilities, the ESS industry, the codes and standards world, and other disciplines to discuss the current state of ESS, as well as gaps in safety knowledge, codes and standards considerations, and research.[6] NFPA set up a technical committee to develop new standards for the installation of energy storage systems, and as part of this effort approved NFPA 855[7], Standard for the Installation of Stationary Energy Storage Systems, earlier this year to address the design, construction, installation, and commissioning of ESS. The new standard is still in the early development stages.

The International Code Council, publisher of the International Fire Code, has already developed a code language that will address design, installation, and deployment for a successful emergency response in the event of a fire. This code language was discussed during last year's code development hearings and is expected to be included in the 2018 edition of the International Fire Code. Statewide adoption of the International Fire Code (with state specific amendments) occurs some time thereafter, or in the case of California one year later.

FM Global has been working on a new Property Loss Prevention Data Sheet for Energy Storage Systems, DS 5-33. It was released in February 2017. This new data sheet[8] addresses many aspects of Energy Storage Systems including protection, operation and maintenance, emergency response and contingency planning.

From these various workshops and discussions a level of consensus was reached that allows the code practitioner to address fire and life safety issues originating from the installation and deployment of energy storage systems. It is this consensus from experts that we would like to discuss, while also highlighting some of the issues of deploying ESS and reviewing the current thinking on how to address them successfully.

When specifying or reviewing the fire safety of an energy storage system, codes and regulations often represent the “first line of defense.” Nevertheless, not every situation can or will be covered by the fire codes for any specific ESS installation or deployment. This is why the Authority Having Jurisdiction (AHJ) can request additional information.

Considerations

When applying these new ESS fire codes (shown below), the following issues should be considered:

- Third Party V erification: (M)SDS information from various manufacturers is classified differently and the hazards associated with the different battery technologies are sometimes not considered. Therefore, the classifications based on (M)SDS, the verification of hazards based on ingredients, and the appropriate hazard mitigation for each type of battery need to be verified by a third party other than the manufacturer.
- Electr olytes: If liquid electrolytes are used, the chemical composition and individual quantities need to be carefully reviewed to account for maximum allowable quantities. Some (M)SDS are incomplete, so they do not show the actual hazards associated with the particular battery systems. It takes an experienced hazardous materials expert to verify the actual classification based on the ingredients in the batteries.
- Fir e Suppr ession: Battery chemistries differ among ESS installations, so specific extinguishing agent(s) need to be matched to the hazard(s). A single agent may not provide optimum protection characteristics depending on the specific ESS application they are protecting. In general, large amounts of water have been shown to be effective, yet chemical suppressants need to be considered for batteries that are water-reactive.
- Gaseous & Chemical Suppr ession: Gaseous & chemical suppression may be the best way to suppress fires in ESS with water-reactive batteries. However, these systems are only designed for one-time use. Re-ignition in these types of battery systems is very common. At the very least, having a backup suppression agent should be considered. Water suppression is often the cheapest solution, but that application must be weighed against the potential for fire due to re-ignition.
- Post Fir e: Damaged ESS using batteries can still have stranded electrical energy. This can lead to unsafe conditions for long periods of time (e.g., days or even weeks) due to re-occurring thermal runaway causing re-ignition, even long after the fire is fully extinguished. At that time, battery management systems or safety sensors are compromised and can no longer be relied on. There is also the consideration of first responder and post-fire cleanup personnel safety, due to the stranded electrical energy in the batteries.
- Site Location: The installation location is a critical consideration for manual firefighting efforts. Systems located on upper floors present a much greater concern than those on the ground floor or an isolated exterior location. Outdoor systems located in non-occupiable spaces are less likely to create dangerous situations for personnel safety.
- Envir onmental Impact: Runoff and spillage of ESS pose environmental risks based on the battery chemistry and the volume spilled. Additionally, the combined suppression water when mixed with ESS chemicals creates a larger environmental burden. Spill control and environmental protection may need to be incorporated due to the hazards (toxicities) posed by the use of ESS. Responsibilities and accountabilities for decontamination and cleanup in the event of a fire need to be clearly identified.
- Categorization: Currently the MAQs (in Table 608.3 of IFC 2018) are based on capacity and battery technology, but it may be better to provide subcategories based on the hazard class of the lithium batteries. In other words, there is a probability of ignition and a severity component associated with wattage (due to stranded electrical energy), as well as the extent of damage and spread of the fire due to the chemical components of these batteries. Therefore, the chemistry (highly water-reactive chemical components versus stable chemicals, etc.) of the battery should also be considered when evaluating these systems.

International Fir e Codes for Energy Storage Systems (Stationary Storage Battery Systems)

Below we included Section 608 of the 2018 International Fire Code developed for Stationary Storage Battery Systems (with permission of the International Code Council[9]).

Stationary Storage Battery Systems - 2018 International Fire Code* (click here).

References

[1] Working Towards Protection Guidance for Warehouse Storage Li-ion Batteries, FM GLOBAL, Benjamin Ditch, FM Global, Tom Long, Exponent Inc., SUPDET 2016, March 1–4, San Antonio TX
[2] Lithium Ion Battery Energy Storage System Fires, Andrew Blum, R. Thomas Long, SUPDET 2016, Exponent Inc., March 2, San Antonio TX
[3] Lithium Ion Batteries Hazard and Use Assessment – Phase III, R. Thomas Long Jr., Andrew Blum, Exponent Inc., Bowie, Maryland USA, 2016
[4] NFPA 13, 2016 Edition, Standard for the Installation of Sprinkler Systems, NFPA, 1 Batterymarch Park, Quincy, MA
[5] FM Global’s Property Loss Prevention Data Sheet 7-29, Ignitable Liquid Storage in Portable Containers, Fire Protection Scheme A, Section D.2.2.1, FM Global, July 2014
[6] Workshop on Energy Storage Systems and the Built Environment, Proceedings, 19 November 2015 in New York, Fire

Protection Research Foundation, 1 Batterymarch Park, Quincy, MA, March 2016
[7] NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, NFPA, 1 Batterymarch Park, Quincy, MA
[8] FM DS 5-33, Electrical Energy Storage Systems, FM Insurance Company, 2017
[9] Section 608 of the 2018 International Fire Code. Excerpted from the 2015 2015 Group A Proposed Changes to the I-Codes Memphis Committee Hearings; Copyright © 2015 International Code Council, Inc., www.iccsafe.org. All rights reserved. Excerpts reprinted with permission.

Related Articles

1. Report On Flammability Of Li-Ion Batteries In Bulk Storage
2. GHS Against Fir e Codes
3. War ehousing & High Piled Storage – Meeting the Fir e Codes

Mor e Articles

Solar Power and Its Impact on Fire Protection

ESFR Sprinklers The Perfect Solution To Warehouse Fire Protection?

NFPA 13 2010 Ed. Sprinkler Protection of Storage Occupancy in

ESFR Sprinklers - The Perfect Solution To Warehouse Fire Protection?

Assessing Asphyxiation Risks

KnA Seminar High-Piled Combustible Storage

KnA Seminar – BIG BOX 101 KnA's Drive for the Homeless

RSS

EMAIL FEED

Categories

- Building Codes (28)
- Company News (31)
- Educational (32)
- Facility Management (14)
- Featured Articles (22)
- Fire Codes (38)
- Fire Protection (36)
- Fire Tests (18)
- Hazardous Materials (13)
- High-Piled Storage (31)
- International (6)
- News (24)
- Science (7)
- Video (4)
- Warehousing (23)

Popular Articles

- ESFR Sprinklers The Perfect Solution To Warehouse Fire Protection?
- ESFR Sprinklers – The Perfect Solution To Warehouse Fire Protection? (Updated)
- Free Online Access To NFPA Codes and Standards

- NFPA 13 2010 Ed. Sprinkler Protection of Storage Occupancy in California
- Distillery Storage Dilemmas

Latest News

- KnA's Drive for the Homeless
- KnA Seminar Haz-Mat and Marijuana Facilities
- KnA Seminar High-Piled Combustible Storage
- KnA Seminar – Hazardous Materials
- KnA Seminar – High Piled Storage
- ESFR Sprinklers – The Perfect Solution To Warehouse Fire Protection? (Updated)
- KnA Seminar – BIG BOX 101
- Fire Codes for Energy Storage Systems
- KnA's Drive for the Homeless
- K&A Seminars – Flammable and Combustible Liquids in Containers and Portable Tanks

External Links

- FM Global Property Loss Prevention Data Sheets Online
- Free ICC I-Codes & Standards
- Free Public Safety Codes Online
- Free State Codes Online
- International Fire & Building Code Discussion Forum
- Max. Allowable Area Calculation 2009
- Max. Allowable Area Calculation 2012
- Nationwide Municipal Codes
- NFPA Fire Code Discussion Forum
- NFPA List of Codes and Standards
- NIST Building Fire Research Laboratory
- USDOT Pipeline & Hazmat Safety Admin

EXHIBIT 8

Peak Energy & Resources, Climate Change, and the Preservation of Knowledge
Collapse or Extinction?

How safe are utility-scale energy storage systems?

Posted on June 3, 2015 by energyskeptic

[excerpts from this 82 page document]

USDOE. December 2014. Energy Storage Safety Strategic Plan. U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability.

Energy storage is emerging as an integral component to a resilient and efficient grid through a diverse array of potential application. The evolution of the grid that is currently underway will result in a greater need for services best provided by energy storage, including energy management, backup power, load leveling, frequency regulation, voltage support, and grid stabilization. The increase in demand for specialized services will further drive energy storage research to produce systems with greater efficiency at a lower cost, which will lead to an influx of energy storage deployment across the country. To enable the success of these increased deployments of a wide variety of storage technologies, safety must be instilled within the energy storage community at every level and in a way that meets the need of every stakeholder. In 2013, the U.S. Department of Energy released the Grid

Energy Storage Strategy , which identified four challenges related to the widespread deployment of energy storage. The second of these challenges, the validation of energy storage safety and reliability, has recently garnered significant attention from the energy storage community at large. This focus on safety must be immediately ensured to enable the success of the burgeoning energy storage industry, whereby community confidence that human life and property not

The safe application and use of energy storage technology knows no bounds. An energy storage system (ESS) will react to an external event, such as a seismic occurrence, regardless of its location in relation to the meter or the grid. Similarly, an incident triggered by an ESS, such as a fire, is 'blind' as to the location of the ESS in relation to the meter.

Most of the current validation techniques that have been developed to address energy storage safety concerns have been motivated by the electric vehicle community, and are primarily focused on Li-ion chemistry and derived via empirical testing of systems. Additionally, techniques for Pb-acid batteries have been established, but must be revised to incorporate chemistry changes within the new technologies. Moving forward, all validation techniques must be expanded to encompass grid-scale energy storage systems, be relevant to the internal chemistries of each new storage

system and have technical bases rooted in a fundamental-scientific understanding of the mechanistic responses of the materials.

Introduction

Grid energy storage systems are "enabling technologies"; they do not generate electricity, but they do enable critical advances to modernize the electric grid. For example, there have been numerous studies that have determined that the deployment of variable generation resources will impact the stability of grid unless storage is included.5 Additionally, energy storage has been demonstrated to provide key grid support functions through frequency regulation.6 The diversity in the performance needs and deployment environments drive the need of a wide array of storage technologies.

Often, energy storage technologies are categorized as being high-power or high-energy. This division greatly benefits the end user of energy storage systems because it allows for the selection of a technology that fits an application's requirements, thus reducing cost and maximizing value. Frequency regulation requires very rapid response, i.e. high-power, but does not necessarily require high energy. By contrast, load-shifting requires very high-energy, but is more flexible in its power needs. Uninterruptible power and variable generation integration are applications where the needs for high-power versus high-energy fall somewhere in between the aforementioned extremes. Figure 1 shows the current energy storage techniques deployed onto the North American grid.7 This variety in storage technologies increases the complexity in developing a single set of protocols for evaluating and improving the safety of grid storage technologies and drives the need for understanding across length scales, from fundamental materials processes through full scale system integration. 5 Denholm, Paul; Ela, Erik; Kirby, Brendan; Milligan, Michael.

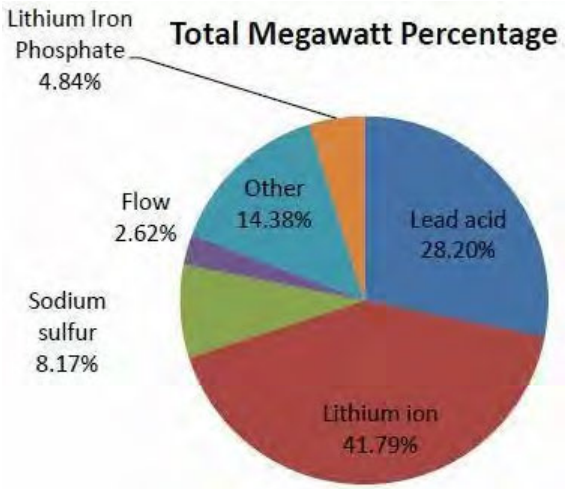


Figure 1. Percentage of Battery Energy Storage Systems Deployed8 Lithium Iron Total Megawatt PercentagePhosphate 4.84% Flow Other 2.62% 14.38% Lead acid 28.20% Sodium sulfur 8.17% Lithium ion 41.79%

The variety of deployment environments and application spaces compounds the complexity of the approaches needed to validate the safety of energy storage systems. The difference in deployment environment impacts the safety concerns, needs, risk, and challenges that affect stakeholders. For example, an energy storage system deployed in a remote location will have very different potential impacts on its environment and first responder needs than a system deployed in a room in an office suite, or on the top floor of a building in a city center. The closer the systems are to residences, schools, and hospitals, the higher the impact of any potential incident regardless of system size.

Pumped hydro is one of the oldest and most mature energy storage technologies and represents 95% of the installed storage capacity. Other storage technologies, such as batteries, flywheels and others, make up the remaining 5% of the installed storage base, are much earlier in their deployment cycle and have likely not reached the full extent of their deployed capacity.

Though flywheels are relative newcomers to the grid energy storage arena, they have been used as energy storage devices for centuries with the earliest known flywheel being from 3100 BC Mesopotamia. Grid scale flywheels operate by spinning a rotor up to tens of thousands of RPM storing energy in a combination of rotational kinetic energy and elastic energy from deformation of the rotor. These systems typically have large rotational masses that in the case of a catastrophic radial failure need a robust enclosure to contain the debris. However, if the mass of the debris particles can be reduced through engineering design, the strength, size and cost of the containment system can be significantly reduced.

As electrochemical technologies, battery systems used in grid storage can be further categorized as redox flow batteries, hybrid flow batteries, and secondary batteries without a flowing electrolyte. For the purposes of this document, vanadium redox flow batteries and zinc bromine flow batteries are considered for the first two categories, and lead-acid, lithium ion, sodium nickel chloride and sodium sulfur technologies in the latter category. As will be discussed in detail in this document, there are a number of safety concerns specific to batteries that should be addressed, e.g. release of the stored energy during an incident, cascading failure of battery cells, and fires.

A reactive approach to energy storage safety is no longer viable. The number and types of energy storage deployments have reached a tipping point with dramatic growth anticipated in the next few years fueled in large part by major, new, policy-related storage initiatives in California14, Hawaii15, and New York.16 The new storage technologies likely to be deployed in response to these and other initiatives are maturing too rapidly to justify moving ahead without a unified scientifically based set of safety validation techniques and protocols. A compounding challenge is that startup companies with limited resources and experience in deployment are developing many of these new storage technologies. Standardization of the safety processes will greatly enhance the cost and viability of new technologies, and of the startup companies themselves. The modular nature of ESS is such that there is just no single entity clearly responsible for ESS safety; instead, the each participant in the energy storage community has a role and a responsibility. The following sections outline the gaps in addressing the need for validated grid energy storage system safety.

To date, the most extensive energy storage safety and abuse R&D efforts have been done for Electric Vehicle (EV) battery technologies. These efforts have been limited to lithium ion, lead-acid

and nickel metal hydride chemistries and, with the exception of grid-scale lead-acid systems, are restricted to smaller size battery packs applicable to vehicles.

The increased scale, complexity, and diversity in technologies being proposed for grid- scale storage necessitates a comprehensive strategy for adequately addressing safety in grid storage systems. The technologies deployed onto the grid fall into the categories of electro-chemical, electromechanical, and thermal, and are themselves within different categories of systems, including CAES, flywheels, pumped hydro and SMES. This presents a significant area of effort to be coordinated and tackled in the coming years, as a number of gap areas currently exist in codes and standards around safety in the field. R&D efforts must be coordinated to begin to address the challenges.

An energy storage system can be categorized primarily by its power, energy and technology platform. For grid-scale systems, the power/energy spectrum spans from smaller kW/kWh to large MW/MWh systems. Smaller kW/kWh systems can be deployed for residential and community storage applications, while larger MW/MWh systems are envisioned for electric utility transmission and distribution networks to provide grid level services. This is in contrast to electric vehicles, for which the U.S. Advanced Battery Consortium (USABC) goals are both clearly defined and narrow in scope with an energy goal of 40 kWh. While in practice some EV packs are as large as 90 kWh, the range of energy is still small compared with the grid storage applications. This research is critical to the ability of first responders to understand the risks posed by ESS technologies and allow for the development of safe stratagies to minimize risk and mitigate the event.

Furthermore, the diversity of battery technologies and stationary storage systems is not generally present in the EV community. Therefore, the testing protocols and procedures used historically and currently for storage systems for transportation are insufficient to adequately address this wide range of storage systems technologies for stationary applications. Table 1 summarizes the high level contrast between this range of technologies and sizes of storage in the more established area of EV. The magnitude of effort that must be taken on to encompass the needs of safety in stationary storage is considerable because most research and development to improve safety and efforts to develop safety validation techniques are in the EV space. Notably, the size of EV batteries ranges by a factor of two; by contrast, stationary storage scales across many orders of magnitude. Likewise, the range of technologies and uses in stationary storage are much more varied than in EV. Therefore, while the EV safety efforts pave the way in developing R&D programs around safety and developing codes and standards, they are highly insufficient to address many of the significant challenges in approaching safe development, installation, commissioning, use and maintenance of stationary storage systems.

An additional complexity of grid storage systems is that the storage system can either be built on-site or pre-assembled, typically in shipping containers. These pre-assembled systems allow for factory testing of the fully integrated system, but are exposed to potential damage during shipping. For the systems built on site, the assembly is done in the field; much of the safety testing and qualification could potentially be done by local inspectors, who may or may not be as aware of the specifics of the storage system. Therefore, the safety validation of each type of system must be approached differently and each specific challenge must be addressed.

Batteries and flywheels are currently the primary focus for enhanced grid-scale safety. For these systems, the associated failure modes at grid-scale power and energy requirements have not been

well characterized and there is much larger uncertainty around the risks and consequences of failures. This uncertainty around system safety can lead to barriers to adoption and market success, such as difficulty with assessing value and risk to these assets, and determining the possible consequences to health and the environment. To address these barriers, concerted efforts are needed in the following areas: • Materials Science R&D – Research into all device components • Engineering controls and system design • Modeling • System testing and analysis • Commissioning and field system safety research It is a notable challenge within the areas outlined above to develop understanding and confidence in relating results at one scale to expected outcomes at another scale, or predicting the interplay between components, as well as protecting against unexpected outcomes when one or more failure mode is present at the same time in a system. Extensive research, modeling and validation are required to address these challenges. Furthermore, it is necessary to pool the analysis approaches of failure mode and effects analysis (FMEA) and to use a safety basis in both research and commissioning to build a robust safety program. Furthermore, identifying, responding and mitigating to any observed safety events are critical in validating the safety of storage.

A holistic view with regard to setting standards to ensure thorough safety validation techniques is the desired end goal; the first step is to study on the R&D level failure from the cell to system level, and from the electrochemistry and kinetics of the materials to module scale behavior. Detailed hazards analysis must be conducted for entire systems in order to identify failure points caused by abuse conditions and the potential for cascading events, which may result in large scale damage and/or fire. While treating the storage system as a "black box" is helpful in setting practical standards for installation, understanding the system at the basic materials and chemistry levels and how issues can initiate failure at the cell and system level is critical to ensure overall system safety.

Batteries, understanding the fundamental electrochemistry and materials changes under selected operating conditions helps guide the cell level safety. Knowledge of cell-level failure modes and how they propagate to battery packs guides the cell chemistry, cell design and integration. Each system has different levels of risk associated with basic electrochemistry that must be understood; the tradeoff between electrochemical performance and safety must be managed. There are some commonalities of safety issues between storage technologies. For example, breeching of a Na/S (NAS) or Na/NiCl2 (Zebra) battery could result in exposure of molten material and heat transfer to adjacent cells.22,23,24 Evolution of H2 from lead-acid cells or H2 and solvent vapor from lithium-ion batteries during overcharge abuse could results in a flammable/combustible gas mixture.25,26,27,28 Thermal runaway in lithium-ion (Li-ion) cells could transfer heat to adjacent cells and propagate the failure through a battery.29

Moreover, while physical hazards are often considered, health and environmental safety issues also need to be evaluated to have a complete understanding of the potential hazards associated with a battery failure. These may include the toxicity of gas species evolved from a cell during abuse or when exposed to abnormal environments, 30,31 toxicity of electrolyte during a cell breech or spill in a Vanadium redox flow battery (VRB),32 environmental impact of water runoff used to extinguish a battery fire containing heavy metals.33 Flywheels provide an entirely different set of considerations, including mechanical containment testing and modeling, vacuum loss testing, and material fatigue testing under stress.

The topic of Li-ion battery safety is rapidly gaining attention as the number of battery incidents increases. Recent incidents, such as a cell phone runaway during a regional flight in Australia and a United Parcel Service plane crash near Dubai, reinforce the potential consequence of Liion battery runaway events. The sheer size of grid storage needs and the operational demands make it increasingly difficult to find materials with the necessary properties, especially the required thermal behavior to ensure fail-proof operation. The main failure modes for these battery systems are either latent (manufacturing defects, operational heating, etc.) or abusive (mechanical, electrical, or thermal).

Any of these failures can increase the internal temperature of the cell, leading to electrolyte decomposition, venting, and possible ignition. While significant strides are being made, major challenges remain in combating solvent flammability still remain, which is the most significant area that needs improvement to address safety of Li-ion cells, and is therefore discussed here in greater detail. To mitigate thermal instability of the electrolyte, a number of different approaches have been developed with varied outcomes and moderate success. Conventional electrolytes typically vent flammable gas when overheated due to overcharging, internal shorting, manufacturing defects, physical damage, or other failure mechanisms. The prospects of employing Li-ion cells in applications depend on substantially reducing the flammability, which requires materials developments (including new lithium salts) to improve the thermal properties. One approach is to use fire retardants (FR) in the electrolyte as an additive to improve thermal stability. Most of these additives have a history of use as FR in the plastics industry. Broadly, these additives can be grouped into two categories—those containing phosphorous and that containing fluorine. A concerted effort to provide a hazard assessment and classification of the event and mitigation when an ESS fails, either through internal or external mechanical, thermal, or electrical stimulus is needed by the community.

Electrolyte Safety R&D The combustion process is a complex chemical reaction by which fuel and an oxidizer in the presence of heat react and burn. Convergence of heat (an oxidizer) and fuel (the substance that burns) must happen to have combustion. The oxidizer is the substance that produces the oxygen so that the fuel can be burned, and heat is the energy that drives the combustion process. In the combustion process a sequence of chemical reactions occur leading to fire.41 In this situation a variety of oxidizing, hydrogen and fuel radicals are produced that keep the fire going until at least one of the three constituents is exhausted.

5.4.1 Electrolytes Despite several studies on the issue of flammability, complete elimination of fire in Li-ion cells has yet to be achieved. One possible reason for the failure could be linked to lower flash point (FP) (<38.7 °C) of the solvents.42 Published data shows that polyphosphazene polymers and ionic liquids used as electrolytes are nonflammable.43 However, the high FP of these chemicals is generally accompanied by increased viscosity, thus limiting low temperature operation and degrading cell performance at sub-ambient temperatures. These materials may also have other problems such as poor wetting of the electrodes and separator materials, excluding them from use in cells despite being nonflammable. Ideally, solvents would be used that have no FP while simultaneously exhibiting ideal electrolyte behavior (see below for a number of critical properties that the electrolytes need to meet) and would remain liquid at low temperatures down to -50 ºC or below for use in Li-ion cells. A number of critical electrochemical and thermal properties are given below that FR have to meet

simultaneously. The tradeoffs between properties are possible but when it comes to safety there cannot be tradeoffs. • High voltage stability • Comparable conductivity to traditional electrolytes • Lower flame propagation rate or no fire at all • Lower self-heating rate • Stable against both the electrodes • Able to wet the electrodes and separator materials • Higher onset temperature for exothermic peaks with reduced overall heat production • No miscibility problems with co-solvents

The higher energy density of Li-ion cells can only result in a more volatile device, and while significant efforts have been put forth to address safety, significant research is still needed. To improve safety of Li-ion batteries, the electrolyte flammability needs significant advances or further mitigation is needed in areas that will contain the effects of failures to provide graceful failures with safer outcomes in operation.

Electrodes, separators, current collectors, casings, cell format headers and vent ports While electrolytes are by far the most critical component in Li-ion battery safety, research has been pursued into safety considerations around the other components of the cell. These factors can become more critical as research continues in wider ranges of chemistries for stationary storage.

Capacitors Electrostatic capacitors are a major failure mechanism in power electronics. These predominately fail because of the strong focus on low cost devices, and low control over manufacturing. In response, they are used at a highly de-rated level, and often with redundant design. When they fail they often show slow degradation with decreasing resistivity leading eventually to shorting. Cascading failures can lead to higher consequence failures elsewhere in a system. Arcs or cascading failures can occur. The added complexity of redundant design is a safety risk. While there is a niche market for high reliability capacitors, they are not economically viable for most applications, including grid storage. These devices are made of precious metals and higher quality ceramic processing that leads to fewer oxygen vacancies in the device.

Polymer capacitors can have a safety advantage as they can be self-healing, and therefore graceful failure; however these are poor performers at elevated temperatures and are flammable.

Currently, the low cost and low reliability of capacitors make them a very common component that fails in devices, affecting the power electronics and providing a possible trigger for a cascading failure. While improved reliability has been achieved in capacitors such devices are cost prohibitive due to their manufacturing and testing. Development of improved capacitors at reasonable cost, or design to prevent cascading failures in the event of capacitor failure should be addressed.

Pumps tubing and tanks Components specific to flow battery, and hybrid flow battery technologies have not been researched in the context of safety for battery technology. These include components such as pumps, tubing and storage tanks. Research from other areas that use similar components can be a starting point, but these demonstrate how the range of components is much broader than current R&D in battery safety.

Manufacturing defects The design of components and testing depends on understanding the range of purity in materials, and conformity in engineering. Defects are a large contributor to shorts in batteries for example. Understanding the reproducibility among parts, and the influence of defects on failure is critical to understanding and designing for safer storage systems.

The science of fault detection within large battery systems is still within its infancy; most analysis and monitoring of large battery systems is focused on monitoring issues such as state of health and state of charge monitoring, however limited work has been performed. Offer et al.53 first

Software Analytics. In this day and age of information technology, any comprehensive research, development, and deployment strategy for energy storage should be rounded out with an appropriate complement of software analytics. Software is on a par with hardware in importance, not only for engineering controls, but for performance monitoring; anomaly detection, diagnosis, and tracking; degradation and failure prediction; maintenance; health management; and operations optimization. Ultimately, it will become an important factor in improving overall system and system-of-systems safety. As with any new, potentially high consequence technology, improving safety will be an ongoing process. By analogy with airline safety, energy storage projects which use cutting-edge technologies would benefit from "black boxes" to record precursors to catastrophic failures. The black boxes would be located off-site and store minutes to months of data depending on the time scale of the phenomena being sensed. They would be required for large-scale installations, recommended for medium-scale installations, and optional for small installations. Evolving standards for what and how much should be recorded will be based on the results from research as well as experience.

Since some energy storage technologies are still early in their development and deployment, there should be an emphasis on developing safety cases. Safety cases should cover the full range of safety events that could reasonably be anticipated, and would therefore highlight the areas in which software analytics are required to ensure the safety of each system. Each case would tell a story of an initiating event, an assessment of its probability over time, the likely subsequent events, and the likely final outcome or outcomes. The development of safety cases need not be onerous, but they should demonstrate to everyone involved that serious thought has been given to safety.

Table 2. Common Tests to Assess Risk from Electrical, Mechanical, and Environmental Conditions55 Condition Electrical Mechanical Environmental Tests under development Tests Test of current flow Abnormal charging test, overcharging and charging time Forced discharge test Crush test Impact test Shock test Vibration test Heating test Temperature cycling test Low pressure altitude test Failure propagation Internal short circuit (non-impact test) Ignition/flammability IR absorption diagnostics Separator testing

The established tests for electrical, mechanical and environmental conditions are therefore tailored to identifying and quantifying the consequence and likelihood of failure in lead-acid and lithium ion technologies with typical analyses that include burning characteristics, off-gassing, smoke particulates, and environmental run off from fire suppression efforts. Even for the most studied abuse case of lithium ion technologies, some tests have been identified as very crude or ineffective with limited technical merit. For example, the puncture test, used to replicate failure under an internal short, is widely believed to lack the ability to accurately to mimic this particular failure mode. These tests are less likely to reproduce potential field failures when applied to technologies for which they were not originally designed. The above testing relates exclusively to cell/pack/module level and does not take into consideration the balance of the storage system. Other tests on Li-ion system are targeted at invoking and quantifying specific events; for example, impact testing and overcharging tests probe the potential for thermal runaway which occurs during anode and cathode decomposition reactions. Other failure modes addressed by current validation

techniques include electrolyte flammability, thermal stability of materials including the separators, electrolyte components and active materials, and cell-to-cell failure.

Gap areas and opportunities An energy storage system deployed on the grid, whether at the residential (<10kW) or bulk generation scale on the order of MW, is susceptible to similar failures as described above for Li-ion. However, given the multiple chemistries and application space, there is a significant gap in our ability to understand and quantify potential failures under real-world conditions; in order to ensure safety as grid storage systems are deployed, it is critical to understand their potential failure modes within each deployment environment. Furthermore, it must be considered that grid-scale systems include at the very least: power electronics, transformers, switchgear, heating and cooling systems and housing structures or enclosures. The size and the variety of technologies necessitate a rethinking of safety work as it is adopted from current validation techniques in the electrified vehicle space.

To address the component and system level safety concerns for all the technologies being developed for stationary energy storage, further efforts will be required to: understand these systems at the fundamental materials science, develop appropriate engineering controls, fire protection and suppression methods, system design, complete validation testing and analysis, and establish real world based models for operating. System level safety must also address several additional factors including the relevant codes, standards and regulations, the needs of first responders, and anticipate risks and consequences not covered by current CSR. The wide range of chemistries and operating conditions required for grid-scale storage presents a significant challenge for safety R&D. The longer life requirements and wider range of uses for storage require a better understanding of degradation and end of life failures under normal operating and abuse conditions. The size of batteries also necessitates a stronger reliance on modeling. Multi-scale models for understanding thermal runaway, and fire propagation; whether originated in the chemistry, the electronics, or external to the system; have not been developed. Currently gap areas for stationary energy storage exist from materials research and modeling through system life considerations such as operation and maintenance.

Engineering controls and system design. Currently the monitoring needs of batteries, as well as effectiveness of means to separate battery cells and modules, or various fire suppression systems and techniques in systems have not been studied extensively. Individual companies and installations have relied on past experience in designing these systems. For example: Na battery installations have focused on mitigating the potential impact of the high operating temperature, Pb-acid batteries has focused on controlling failures associated with hydrogen build up, while in technologies that don't use electrochemistry like flywheels, have focused on mechanical concerns such as run-out and high temperature, or change in chamber pressure. Detailed testing and modeling are required to fully understand the needs in system monitoring and containment of failure propagation. Rigorous design of safety features that adequately address potential failures are also still needed in most technology areas. Current efforts have widely focused on monitoring cell and module level voltages in addition to the thermal environment; however the tolerances for safe operation are not known for these systems. Further development efforts are needed to help manufacturers and installers understand the appropriate level of monitoring in order to safely operate a system and prevent failure resulting from internal short circuits, latent manufacturing defects or abused batteries from propagating to the full system.

Modeling The size and cost of grid-scale storage system make it prohibitive to test full-scale systems, modeling can play a critical role in improved safety.

Fire suppression Large-scale energy storage systems can mitigate risk of loss by isolating parts of a system in different transportation containers, or using materials or assemblies to section off batteries. Most current systems have automated and manually triggered fire suppression systems within the enclosure but have limited knowledge if such suppression systems will be useful in the event of fire.

The interactions between fire suppressants and system chemistries must be fully understood to determine the effectiveness of fire suppression. Key variables include the: volume of suppressant required, rate of suppressant release, and distribution of suppressants. Basic assumptions about electrochemical safety have not been elucidated, for example it is not even clear whether a battery fire is of higher consequence than other types of fires, and if so at what scale this is of concern.

The National Fire Protection Association (NFPA) has provided a questionnaire regarding suppressants for vehicle batteries. Tactics for suppression of fires involving electric-drive vehicle (EDV) batteries: a. How effective is water as a suppressant for large battery fires? b. Are there projectile hazards? c. How long must suppression efforts be conducted to place the fire under control and then fully extinguish it? d. What level of resources will be needed to support these fire suppression efforts? 1 e. Is there a need for extended suppression efforts? f. What are the indicators for instances where the fire service should allow a large battery pack to burn rather than attempt suppression?

NFPA 13, Standard for the Installation of Sprinkler Systems,60 does not contain specific sprinkler installation recommendations or protection requirements for Li-ion batteries. Reports and literature on suppressants universally recommended the use of water.61 However, the quantity of water needed for a battery fire is large: 275-2639 gallons for a 40 kWh EV sized Liion battery pack. This is higher than recommended for internal combustion engine (ICE) vehicle fires.

Summary. Science-based safety validation techniques for an entire energy storage system are critical as the deployments of energy storage systems expand. These techniques are currently based on previous industry knowledge and experience with energy storage for vehicles, as well as experience with grid-scale Pb-acid batteries. Now, they must be broadened to encompass gridscale systems. The major hurtle to this expansion is encompassing both much broader range in scale stationary storage systems, as well as the much broader range of technologies. Furthermore, the larger scale of stationary storage over EV storage necessitates the consideration of a wider range of concerns, beyond the storage device. This includes areas such as power electronics and fire suppression. The required work to develop validation is significant. As progress is made in understanding validation through experiment and modeling, these evidence-based results can feed into codes, regulations and standards, and can inform manufacturers and customers of stationary storage solutions to improve the safety of deployed systems.

Currently, fire departments do not categorize ESS as stand-alone infrastructure capable of causing safety incidents independent of the systems that they support. Instead, fire departments categorize grid ESS as back-up power systems such as uninterruptible power supplies (UPS) for commercial, utility, communications and defense settings, or as PV battery-backed systems for on, or off-grid residential applications. This categorization results in limited awareness of ESS and their

potential risks, and thus the optimal responses to incidents. This categorization of energy storage systems as merely back-up power systems also results in the treatment of ESS as peripheral to the risk management tools.

The energy storage industry is rapidly expanding due to market pressures. This expansion is surpassing both the updating of current CSR and development of new CSR needed for determining what is and is not safe and

No general, technology-independent standard for ESS integration into a utility or a stand-alone grid has yet been developed.

Incident responses with standard equipment are tailored to the specific needs of the incident type and location, whether it's two "pumper" engines and a "ladder" truck with two to four personnel, plus a Battalion Chief to act as Incident Commander, for a total of 9 to 13 personnel responding to an injury/accident, or a structure fire that requires five engines, two trucks, and two Battalion Chiefs for a total of 17 to 30 personnel. With each additional "alarm" struck will send another two to three "pumper" engines and a "ladder" truck. In all of these cases, the incident response personnel typically arrive on scene with only standard equipment. This equipment is guided by various NFPA standards for equipment on each apparatus, personal protective equipment (PPE), and other rescue tools. In responding to an ESS incident, the fire service seldom incorporates equipment specialized for electrical incidents.

A number of unique challenges must be considered in developing responses to any energy storage incident. In particular, difficulties securing energized electrical components can present significant safety challenges for fire service personnel. Typically, the primary tasks are to isolate power to the affected areas, contain spills, access and rescue possible victims, and limit access to the hazard area. The highest priority is given to actions that support locating endangered persons and removing them to safety with the least possible risk to responders. Where the rescue of victims continues until it is either accomplished or determined that there are no survivors or the risk to responders is too great. Industrial fires can be quite dangerous depending on structure occupancy, i.e. the contents, process, and personnel inside. Water may be used from a safe distance on larger fires that have extended beyond the original equipment or area of origin, or which are threatening nearby exposures; however, determination of "safe" distance has been little researched by the fire service scientific community.

Fire suppression and protection systems. Each ESS installation is guided by application of existing CSR that may not reflect the unique and varied chemistries in use. Fire-suppressant selection should be based on the efficacy of specific materials and needed quantities on site based on appropriate and representative testing, conducted in consultation with risk managers, fire protection engineers, and others, as well as alignment with existing codes and standards. For example, non-halogenated inert gas discharge systems may not be adequate for thermally unstable oxide chemistries, as they generate oxides in the process of heating, which may lead to combustion in oxygen deficient atmospheres. Ventilation requirements imposed by some Authorities Having Jurisdiction (AHJs) may work against the efficacy of these gaseous suppression agents. Similarly, water-based sprinkler systems may not prove effective for dissipating heat dissipation in large-scale commodity storage of similar chemistries. Therefore, additional research is needed to provide data on which to base proper agent selection for the occupancy and

commodity, and to establish standards that reflect the variety of chemistries and their combustion profile.

Current commodity classification systems used in fire sprinkler design (NFPA 13-Standard for Installation of Sprinkler Systems) do not have a classification for lithium or flow batteries. This is problematic, as the fire hazard may be significantly higher depending on the chemicals involved and will likely result in ineffective or inaccurate fire sprinkler coverage. Additionally, thermal decomposition of electrolytes may produce flammable gasses that present explosion risks.

Verification and control of stored energy. Severe energy storage system damage resulting from fire, earthquake, or significant mechanical damage may require complete discharge, or neutralization of the chemistry, to facilitate safe handling of components. Though the deployment of PV currently exceeds that of ESS, there is still a lack of a clear response procedure to de-energize distributed PV generation in the field. Fire fighters typically rely on the local utility to secure supply-side power to facilities.

In the case of small residential or commercial PV, the utility is not able to assist because the system is on the owner side of the meter, which presents a problem for securing a 600Vdc rooftop array. Identifying the PV integrators responsible for installation may not be possible, and other installers may be hesitant to assume any liability for a system they did not install. This leaves a vacuum for the safe, complete overhaul of a damaged structure with PV. Similarly, ESS faces the complication of unclear resources for assistance and the inabilities of many first responders to knowledgably verify that the ESS is discharged or de-energized.

Post-incident response and recovery. Thermal damage to ESS chemistries and components presents unique challenges to the fire service community, building owners, and insurers. As evidenced in full-scale testing of EV battery fires, fire suppression required more water than anticipated, and significantly more in some cases. Additionally, confirming that the fire was completely extinguished was difficult due to the containment housings of EV batteries that can mask continued thermal reaction within undamaged cells. In one of the tests performed by Exponent, Inc., one battery reignited after being involved in a full-scale fire test some 22 hours post-extinguishment; in another case, an EV experienced a subsequent re-ignition 3 weeks post-crash testing.

Governmental approvals and permits related to the siting, construction, development, operation, and grid integration of energy storage facilities can pose significant hurdles to the timely and cost effective implementation of any energy storage technology. The process for obtaining those approvals and permits can be difficult to navigate, particularly for newer technologies for which the environmental, health, and safety impacts may not be well documented or understood either by the agencies or the public.

References

"Cause of NAS Battery Fire Incident" NGK Insulators, LTD. June, 2012. 23 A. V. Van Zyl; C.-H Dustmann (Nov. 1995). "Safety Aspects of Zebra High Energy Batteries," in Conference Proceedings, WEVA Conference for Electric Vehicle Research, Development and Operation, November 13, 14, 15, 1995; Paris. Bruxelles, Belgium. pp. 57–63. 24 Current Status of Health and

Safety Issues of Sodium/Metal Chloride (Zebra) Batteries" NREL/TP-460-25553. November, 1998. 25 A. J.

Florence, Laurie B. "Safety Issues for Lithium-Ion Batteries." UL. 2014. http://newscience.ul.com/wpcontent/uploads/sites/30/2014/04/Safety_Issues_for_Lithium_Ion_Batteries

Kim, Gi-Heon; Pesaran, Ahmad; Smith, Kandler. "Thermal Abuse Modeling of Li-Ion Cells and Propagation in Modules." 4th International Symposium on Large Lithium-Ion Battery Technology and Application. National Renewable Energy Laboratory. 2008. http://www.nrel.gov/vehiclesandfuels/energystorage/pdfs/43186.pdf

Grid Energy Storage Strategy. U.S. Department of Energy, Dec. 2013.

Salkind, A. G. Cannone, F. A. Trumbure in "The Handbook of Batteries" D. Linden and T. B. Reddy, 3rd Edition, 2002, pp. 23.77-23.78. 26 A. W. Metwally "Generic environmental and safety assessment of five battery energy storage systems", Electr. Power Res. Inst. 1982 27 D. P. Abraham, E. P. Roth, R. Kostecki, K. McCarthy, S. MacLaren, D. H. Doughty, "Diagnostic examination of thermally abused high-power lithium-ion cells" J. Power Sources, 161. 2006, pp. 648-657 28 G. Nagasubramanian and C. J. Orendorff, "Hydrofluoroether electrotes for lithium-ion batteries: Reduces gas decomposition and nonflammable" J. Power Sources, 196. 2011, pp. 8604-8609. 29 Mikolajczak, Celina; Kahn, Michael; White, Kevin; Long, Richard Thomas. "Lithium-Ion Batteries Hazard and Use Assessment." Exponent Failure Analysis Associates, Inc. July 2011.

31 D. P. Abraham, E. P. Roth, R. Kostecki, K. McCarthy, S. MacLaren, D. H. Doughty, "Diagnostic examination of thermally abused high-power lithium-ion cells" J. Power Sources, 161. 2006, pp. 648-657. 32 "Toxicology Profile for Vanadium" U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry. September 2012.

Wesoff, Eric. "Battery Room Fire at Kahuku Wind-Energy Storage Farm." Green Tech Grid. August 2012.

63 http://www.iec.ch/whitepaper/pdf/iecWP-energystorage-LR-en.pdf

Related

Utility scale energy storage batteries limited by materials and few locations for pumped hydro, compressed air
August 14, 2016

Sacramento SMUD AB 2514 Energy storage report
June 4, 2015
In "Battery - Utility Scale"

Vernon VG&E AB 2514 Energy storage report
June 5, 2015
In "Battery - Utility Scale"

In "Alternative Energy Resources"

This entry was posted in Safety. Bookmark the permalink.

EXHIBIT 9

Responses to Energy Storage Systems

06/30/2015

By PAUL ROGERS

Green energy is emerging and, with it, a new power source; thus, there are risks involved. Energy storage systems (ESS) and the strategies involved in renewable energy have many benefits, but with every new technology comes new challenges including the hazards and risks to first responders. Fire departments are being asked to accept these new technologies and work with the green industry. However, we must remind the green industry that it must work with us, too, by producing testing results that are important to the fire service during their failure mode analysis. Some new batteries have a battery monitoring system (BMS) that is supervised from a remote location to check on the battery efficiency and failure modes. The system is designed to shut down if any safety parameters within the system malfunction. This article focuses on ESS, which is rapidly being introduced into New York City (NYC) in existing and new construction high-rise commercial/residential buildings and will eventually reach other municipalities because of its rapid expansion.


(1, 2) Demand Energy's Joule.System™, in the Paramount Building at 240 East 39th Street in Manhattan. (Photos courtesy of Demand Energy.)

This burgeoning program in NYC is drawing attention from the private sector as well as the public. Consolidated Edison (Con Ed), the public utility company serving NYC, needs to reduce its power consumption. NYC is building at a rapid pace, and this expansion is placing such intense demands on electrical power that there is a risk that the power sources available today will not be able to produce enough energy during the peak hours of the business day.

Con Ed has put together a program allowing building owners to apply for funding to purchase batteries with the qualification that the commercial landlords install these batteries inside their buildings so the peak load is reduced during daylight peak consumption time. The batteries will be charged at night when power is more readily available, and they will use the stored energy during daytime peak hours when demand is high. Although these batteries have clear benefits, this evolving technology presents a precarious situation for fire departments that do not have standard operating procedures/guidelines (SOPs/SOGs) to deal with them.

Risks to First Responders

Battery chemistry . Depending on the individual specifications of the landlord/real estate sector/owner, the ESS may differ from one building to another. It is never recommended to have two or more different chemistries in the same location or even within the same building. There are more than 80 chemistries available from which consumers can choose. These chemistries may be a derivative of chemistry-for example, lithium-ion has different variations. Each chemistry has its own set of challenges including corrosives, reactive metals, toxic gases, hydrogen, and thermal runaway.

Electrical issues . If these batteries fail, the fire service would be called in for fire suppression within the battery systems. Typically, the fire department shuts down electrical power prior to operating. The problem in this case is that even if the power is shut down, there still is STORED energy inside the system that can injure or even electrocute a first responder. For example, if water is one of the suppressing options, firefighters need to be aware that there is a danger of electrical current flowing back to the firefighter's nozzle, thereby increasing the risk of injury to the first responder-a process known as "electrical leakage." Initial testing results demonstrate that keeping a safe distance (depending on the voltage) and using a fog pattern (rather than a straight stream application) set at 30° are recommended and preferable. All testing done by fire protection engineers and the military suggests that when you place an additive such as foam, wetting agents, or other suppressive agents into the attack line, that additive will make the water more electrically conductive, thereby increasing the risk of electrical injury.

Buildings

Since there are no codes or standards to follow for these types of systems and their current use, there is no guideline for fire protection. The system's location within the building should be in an area to which the general public has no access and that will not interfere with the building evacuation routes, which would be hard in existing buildings but easier in new construction. Hydrogen sensors should be

placed in the battery room or the immediate location of the batteries, and consider ventilation for chemistry that produces flammable and potential toxic gases as a by-product of normal battery operations. No combustible materials should be stored in the battery storage rooms. Also, post signs that warn first responders of the type of dangers involved-i.e., WARNING: BATTERY STORAGE ROOM Electric Hazard/Corrosive Hazard.

NYC requires that someone from the building such as a building engineer or a maintenance supervisor take a fire department examination that demonstrates proficiency in the operation of the building's battery storage system. The examination basically gives building personnel a three-year certificate of fitness (C of F) license for safe operations of a battery system. This C of F holder must meet with fire personnel when there is a fire or an emergency that involves these battery systems. A licensed holder must be on the premises while the battery system is in operation, which is usually 24 hours a day.

Some municipalities may need to think about placing these batteries in their own separate room to contain the system. This room containment is sufficient in new construction, but in an existing structure a separate room could be of tremendous cost to the owner, thereby killing the much needed program of energy storage and peak demand shaving.

The fire service must straddle that fine line with the industry and protect its firefighters from serious injury or death. We will never eliminate all the risks associated with ESS, but we can reduce the risk by using innovative techniques that can be a compromise for all stakeholders.

Training and SOPs

Although we have identified the clear benefits of this technology, there are many gaps between the technology and the fire service. Fire departments have been responding to these situations with no guidance or SOPs; therefore, first responders are taking a defensive posture at these operations. When life safety situations are at stake, this alters the dynamic of the fire/emergency.

National Fire Protection Association (NFPA) 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, does not address this type of emergency. My findings in this area revealed that the fire service is behind the curve when it comes to emergencies/fire operations for this technology.

Considerations for Fire or Emergency Response Operations

- Ascertain locations of emergency shutoffs for the ESS.
- NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, may need revision.
- Know the system voltage prior to starting operations.
- Identify the chemistry prior to developing an incident action plan.
- After identification, understand the chemistry's potential dangers and risks.
- Be aware of and prepared for potential battery cell explosions.

- During emergencies without fires, seriously consider heat propagation and monitor for it with a thermal imaging camera.
- Fog nozzles are necessary when using water as an extinguishing agent to reduce the risk of electrical leakage.
- Do not do overhaul until all stored energy has dissipated.
- Consider postfire decontamination.

Technology Is Evolving Faster than Fire Protection Demands

Fire departments need to be aware of this new type of evolving technology. Today's technology is rapidly progressing, and the fire service must be able to adapt more quickly. Allowing new technology to make its way into structures unchecked is irresponsible and reckless. Do not be afraid to question the industry and request cooperation in managing these risks. From my experiences, we have been able to find common ground to move forward with this emerging technology, and that is a step in the right direction. As new battery chemistry continues to emerge in the ESS sector, these challenges may become more hazardous for firefighters.

Testing and information sharing are essential to the development of SOPs/SOGs; we learn and grow from these data. The fire service needs to be vigilant to its new surroundings and new technologies. We must continue to be proactive and stay above the curve to protect firefighters and to ensure the most effective and safest response.

Author's note: Thanks to Julie Nacos for her assistance with this article.

PAUL ROGERS is a lieutenant with the Fire Department of New York (FDNY) Haz Mat Company 1, a hazmat manager with the Federal Emergency Management Agency's USAR NY-TF1, and a hazmat liaison with the United States Marine Corps' Chemical Biological Incident Response Force. Rogers is also a hazmat instructor with the International Association of Fire Fighters, a fire prevention subject matter expert for hazmat with FDNY, and an industrial hazmat chief training instructor for Safety Consulting Group.

Green Building Challenges for the Fire Service
The Fire Service and Green Building Construction: An Overview
Green Building Construction and Daylighting: A Chief Officer's Perspective

EXHIBIT 10

SUSTAINABILITY

Battery Fires Reveal Risks of Storing Large Amounts of Energy

The Chevy Volt fire is just one recent example of potential safety risks associated with large-scale energy storage

By Umair Irfan, ClimateWire on November 30, 2011

Credit: Mariordo/Wikimedia Commons

People still need electricity when the wind isn't blowing and the sun isn't shining, which is why renewable energy developers are increasingly investing in energy storage systems. They need to sop up excess juice and release it when needed.

However, storing large amounts of energy, whether it's in big batteries for electric cars or water reservoirs for the electrical grid, is still a young field. It presents challenges, especially with safety.

The most recent challenge first appeared in May, three weeks after a safety crash test on the Chevrolet Volt, General Motors Co.'s plug-in hybrid. The wrecked vehicle caught fire on its own in a storage facility, raising questions about its lithium-ion battery.

Last week, after a series of additional side-impact crash tests on the Volt battery, the National Highway Traffic Safety Administration (NHTSA) launched what it called a "safety defect investigation" into the risk of fire in a Chevy Volt that has been involved in a serious accident.

Problems have also afflicted spinning flywheels, which allow power plants and other large energy users to store and release powerful surges of energy. In Stephentown, N.Y., Beacon Power's 20-megawatt flywheel energy storage facility suffered two flywheel explosions, one on July 27 -- just two weeks after it opened -- and one on Oct. 13. The company declared bankruptcy earlier this month.

In Japan, sodium-sulfur batteries at Mitsubishi Materials Corp.'s Tsukuba plant in Ibaraki prefecture caught on fire on Sept. 21. It took firefighters more than eight hours to control the blaze, and authorities declared it extinguished on Oct. 5.

NGK Insulators Ltd., the company that manufactured the energy storage system, said it is still investigating the incident's cause and has halted production of its sodium-sulfur cells, which are installed in 174 locations across six countries.

"Clearly, storing large amounts of energy is difficult from a physics standpoint; [the energy] would rather be somewhere else," said Paul Denholm, a senior energy analyst at the National Renewable Energy Laboratory.

He explained that energy naturally wants to spread out, so packing it into a small space like a battery or a fuel cell creates the risk of an uncontrolled energy release like a fire or explosion. Similar issues come up with mechanical storage, whether it's water behind a dam, compressed air underground or spinning flywheels.

Some storage risks are 'grandfathered'

However, these risks are not unique to storing electricity. Fossil fuels, which are

technically forms of stored energy, pose plenty of problems in their extraction, refining, distribution and delivery.

"We basically have grandfathered these risk factors. Gasoline catches on fire all the time," said Denholm. Electrical energy storage systems aren't inherently riskier than petroleum or natural gas, according to Denholm, but their risks are different.

The NHTSA shares Denholm's assessment when it comes to cars. "Let us be clear: NHTSA does not believe electric vehicles are at a greater risk of fire than other vehicles," said the agency in a press release earlier this month responding to the Volt fire. "It is common sense that the different designs of electric vehicles will require different safety standards and precautions."

For batteries, the main issue is how they control the heat they generate. "What you really want to avoid is cascading failure," said Denholm. "A failure of any one of those batteries is not a huge event, but if you don't have proper thermal management, a failure in one battery can cause failure in another."

This condition, known as a thermal runaway, happens when a cell fails and releases its energy as heat. This heat can cause adjacent cells to fail and generate heat, as well, leading to melting materials and fires.

Controlling temperatures is relatively simple when the batteries are in a fixed location, say, next to a wind farm, but it becomes harder when they are placed in a car or bus.

"The biggest thing that people become concerned about [for batteries in cars] is the ability to be able to tolerate abuse," said Joe Redfield, principal engineer at the Southwest Research Institute, a nonprofit engineering research and development group.

In a car, a battery is exposed to a wide range of humidities, temperatures and electrical loads. All of these factors influence the battery's reliability, and if they get too extreme, they can cause a thermal runaway condition.

New problem for firefighters

The problem is compounded by the fact that newer lithium-ion batteries store more electricity than other electrochemical storage systems. "The lead-acid battery has been around a long time" and is a mature technology, said Redfield. "The energy levels of lithium-ion batteries are much, much, much greater than that of lead-acid storage."

This becomes a major problem for firefighters and first responders in the event of an accident involving lithium-ion batteries. Water can't always be used to extinguish an electrical fire, since water can conduct electricity.

In addition, in the case of a thermal runaway, it's usually not the batteries that catch fire but their fumes, though lithium itself is flammable. Even after the fire is extinguished, the batteries can still generate tremendous amounts of heat and reignite fumes, hampering rescue efforts.

One solution is to separate batteries into modules, making it easier to isolate a failed battery from the rest. Another trick is to have a master kill switch, a mechanism that quickly disables the electrical system and discharges the batteries.

The Department of Energy and the National Fire Protection Association are working together to train firefighters and rescue workers to identify these switches in vehicles and grid storage systems as well as in how to respond to battery fires, according to the NHTSA.

Redfield said that the best way to prevent such incidents is with a battery management system that evenly distributes electrical loads and controls temperatures. "It's not just for safety; it's primarily there to provide performance and battery life," he said.

Electrics get high marks in crash tests

"As the operating temperature increases, the lifetime diminishes dramatically. You want to ensure the longest battery life, and if you achieve that, then you're clearly in the safety limits of the operating environment," he added.

Overall, Redfield expects that energy storage systems will help increase renewable energy use and curb fossil fuel dependence in the United States. The bumps along the road are significant, but they do not result from an inherent flaw in the idea.

"Failures in new technology have almost always been the result of design shortcuts that were made in putting the new technology into progress. Every now and then, you have some uncharted territory -- things we haven't seen before -- but typically, they are few and far between," said Redfield.

"It really is going down the same path we've gone down many times before. We don't need to make the same mistakes we've made with liquid fuels." After the earlier testing, NHTSA gave the Volt a five-star crash test rating -- the agency's highest -- and it did the same for Nissan's all-electric Leaf.

Meanwhile, a second testing agency, the Insurance Institute for Highway Safety, has given the Chevrolet Volt a "G," the highest safety score possible, after side crash tests on the front, side, rear and rollovers.

Research by an affiliate of the insurance group, the Highway Loss Data Institute, estimates that overall chances of being injured in a crash are 25 percent lower in hybrids because their large batteries make them heavier than similar gasoline-powered cars.

ABOUT THE AUTHOR(S)

Umair Irfan

Recent Articles

People Furthest Apart on Climate Views Are Often the Most Educated

Scientists Can See Zika Coming by Tracking the Climate

Energy Secretary Perry Pulls a U-Turn on Climate

ClimateWire

Recent Articles

California Truck Rules Set Up Potential Conflict with Trump Administration

New Study Finds Cutting Oil Subsidies Will Not Stop Climate Change

Chemistry May Yield Lucrative Use for Wasted Methane

LOAD COMMENTS

LATEST NEWS

ENVIRONMENT

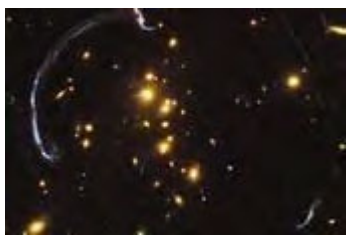
California Truck Rules Set Up Potential Conflict with Trump Administration

1 hour ago — Debra Kahn and ClimateWire

SPACE

Did We Just Find Exoplanets in Another Galaxy?

1 hour ago — Nola Taylor Redd and SPACE.com



ENVIRONMENT

The Arctic Permafrost Holds a Crazy Amount of Mercury--and That's Bad News

2 hours ago — Annie Sneed

BEHAVIOR & SOCIETY

Why the Disease Definition of Addiction Does Far More Harm Than Good

5 hours ago — Marc Lewis

NEUROSCIENCE

Go Figure: Why Olympic Ice Skaters Don't Fall Flat on Their Faces

6 hours ago — Yasemin Saplakoglu

POLICY & ETHICS

Science at the 2018 Winter Olympics

21 hours ago

EXHIBIT 11

Lithium-ion Battery Energy Storage Systems

The risks and how to manage them

AIG Energy Industry Group

A key emerging risk

The rapid rise of Battery Energy Storage Systems (BESS's) that utilize Lithium-ion (Li-ion) battery technology brings with it massive potential – but also a significant range of risks. At AIG, we believe this is one of the most important emerging risks today – and organisations that use this technology must balance the opportunities with the potential downsides.

The market for BESS technology and Li-ion batteries is growing very rapidly and demand is coming from a wide range of industries and users, many of which are not aware of the risks involved. Consumers are using Li-ion battery technology extensively in their everyday lives – in everything from smartphones to laptops and hybrid cars – and organisations are embracing BESS technology for everything from renewable energy storage to electric cars.

So are these systems safe?

Fire is a major risk, with a number of Li-ion battery-related incidents hitting the headlines in recent years, from exploding Samsung smartphones to electric car fires and even a Dreamliner catching fire at Heathrow, along with a Hawaiian BESS facility fire. One of the most concerning features of battery fires is that they can seemingly ignite or reignite days or weeks after they were thought to be extinguished.

In this report, we look at the development of BESS's, with particular emphasis on those supplied by Li-ion battery technology and consider the associated risks – as well as what organisations can do to minimise their exposures.

What are Battery Energy Storage Systems?

Battery Energy Storage Systems (BESS's) are a sub-set of Energy Storage Systems (ESS's). ESS is a general term for the ability of a system to store energy using thermal, electro-mechanical or electro-chemical solutions. A BESS utilizes an electro-chemical solution.

Essentially, all Energy Storage Systems capture energy and store it for use at a later time or date. Examples of these systems include pumped hydro, compressed air storage, mechanical flywheels, and BESS's. These systems complement intermittent sources of energy such as wind, tidal and solar power in an attempt to balance energy production and consumption.

Energy storage results in a reduction in peak electrical system demand and ESS owners are often compensated through regional grid market programs. Regulators also offer incentives (and in some cases mandates) to encourage participation.

Types of BESS

BESS's use electro-chemical solutions and include some of the following types of batteries:

- Lithium-ion – these offer good energy storage for their size and can be charged/discharged many times in their lifetime. They are used in a wide variety of consumer electronics such as smartphones, tablets, laptops, electronic cigarettes and digital cameras. They are also used in electric cars and some aircraft.
- Lead-acid – these are traditional rechargeable batteries and are inexpensive compared to newer types of batteries. Uses include protection and control systems, back-up power supplies, and grid energy storage.
- Sodium Sulphur – uses include storing energy from renewable sources such as solar or wind.
- Zinc bromine – uses include storing energy from renewable sources such as solar or wind.
- Flow – flow batteries are quite large and are generally used to store energy from renewable sources.

Why are BESS's gaining popularity?

All types of BESS offer pros and cons in terms of capacity, discharge duration, energy density, safety, environmental risk, and overall cost. However, BESS's utilizing Li-ion batteries are by far the most widely used system today. This is primarily due to their high energy density and steady decrease in cost.

Decreasing costs

A major factor in the rapid increase in the use of BESS Li-ion technology has been a 50% decrease in costs of energy storage over the last two years. While costs are still high compared to grid electricity, the cost of energy storage has actually been plummeting for the last 20 years.[1]

Storage systems can also decrease the need to invest in new conventional generation capacity, resulting in financial savings and reduced emissions from generating electricity. Using storage systems also means fewer and cheaper electricity transmission and distribution system upgrades are required.

Storage systems at the utility customer level can also result in significant savings to businesses through smart grid and Distributed Energy Resource (DER) initiatives, where cars, homes and businesses are potential storers, suppliers and users of electricity.

In a virtuous cycle, the growing market will lead to increased production of BESS's, which will lead to lower prices, which will increase the size of the market further.

Security of supply

Storage technologies are also popular because they improve energy security by optimising energy supply and demand, reducing the need to import electricity via interconnectors, and also reducing the need to continuously adjust generation unit output.

In addition, BESS's can provide system security by supplying energy during electricity outages, minimizing the disruption and costs associated with power cuts.

Another reason for the rising popularity of storage systems is that they can enable the integration of more renewables, such as solar, tidal and wind power, in the energy mix.

Financial incentives

Many governments and utility regulators are actively encouraging the development of battery storage systems with financial incentives, which is likely to lead to further growth.

[1]Power Engineering, 4/18/2017, "What you need to know about energy storage."

What are the risks involved?

While the use of batteries is nothing new, what is new is the size, complexity, energy density of the systems and the Li-ion battery chemistry involved – which can lead to significant fire risks.

These risks are exacerbated by the fact that many of the new users of BESS's are not energy specialists. Previously, these systems would have been used by companies that had an in-depth understanding of their uses and potential dangers. Today, a buyer of a BESS is just as likely to be a property developer, council or university, with limited understanding of the inherent hazards.

Thermal runaway

'Thermal runaway' – a cycle in which excessive heat keeps creating more heat – is the major risk for Li-ion battery technology. It can be caused by a battery having internal cell defects, mechanical failures/damage or overvoltage. These lead to high temperatures, gas build-up and potential explosive rupture of the battery cell, resulting in fire and/or explosion. Without disconnection, thermal runaway can also spread from one cell to the next, causing further damage.

In BESS's that utilize lead acid batteries, hydrogen evolution can result in explosive atmospheres unless proper ventilation methods are employed

Difficulty of fighting battery fires

Battery fires are often very intense and difficult to control. They can take days or even weeks to extinguish properly, and may seem fully extinguished when they are not.

They can also be very dangerous to fire fighters and other first responders because, in addition to the immediate fire and electricity risks, they may be dealing with toxic fumes, exposure to hazardous materials and building decontamination issues. Different types of batteries also react differently to fire, so firefighters must be knowledgeable about how they react and how to respond. Otherwise they may decide to contain the fire but leave it to burn itself out leading to the loss of the entire facility

Failure of control systems

Another issue can be failure of protection and control systems. For example, a Battery Management System (BMS) failure can lead to overcharging and an inability to monitor the operating environment, such as temperature or cell voltage.

Sensitivity of Li-ion batteries to mechanical damage and electrical transients

Contrary to existing conventional battery technology, Li-ion batteries are very sensitive to mechanical damage and electrical surges. This type of damage can result in internal battery short circuits which lead to internal battery heating, battery explosions and fires. The loss of an individual battery can rapidly cascade to surrounding batteries, resulting in a larger scale fire.

Case studies

BESS's employing Li-ion batteries and Li-ion batteries in general have been involved in a number of high-profile incidents in recent years.

Dreamliner fire

In 2013, a Dreamliner 787 at Heathrow caught fire after a short circuit in a battery-operated device caused a thermal runaway reaction. The fire caused significant damage in the cabin, partly because the device was located near insulation materials. The fire also resulted in damage to the fuselage.[2] The Heathrow incident was one of a number affecting the aircraft in 2013, problems that were said to have cost Boeing in excess of $600 million.[3]

Samsung Galaxy Note 7 recalled after devices explode

Samsung hit the headlines in 2016 when it recalled 2.5 million Galaxy Note 7 phones after complaints about overheating and phones exploding. In January 2017, Samsung confirmed that the cause of the problems had been the batteries.[4] Direct costs of the recall were estimated at the time at up to £4 billion, but it has been suggested that the long-term damage to the brand could be anything up to £20 billion.[5]

Chevrolet Volt catches fire three weeks after crash

In 2011, a Chevrolet Volt caught fire more than three weeks after a routine side-impact crash test damaged its battery pack. The fire prompted concerns over the safety of using lithium-ion batteries to power hybrids and electric cars.[6] In a subsequent test on electric cars, carried out by the Fire Protection Research Foundation[7] in 2013, fire fighters found they needed a very large volume of water to extinguish battery fires, which kept reigniting. In one example, a battery fire reignited, 22 hours after it was thought to have been extinguished.[8]

Hawaii wind farm has two fires in a year

In 2012, the Kahuku wind firm in Hawaii experienced two fires, which caused significant damage and were attributed to the capacitors being at fault. In the second fire, the fire fighters could not enter the building for several hours because it was unclear whether the batteries were emitting toxic fumes.[9]

[2]http://www.bbc.co.uk/news/business-33985615
[3]http://www.businessinsider.com/dreamliner-trouble-has-cost-boeing-600-million-2013-4
[4]http://www.bbc.co.uk/news/business-38714461
[5]https://www.theguardian.com/business/2016/oct/14/samsung-galaxy-note-7-smartphone-profits-warning
[6]https://www.reuters.com/article/us-gm-volt/u-s-probes-ev-batteries-after-chevy-volt-fire-idUSTRE7AA53H20111111
[7]The Fire Protection Research Foundation (FPRF) is an independent nonprofit whose mission is to plan, manage and communicate research in support of the US National Fire Protection Association (NFPA).
[8]http://www.nfpa.org/news-and-research/publications/nfpa-journal/2016/january-february-2016/features/ess/lithium-ion-conundrum
[9]https://www.greentechmedia.com/articles/read/battery-room-fire-at-kahuku-wind-energy-storage-farm#gs.yfr=ERQ

How can companies reduce their risks?

Some manufacturers and utility companies are working on developing guidelines regarding how best to protect Battery Energy Storage Systems and any buildings in which they are installed. However, many of the test results are confidential, so efforts are being made to encourage the sharing of this information.

For now, companies that want to use BESS's must assess their fire protection challenges and reduce their risks wherever possible.

Planning

As a starting point, it is useful to consider these questions:

- How should the BESS be constructed (e.g. using individual containers of batteries, physical separation of batteries, use of dedicated fire areas, fire protection systems etc.)?
- What testing should be conducted during commissioning?
- How do batteries of this chemistry/technology react in a fire?
- How would firefighters make sure this type of battery is fully extinguished?
- How would firefighters handle a damaged battery that is still charged with power?
- Have fire fighters been invited to site to perform a planning review?
- What are the risks to first responders and the public from exposure to toxic fumes, electricity and other hazards if a fire or other incident were to occur?
- What environmental hazards would be created when fire systems interact with failed batteries?

Construction

There are practical steps that organisations can take to minimise their risks when constructing a battery system:

- Use non-combustible materials.
- Check where the batteries were made/who the manufacturer is.
- Transport the batteries very carefully as they are fragile, despite their robust appearance.
- Carry out extensive testing to detect any faults.
- Ensure an effective Battery Management System is included in the design.

For external installations:

- Locate storage systems well away from critical buildings or equipment.
- Where spatial separation is not possible, provide exterior protection such as a passive thermal barrier, or active fire protection such as drenchers.
- Install battery and battery management systems/electrical switch gear in separate rooms.

For internal installations:

- Make sure that the battery system is separate from critical infrastructure.
- Put battery and battery management systems/electrical switch gear in separate rooms, with fire resistive construction (two hour fire rated) to adequately cut off the room from surrounding exposures.
- Provide fire-rated compartmentation and adequate separation between battery units.
- Provide adequate fire doors (>FR60) that are maintained in the closed position and equipped with automatic closure mechanisms. Where insulated metal panels (IMPs) are used, these should contain a mineral wool core and be installed in accordance with the terms of their approval. Only non-combustible IMPs should be installed.
- Ensure proper management of cable/service penetrations. Cable penetrations should be adequately sealed to meet the fire resistance of the compartment (two hour fire resistance rating). Heating, ventilation and air conditioning ducts should have fire dampers provided that automatically close on activation of the fire alarm. Establish a permit to access system to manage changes to service or cable penetrations under an audited system.

Commissioning

During the commissioning process:

- Check the batteries visually at points of loading.
- Repeat factory tests.
- Ensure that those installing the equipment are properly trained.
- Ensure maintenance and inspection schedules are set up.

Fire protection

Organisations should put automatic fire detection in place, with early warning smoke detection or very early warning highly sensitive smoke detection (using air sampling devices such as VESDA). The system design should include continuous remote monitoring.

As for active fire protection, testing and research is just beginning and there is no publicly available test data that proves any particular type of active fire protection can prevent or control thermal runaway. Therefore, there is no clear guidance for organisations about what kind of protection to put in place.

However, inert gas and foam suppression systems seem unable to control thermal runaway, so the two main options are likely to be automatic fire sprinklers and water mist.

In 2018, a Property Insurance Research Group[10] project in the US will look into sprinkler protection for BESS's. It will aim to determine sprinkler protection guidance and establish an appropriate sprinkler system design that applies to the majority of locations where a BESS may be found within a commercial facility.

[10]The Property Insurance Research Group (PIRG), comprising representatives of seven major insurance companies supports the actvities of the Fire Protection Research Foundation (FPRF), itself part of the US National Fire Protection Association (NFPA).

BESS technology is an area in which the technology – and the associated opportunities and risks – are constantly evolving. AIG's Energy Industry Practice Group, which focuses on key issues that could impact the energy industry, considers this a key risk and monitors it on an ongoing basis.

www.aig.com

Paul Hesler

Global Electrical Technical Specialist,
Technical Hazards Team
Tel: +1 860 321 3853
paul.hesler@aig.com

Paul Anastasia

Global MFL and Fire Specialist,
Technical Hazards Team
Tel: +1 508 337 3190
paul.anastasia@aig.com

Kenneth Travers

Global Technical Hazards Team Lead,
Technical Hazards Team
Tel: + 1 302.765.1660
kenneth.travers@aig.com

John Chinnock

Account Engineer - UK (Powergen)
Client Risk Solutions
Tel: +44 (0) 7702 137328
john.chinnock@aig.com

Simon Warren

Risk Strategist UK
Client Risk Solutions
Tel: +44 (0)7912 795 076
simon.warren@aig.com

For further information on AIG's Energy Industry Practice, and/or contacts please visit www.aig.co.uk/energygroup

For further information on the issues raised in this paper, or on AIG's Client Risk Solutions, you can also contact your local AIG Property Risk engineer or **CRS@AIG.com**

GBL00002513 1/18

EXHIBIT 12

Hazard Assessment of Lithium Ion Battery Energy Storage Systems

FINAL REPORT

PREPARED BY:

Andrew F. Blum, P.E., CFEI
R. Thomas Long Jr., P.E., CFEI
Exponent, Inc.
17000 Science Drive, Suite 200
Bowie, MD 20715

RESEARCH FOUNDATION

RESEARCH FOR THE NFPA MISSION

FIRE PROTECTION RESEARCH FOUNDATION
ONE BATTERYMARCH PARK | QUINCY, MASSACHUSETTS, USA 02169 7471
E MAIL: FOUNDATION@NFPA.ORG | WEB: WWW.NFPA.ORG/FOUNDATION

FOREWORD

In recent years, there has been a marked increase in the deployment of lithium ion batteries in energy storage systems (ESS). Many ESS are being deployed in urban areas both in high rise structures and single- and multi-family residences. Local Authorities Having Jurisdiction (AHJs) along with the ESS integrators and installers are challenged by the lack of clear direction on fire protection and suppression in these installations. Without a recognized hazard assessment made available to standards developers, AHJs, emergency responders, and industry, guidance on safe installation of these systems will lack a technical basis.

The purpose of this project is to develop a hazard assessment of the usage of lithium ion batteries in ESS to allow for the development of safe installation requirements and appropriate emergency response tactics.

The Fire Protection Research Foundation expresses gratitude to the report author Andew Blum and Tom Long, who are with Exponent, Inc. located in Bowie, Maryland. The Research Foundation appreciates the guidance provided by the Project Technical Panelists, the funding provided by the project sponsors, and all others that contributed to this research effort. Thanks are also expressed to the National Fire Protection Association (NFPA) for providing the project funding through the NFPA Annual Code Fund.

About the Fire Protection Research Foundation

The Fire Protection Research Foundation plans, manages, and communicates research on a broad range of fire safety issues in collaboration with scientists and laboratories around the world. The Foundation is an affiliate of NFPA.

About the National Fire Protection Association (NFPA)

Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission.

All NFPA codes and standards can be viewed online for free.

NFPA's membership totals more than 65,000 individuals around the world.

Keywords: energy storage systems, lithium ion batteries, fire hazard assessment, stranded energy

PROJECT TECHNICAL PANEL

Paul Rogers, FDNY HazMat

Benjamin Ditch, FM Global

Manish Mohanpukar, Idaho National Laboratory

Ken Willette, NFPA Public Fire Protection Division Manager

Daniel Gorham, NFPA 850 Staff Liaison

Mark Earley, NFPA 70 Staff Liaison

Randy Fish, California Energy Storage Alliance

Roger Lin, NEC Energy Solutions

Steven Sawyer, International Fire Marshals Association

Mark Boone, Dominion Resources Services Inc.

Celina Mikolajczak, Tesla Motors

Robby Dawson, Chesterfield County Fire & EMS

Leo Subbarao, FDNY Technology Management

Tamara Saakian, FDNY Technology Management

Andrew Klock, NFPA

PROJECT SPONSOR

National Fire Protection Association

DONOR OF TESTING HARDWARE AND RESOURES

Tesla Motors

Exponent®

Thermal Sciences

Fire Hazard Assessment of Lithium Ion Battery Energy Storage Systems

1463

Exponent®

Fire Hazard Assessment of Lithium Ion Battery Energy Storage Systems

Prepared for

Fire Protection Research Foundation
One Batterymarch Park
Quincy, MA 02169

Prepared by

Andrew F. Blum, P.E., CFEI
R. Thomas Long Jr., P.E., CFEI
Exponent, Inc.
17000 Science Drive, Suite 200
Bowie, MD 20715

February 26, 2016

1503637.000 2770

Contents

List of Figures

List of Tables

Acronyms and Abbreviations

Ah	ampere hours
AHJ	authority having jurisdiction
APS	Arizona Public Service Company
BATSO	Battery Safety Organization
BMS	battery management system
CH_4	methane
Cl_2	chlorine
CO	carbon monoxide
CO_2	carbon dioxide
DC	direct current
DOE	Department of Energy
DOT	Department of Transportation
EDV	electric drive vehicle
EES	electrical energy storage
ELC	equivalent lithium content
ESS	energy storage system
FMEA	Failure Modes and Effects Analysis
FPRF	Fire Protection Research Foundation
ft	feet
g	grams
HCl	hydrogen chloride
HCN	hydrogen cyanide
HECO	Hawaiian Electric Company
HF	hydrogen fluoride
HFD	Honolulu Fire Department
HFG	heat flux gauge
HRR	heat release rate
IBC	International Building Code

ICC	International Code Council
ICE	internal combustion engine
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IFC	International Fire Code
in	inch
IRC	International Residential Code
JSA	Japanese Standards Association
kg	kilograms
kWh	kilowatt hours
LER	light electric rail
Li-ion	lithium ion
lpm	liters per minute
mph	miles per hour
MW	megawatt
NEC	NFPA 70, *National Electrical Code*
NEMA	National Electrical Manufacturers Association
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NiCad	nickel cadmium
NO_x	nitrogen oxides
OSHA	Occupational Safety and Health Administration
PF_5	phosphorus pentafluoride
POF_3	phosphoryl fluoride
ppm	parts per million
psi	pounds per square inch
PVES	photovoltaic energy systems
SAE	Society of Automotive Engineers
SCBA	self-contained breathing apparatus
SDS	safety data sheet
SOC	state of charge

TC	thermocouple
UN	United Nations
UL	Underwriters Laboratories
UPS	uninterrupted power supplies
VOC	volatile organic compound
Wh	watt hours

Limitations

At the request of the Fire Protection Research Foundation (FPRF), Exponent performed a fire hazard assessment of lithium ion (Li-ion) batteries used in energy storage systems (ESSs). This report summarizes a literature review and gap analysis related to Li-ion battery ESSs, as well as full-scale fire testing of 100 kilowatt hour (kWh) Li-ion battery ESSs. The scope of services performed during this literature review and testing program may not adequately address the needs of other users of this report, and any re-use of this report or the findings, conclusions, or recommendations presented herein are at the sole risk of the user.

The full-scale Li-ion battery ESS test strategy, ignition protocols, and any recommendations made are strictly limited to the test conditions included and detailed in this report. The combined effects (including, but not limited to) of different battery types, ESS types, ESS size/battery capacity, internal or external ESS/battery damage, battery energy density and design, state of charge, and cell chemistry are yet to be fully understood and may not be inferred from these test results alone.

The findings formulated in this review are based on observations and information available at the time of writing. The findings presented herein are made to a reasonable degree of scientific and engineering certainty. If new data becomes available or there are perceived omissions or misstatements in this report, we ask that they be brought to our attention as soon as possible so that we have the opportunity to fully address them.

Executive Summary

In an effort to provide guidance to standards developers, authorities having jurisdiction (AHJs), emergency responders, and the energy storage system (ESS) industry, Exponent, in conjunction with FPRF, the Project Technical Panel, and industry sponsors, performed a fire hazard assessment of Li-ion battery ESSs. Currently, these entities do not have a clear direction regarding the fire hazards of ESS installations and have few, if any, technical studies, reports, or scientific literature to rely upon when making decisions regarding the safe installation of these systems. This report summarizes a literature review and gap analysis related to Li-ion battery ESSs, as well as full-scale fire testing of a100 kWh Li-ion battery ESS.

The scope of work included, but was not limited to, the following four primary tasks:

1. A literature review and gap analysis related to Li-ion battery ESSs;
2. Development of a detailed full-scale fire testing plan to perform an assessment of Li-ion battery ESS fire hazards;
3. Witnessing the implementation of the fire test plan through full-scale fire testing; and
4. A report of final results and a fire hazard assessment.

The overall project research objective was to develop a technical basis through a fire hazard assessment of Li-ion battery ESSs. This project is the first phase of an overall initiative with the goal to develop safe installation practices, fire protection guidance, and appropriate emergency response tactics for Li-ion battery ESSs based on the literature review and full-scale test results, as applicable. This project did not include an analysis or testing of fire detection systems, fire suppression systems, or emergency response tactics related to Li-ion battery ESS fire scenarios. A full listing of project observations/key findings as they relate to ESS fire hazards is provided in Section 7 of this report.

1 Background

1.1 Project History

Energy storage is emerging as an integral component of a resilient and efficient electrical grid through a diverse array of potential applications. It is anticipated that the evolution of the electrical grid will result in a greater need for services best provided by energy storage systems (ESSs). It is expected that the increase in demand for these systems will further drive energy storage research to produce systems with greater efficiency at a lower cost, which will lead to an influx of energy storage deployment across the country. To enable the success of these deployments, the hazards of these systems, namely the fire hazard of the ESS, must be understood.[1]

In recent years, there has been a marked increase in the deployment of lithium ion (Li-ion) batteries in ESSs. Many ESSs are being deployed in both high-rise structures and single- and multi-family residences. Local authorities having jurisdiction (AHJs) along with ESS integrators and installers do not have a clear direction regarding the fire hazards of these installations. A recognized fire hazard assessment available to standards developers, AHJs, emergency responders, and industry will provide guidance with a technical basis on the evaluation and safe installation of these systems.

1.2 Research Objectives and Project Scope

The overall project research objective was to develop a technical basis through a fire hazard assessment of Li-ion ESSs. This project is part of an overall initiative with the goal to develop safe installation practices, fire protection guidance, and appropriate emergency response tactics for ESSs. This project did not include an analysis or testing of fire detection systems, fire suppression systems, or emergency response tactics related to Li-ion battery ESS fire scenarios.

[1] Energy Storage Safety Strategic Plan, U.S. Department of Energy, December 2014.

The scope of work included, but was not limited to, the following four primary tasks:

1. A literature review and gap analysis related to Li-ion battery ESSs;
2. Development of a detailed full-scale fire testing plan to perform an assessment of Li-ion battery ESS fire hazards;
3. Witnessing the implementation of the fire test plan through full-scale fire testing; and
4. A report of final results and a fire hazard assessment.

A more detailed description of the tasks Exponent performed to fulfill the project objectives is provided below.

1.2.1 Literature Review and Gap Analysis

Exponent collected, reviewed, and summarized available literature related to Li-ion battery ESSs, including the Department of Energy (DOE) Safety Roadmap, relevant codes and standards, incident reports, related test plans, and previous fire testing/research. The literature review also identified existing gaps in the information currently available and the practices utilized in the deployment of Li-ion ESSs, if any.

1.2.2 Fire Test Plan

Exponent, in conjunction with the Project Technical Panel, developed a detailed test plan to provide an assessment of fire hazards posed by Li-ion ESSs. Li-ion ESSs with an approximate capacity of 100 kilowatt hours (kWh) designed for use in commercial applications were tested.

1.2.3 Witness of Fire Testing

Exponent witnessed the full-scale fire testing at the manufacturer's testing site and summarized the test observations and data provided to Exponent.

1.2.4 Final Report

Exponent collected and summarized the results of the above tasks in a formal research engineering report, including:

1. An overview of the project work to date;
2. A summary of the full-scale fire tests;
3. A fire hazard assessment; and
4. Identification of future potential research.

2 Literature Review and Gap Analysis

Exponent collected, reviewed, and summarized available literature related to ESSs and Li-ion batteries. The literature review provides an overview of energy storage (Section 2.1), commercial and residential ESSs (Section 2.2), a brief summary of Li-ion technology (Section 2.3), codes and standards related to ESSs (Section 2.4), fire incidents involving ESSs (Section 2.5), large format Li-ion battery fires (Section 2.6), and a gap analysis (Section 2.7).

2.1 Energy Storage Overview

An ESS provides a means to store energy for later use to supply the utility grid or local grids.[2] An ESS may utilize any of the following technologies:

1. **Electrochemical.** Consists of a secondary battery, electrochemical capacitor, flow battery, or hybrid battery-capacitor system that stores energy and any associated controls or devices that can provide electric energy upon demand.

2. **Chemical.** Consists of hydrogen supply equipment or other fuel supply equipment combined with a fuel cell power system or generator to convert the fuel to electrical energy.

3. **Mechanical.** Consists of a mechanical means to store energy, such as through compressed air, pumped water, or fly wheel technologies and associated controls and systems, which can be used to run an electric generator to provide electric energy upon demand.

4. **Thermal.** Consists of a system that uses heated fluids, such as air, as a means to store energy along with associated controls and systems, which can be used to run an electric generator to provide electrical energy upon demand.

This report focuses on Li-ion battery ESSs for commercial and residential installations, which are an electrochemical technology.

[2] UL 9540, *Outline of Investigation for Energy Storage Systems and Equipment*, Issue Number 1, June 30, 2014.

An ESS allows for the balance of supply and demand of electrical energy, utilizing stored energy during "peak demand" times and storing energy during times of "low demand." An example of a common ESS is pumped-storage hydroelectricity (pumped hydro). Pumped hydro stores large quantities of water in elevated reservoirs by utilizing excess electricity at times of low demand to pump water into the reservoirs. The facilities then release the water, which passes through turbine generators and converts the stored potential energy to electricity when electrical demand peaks.[3]

Recently, a more common solution is the storage of energy in a battery. Batteries have historically been of limited use in large scale electric power systems due to their relatively small capacity and high cost. However, newer battery technologies have been developed that can provide significant utility scale capabilities.[4] In addition to utility scale applications, smaller commercial and residential ESSs utilizing batteries are also becoming more prevalent.

2.2 Commercial and Residential ESS Overview

The most common commercial and residential ESSs are electrochemical systems utilizing batteries. Currently, there are many different battery chemistries (e.g., lead acid, sodium sulfur, lithium iron phosphate, Li-ion) utilized in ESSs deployed in North America; however, Li-ion is the most popular[5] and will likely continue to grow in popularity with the planned release of new ESS products in the coming years.

Residential ESSs are typically sized between 1 and 10 kWh[6,7,8] and standalone commercial systems can be much larger (20 to 100 kWh), modular, and interconnected to produce even greater capacity. The systems can vary in voltage depending on the design of the batteries, the ESS power management systems, and the manufacturer. Current products installed in the market have voltages as low as 48 volts and as high as 1000 volts DC. ESSs typically work by

[3] Wald, Matthew, L. Wind Drives Growing Use of Batteries, *The New York Times*, July 27, 2010.

[4] Wald, Matthew, L. Wind Drives Growing Use of Batteries, *The New York Times*, July 27, 2010.

[5] Energy Storage Safety Strategic Plan, U.S. Department of Energy, December 2014.

[6] http://www.samsungsdi.com/ess/overview

[7] http://www.teslamotors.com/powerwall

[8] http://www.aquionenergy.com/energy-storage-battery

storing power collected from the grid, a solar installation, wind installation, or other source during a low demand time (typically during the day) and then using the stored energy during peak hours (typically in the mornings and evenings), as illustrated in Figure 1.[9,10]

The ESS typically consists of the batteries, a mounting frame or shelf for the batteries, a cooling system (i.e., fan, radiator, and hoses), power electronics, and an enclosure (the outer cover or cabinet) that these components are stored within. A residential ESS can be installed inside a residence or building, typically within the garage or attic, or installed on the exterior of the structure. A commercial ESS can be installed outside along a property line, next to a building, or inside a shipping container.

Pumped hydro remains one of the oldest and most mature energy storage technologies, having been utilized safely since the 1800s. Its hazards are well known and defined. Battery ESSs, however, are much earlier in their development and deployment cycle and, given recent trends, have not reached the full extent of their deployed capacity.[11] The hazards associated with these systems are not well known and are less defined than other traditional ESS technologies, such as pumped hydro. When discussing ESSs in the remainder of the report, Exponent is referring to Li-ion battery ESSs for use in commercial applications.

[9] http://www.samsungsdi.com/ess/overview

[10] http://www.teslamotors.com/powerwall

[11] Energy Storage Safety Strategic Plan, U.S. Department of Energy, December 2014.

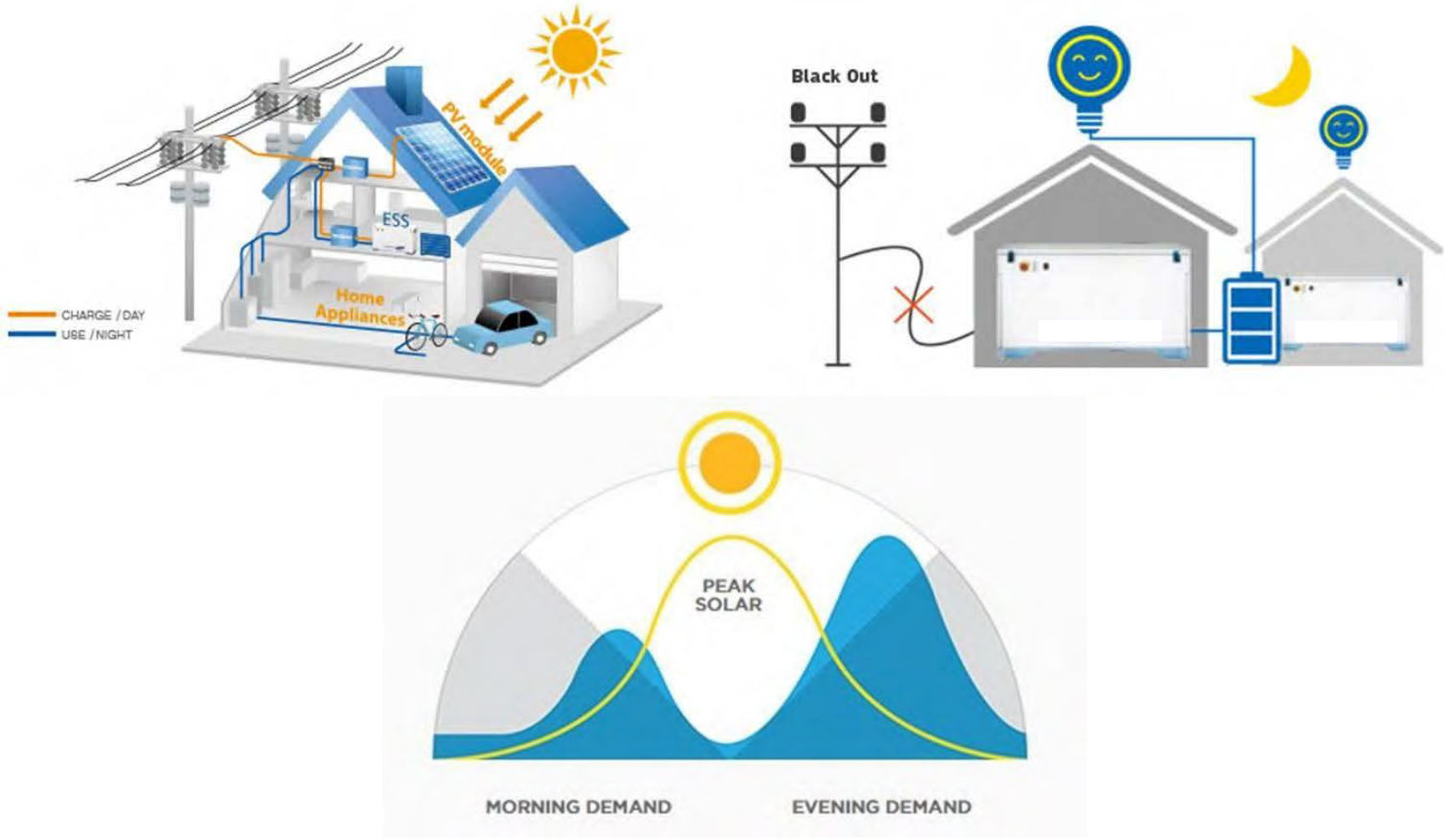


Figure 1 Illustration of energy storage during off peak hours (top left); use of energy storage during peak hours or power interruptions (top right); and the typical energy consumption curve (bottom)[12]

[12] http://www.samsungsdi.com/ess/residential-commercial-solution

2.3 Li-ion Battery Overview

Li-ion battery cells are in wide consumer use today. As this technology has evolved and the energy densities have increased, the use of this technology has been applied across many consumer products, including the energy storage industry. Li-ion battery cells arranged in large format Li-ion battery packs are being used to power ESSs. As ESSs enter the United States consumer marketplace, there is an expectation of a steep increase in the number and size of battery packs in storage and use. Recent studies by the National Fire Protection Association (NFPA) Fire Protection Research Foundation (FPRF)[13,14,15,16] highlight the potential hazards of Li-ion battery cells and large format packs during the life cycle of storage, distribution, and use in products. An overview of the Li-ion technology and its failure modes is also included. A brief summary of Li-ion technology is provided here.

Li-ion has become the dominant rechargeable battery chemistry for consumer electronic devices and is poised to become commonplace for industrial, transportation, and energy storage applications. This chemistry is different from previously popular rechargeable battery chemistries (e.g., nickel metal hydride, nickel cadmium, and lead acid) in a number of ways. From a technological standpoint, because of high energy density, Li-ion technology is an effective battery type to use in ESSs. From a safety and fire protection standpoint, a high energy density coupled with a flammable organic, rather than aqueous, electrolyte has created a number of new challenges with regard to the design of batteries containing Li-ion cells, and with regard to fire suppression.

[13] Mikolajczak, C., Kahn, M., White, K., and Long, RT. "Lithium-Ion Batteries Hazard and Use Assessment." Fire Protection Research Foundation Report, July 2011.

[14] Long RT and Mikolajczak CJ. "Lithium-ion batteries hazards: What you need to know." Fire Protection Engineering Q4 2012.

[15] Long RT, Blum AF, Bress TJ, and Cotts BRT. "Emergency response to incidents involving electric vehicle battery hazards." Fire Protection Research Foundation Report, July 2013.

[16] Long RT, Sutula JA, and Kahn MJ. "Lithium-ion batteries hazard and use assessment Phase IIb." Fire Protection Research Foundation Report, 2013.

2.3.1 Anatomy of a Li-ion Cell

The term "Li-ion" refers to an entire family of battery chemistries. It is beyond the scope of this report to describe all of the chemistries used in commercial Li-ion batteries. In addition, Li-ion battery chemistry is an active area of research and new materials are constantly being developed. Additional detailed information with regard to Li-ion batteries is available in a number of references[17,18] and a large volume of research publications and conference proceedings on the subject.

In the most basic sense, the term "Li-ion battery" refers to a battery where the negative electrode (anode) and positive electrode (cathode) materials serve as a host for the lithium ion (Li+). Lithium ions move from the anode to the cathode during discharge and are intercalated (inserted into voids) in the crystallographic structure of the cathode. The ions reverse direction during charging, as shown in Figure 2. Since lithium ions are intercalated into host materials during charge or discharge, there is no free lithium metal within a Li-ion cell,[19,20] thus, if a cell ignites due to external flame impingement or an internal fault, metal fire suppression techniques are not appropriate for controlling the fire.

In a Li-ion cell, alternating layers of anodes and cathodes are separated by a porous film (separator). An electrolyte composed of an organic solvent and dissolved lithium salt provides the media for Li-ion transport. A cell can be constructed by stacking alternating layers of electrodes (typical for high-rate capability prismatic cells), or by winding long strips of electrodes into a "jelly roll" configuration typical for cylindrical cells, as shown in Figure 3. Electrode stacks or rolls can be inserted into hard cases that are sealed with gaskets (most commercial cylindrical cells), laser-welded hard cases, or enclosed in foil pouches with heat-

[17] *Linden's Handbook of Batteries*, 4th Edition, Thomas B. Reddy (ed), McGraw Hill, NY, 2011.

[18] *Advances in Lithium-Ion Batteries*, WA van Schalkwijk and B Scrosati (eds), Kluwer Academic/Plenum Publishers, NY, 2002.

[19] Under certain abuse conditions, lithium metal in very small quantities can plate onto anode surfaces. However, this should not have any appreciable effect on the fire behavior of the cell.

[20] There has been some discussion about the possibility of "thermite-style" reactions occurring within cells. See the NFPA FPRF report titled, "Lithium-Ion Batteries Hazard and Use Assessment," for an in-depth analysis.

sealed seams (commonly referred to as Li-ion polymer cells[21]), as shown in Figure 4. A variety of safety mechanisms might also be included in the mechanical design of a cell, such as charge interrupt devices and positive temperature coefficient switches.[22,23]

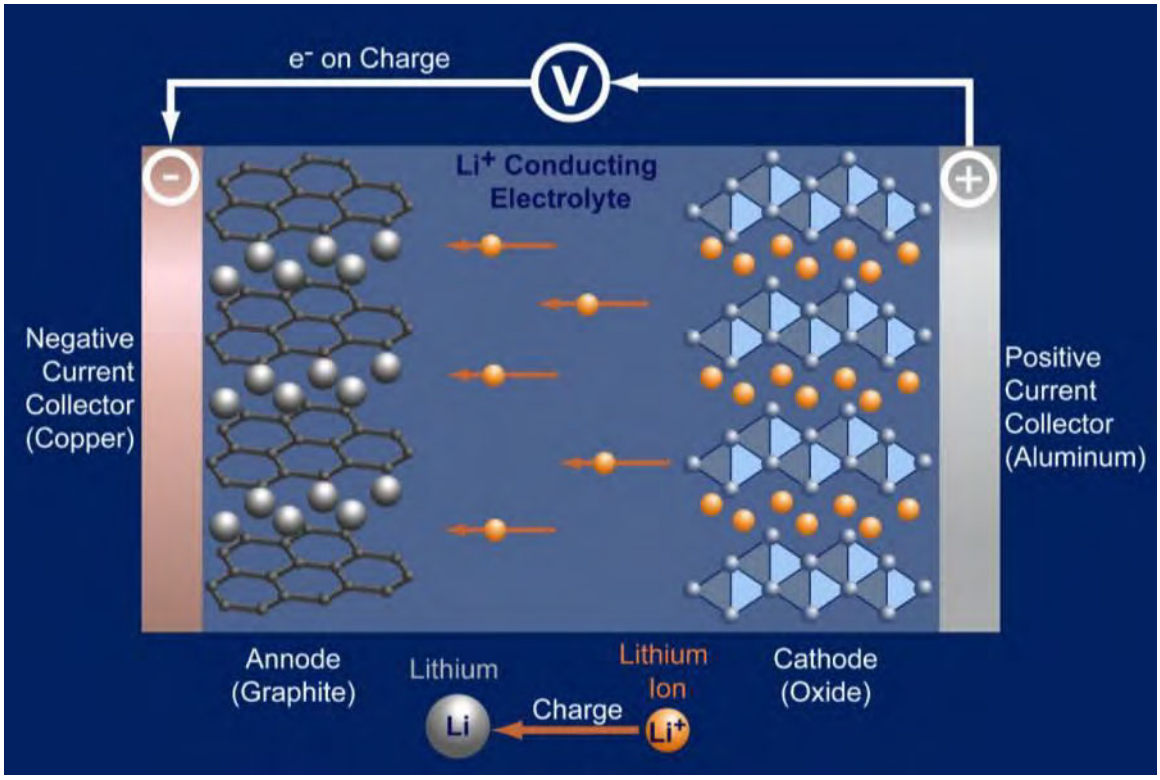


Figure 2 Li-ion cell operation: During charging, lithium ions intercalate into the anode, the reverse occurs during discharge

2.3.2 Li-ion Cell Characteristics and Hazards

The electrolyte within a typical Li-ion cell includes a volatile hydrocarbon-based liquid and a dissolved lithium salt (which is a source of lithium ions), such as lithium hexofluorophosphate. Battery cells are hermetically sealed to prevent moisture in the air from degrading the cells. Li-ion cells are not vented to the atmosphere like lead acid batteries, therefore, under normal usage

[21] The term "lithium polymer" has been previously used to describe lithium metal rechargeable cells that utilized a polymer-based electrolyte. Lithium polymer is now used to describe a wide range of Li-ion cells enclosed in soft pouches with electrolyte that may or may not be polymer based.

[22] For a more detailed discussion of Li-ion cells see: Dahn J, Ehrlich GM, "Lithium-Ion Batteries," *Linden's Handbook of Batteries*, 4th Edition, TB Reddy (ed), McGraw Hill, NY, 2011.

[23] For a review of various safety mechanisms that can be applied to Li-ion cells see: Balakrishnan PG, Ramesh R, Prem Kumar T, "Safety mechanisms in lithium-ion batteries," Journal of Power Source, 155 (2006), 401-414.

conditions, they do not exhaust vapors. In normal usage, cell electrolyte should not be encountered by anyone handling a Li-ion battery, making the risk of a spill of electrolyte from any commercial Li-ion battery pack very remote. Furthermore, in most commercial cells, the electrolyte is largely absorbed in electrodes, such that there is no free or "spillable" electrolyte within individual sealed cells. In those instances, severe mechanical damage (e.g., severe crushing) can cause a small fraction of total electrolyte quantity to leak out of a single cell; however, any released electrolyte is likely to evaporate rapidly.

Li-ion cells are sealed units, and thus under normal usage conditions, venting of electrolyte should not occur. If subjected to abnormal heating or other abuse conditions, electrolyte and electrolyte decomposition products can vaporize and be vented from cells. Accumulation of liquid electrolyte is unlikely in the case of abnormal heating. Vented electrolyte is flammable, and may ignite on contact with a competent ignition source, such as an open flame, spark, or a sufficiently heated surface. Vented electrolyte may also ignite on contact with cells undergoing a thermal runaway reaction. Cell vent gas composition will depend upon a number of factors, including cell composition, cell state of charge, and the cause of cell venting. Vent gases may include volatile organic compounds (VOCs, such as alkyl-carbonates, methane, ethylene, and ethane), hydrogen gas, carbon dioxide, carbon monoxide, soot, and particulates containing oxides of nickel, aluminum, lithium, copper, and cobalt. Additionally, phosphorus pentafluoride (PF_5), phosphoryl fluoride (POF_3), and hydrogen fluoride (HF) vapors may form. Vented gases may irritate the eyes, skin, and throat. Cell vent gases are typically hot and upon exit from a cell, can exceed 600 ºC (1,112 ºF). Contact with hot gases can cause thermal burns.[24]

[24] Lithium-Ion Battery Emergency Response Guide, Tesla Energy Products, September 2015, Revision 02

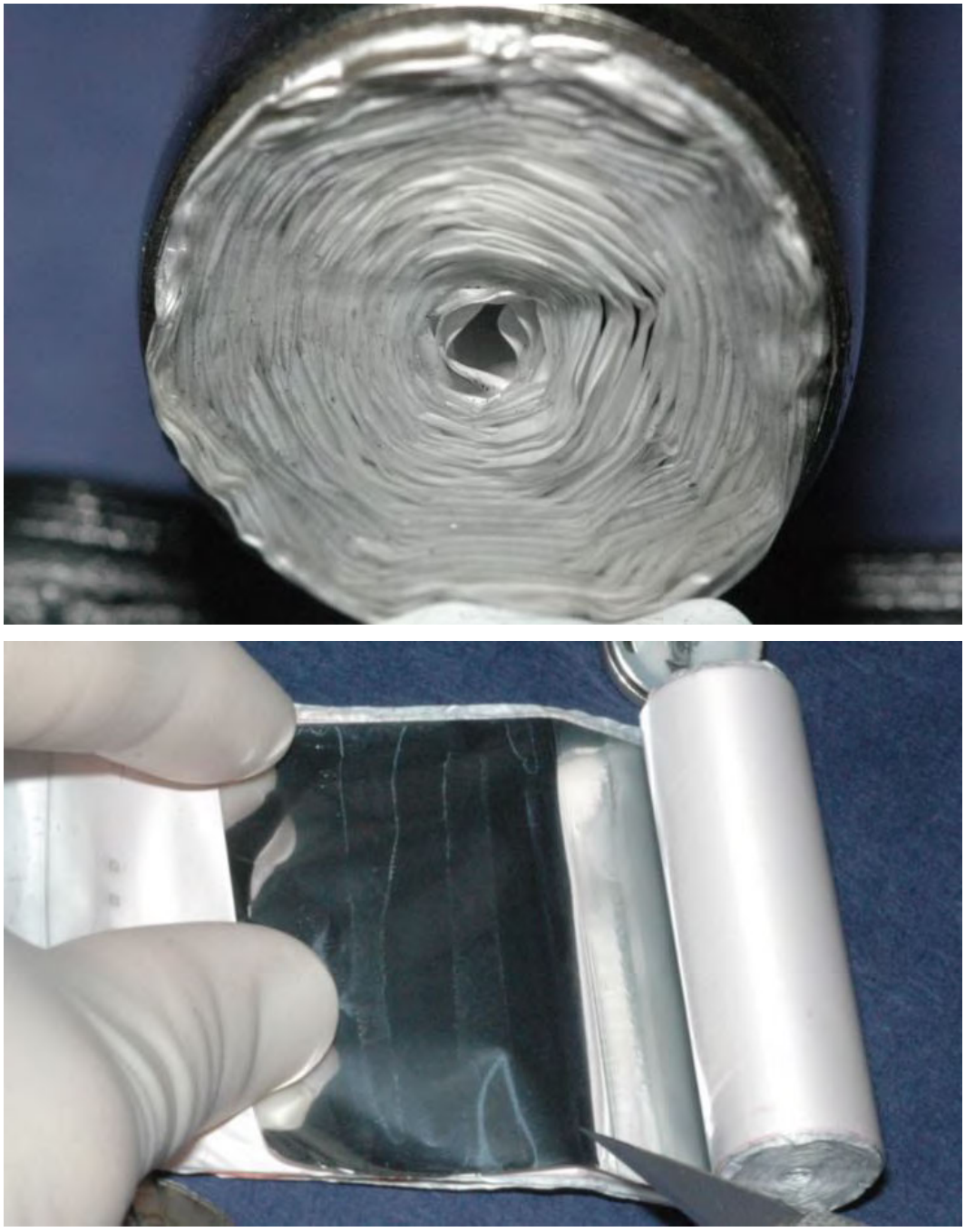


Figure 3 Base of a cylindrical Li-ion cell showing wound structure (top); Cell being unwound revealing multiple layers: separator is white, aluminum current collector (part of cathode) appears shiny (bottom)

Figure 4 Example of 18650 cylindrical cells; these are the most common consumer electronics Li-ion cell form factor (top); hard case prismatic cell (bottom left); and soft pouch polymer cell (bottom right)

2.3.3 Li-ion Battery Design

A Li-ion battery is made from multiple individual cells packaged together with their associated control system and protection electronics. By connecting cells in parallel, designers increase pack capacity. By connecting cells in series, designers increase pack voltage. Thus, most battery packs will be labeled with a nominal voltage that can be used to infer the number of series elements and, along with total battery pack energy (in watt hours [Wh]), can be used to determine the capacity (in ampere hours [Ah]) of each series element (size of individual cells or the number of cells connected in parallel). A Li-ion battery, despite conformance to a number of safety standards, may pose a significant high voltage and electrocution risk if it has been significantly damaged. Since Li-ion cells are not cycled to zero volts, a Li-ion battery pack,

even in a normally discharged condition, is likely to contain substantial electrical charge. Cutting into a normally discharged battery pack can cause sparking or create electrocution hazards.

For large format battery packs, cells may be connected together (in series and/or in parallel) in modules. The modules may then be connected in series or in parallel to form full battery packs. Modules are used to facilitate readily changed configurations and easy replacement of faulty portions of large battery packs. Thus, large format battery pack architecture can be complex.

ESS batteries typically utilize many individual cells comprised into modules, which are assembled to form a large format battery pack. Large format battery packs typically contain an active safeguarding system to monitor electrical current, voltage, and temperature of the cells to optimize pack performance and mitigate potential failures, including fire. Numerous standards and protocols are available for these packs, including documents created by Underwriters Laboratories (UL), Institute of Electrical and Electronics Engineers (IEEE), National Electrical Manufacturers Association (NEMA), Society of Automotive Engineers (SAE), International Electrotechnical Commission (IEC), United Nations (UN), Japanese Standards Association (JSA), and Battery Safety Organization (BATSO). It is beyond the scope of this report to discuss all potential standards and protocols; however, a summary of the many standards and testing protocols for Li-ion cells has been published previously.[25]

2.4 ESS Codes and Standards

Exponent reviewed relevant codes and standards relating to the design, testing, and installation of Li-ion ESSs.

2.4.1 Safety Standards

In addition to the numerous standards and protocols available for Li-ion batteries, there are a number of safety standards for the overall construction of Li-ion stationary battery systems and ESSs. These safety standards generally include a minimum set of construction requirements

[25] UL, "Safety Issues for Lithium-Ion Batteries," 2012.

with which the system should comply, as well as a number of performance tests to ensure the system will operate safely over its anticipated life. These construction requirements typically address some or all of the following: material choices/requirements; electrical spacing of components; wiring criteria; controls and other components; failure modes and effects analysis **(**FMEA); and functional safety requirements, markings, signage, and instructions.

Performance tests are conducted to ensure that the Li-ion battery ESS operates safely under normal use and foreseeable misuse conditions. Some examples of performance tests include: normal operation at a variety of expected temperatures; anticipated abnormal events, such as short circuit tests or other tests for foreseeable fault conditions; electrical spacing and insulation tests, such as a dielectric voltage test; and environmental conditions, such as exposure to water or other environmental stresses.

The published safety standards for Li-ion ESSs are often divided into technology specific and/or application specific documents. Some standards are intended for specific countries or geographical regions, while others are written as international standards. For battery ESSs, many of these standards were written for more traditional technologies, such as lead acid or nickel-cadmium (NiCad) battery systems and many of the documents are in the form of guides or recommended practices rather than standards; however, they still contain valuable information for evaluating and determining the safety of the ESS. It is beyond the scope of this report to discuss in detail all of the potential standards, guides, and recommended practices; however, a summary of many testing protocols for stationary battery systems and ESSs has been published previously.[26] The following is a list of many of the relevant documents and a brief summary of those documents that directly apply[27] to Li-ion battery ESSs and/or stationary battery systems:

[26] UL, "Draft Storage/Stationary Batteries Standards List."

[27] Other documents that apply to battery ESSs or stationary battery systems that do not include Li-ion technologies within their scope were reviewed. Examples of such documents include: IEC 62485-2, *Safety Requirements for Secondary batteries and battery installations: Part 2 stationary*; IEC 60896-11, *Stationary lead-acid batteries Part 11: Vented types - General requirements and methods of tests*; IEC 60896-22, *Stationary lead-acid batteries Part 22: Valve regulated types – Requirements*; IEC 60896-21, *Stationary lead-acid batteries Part 21: Valve regulated types – Methods of test*; EN50272-2, *Safety Requirements for Secondary batteries and battery installations: Part 2 stationary*.

- UL 1973, *Batteries for Use in Light Electric Rail (LER) and Stationary Applications* (UL 1973), is a safety standard for stationary batteries for energy storage applications that is not specific to any one battery technology or chemistry, and can apply to Li-ion battery ESSs, as well as ESSs using other battery chemistries. The standard includes construction requirements, safety performance tests, and production tests.[28] The Li-ion batteries assessed in the testing described in this report are listed to UL 1973.

  UL 1973 contains a series of construction parameters, including requirements for non-metallic materials, metallic parts resisting corrosion, enclosures, wiring and terminals, electrical spacing and separation of circuits, insulation and protective grounding, protective circuits and controls, cooling/thermal management, electrolyte containment, battery cell construction, and system safety analyses.

  UL 1973 also outlines a series of safety performance tests for ESSs, including electrical tests such as an overcharge test, short circuit test, over-discharge protection test, temperature and operating limits check test, imbalanced charging test, dielectric voltage test, continuity test, failure of cooling/thermal stability system test, and working voltage measurements. In addition, UL 1973 requires testing of electrical components, including a locked-rotor test for low voltage direct current (DC) fans/motors in secondary circuits, input, leakage current, a strain relief test and a push-back relief test.

  Mechanical tests are also required by UL 1973, including a vibration test, shock test, and crush test, which only apply to LER applications. Other mechanical tests that apply to all systems include a static force test, impact test, drop impact test, wall mount fixture/handle test, mold stress test, pressure release test, and a start-to-discharge test.

  Additional environmental tests are also required by UL 1973, including a thermal cycling test, resistance to moisture test, and a salt fog test.

[28] UL 1973, *Batteries for Use in Light Electric Rail (LER) and Stationary Applications*

Of particular relevance to this study, UL 1973 also requires two fire exposure tests: an external fire exposure test and an internal fire exposure test. The purpose of the external fire test is to ensure that an ESS will not explode as a result of being exposed to a hydrocarbon pool/brush fire. In the external test, a fully charged ESS is subjected to a heptane pool fire, or another similar hydrocarbon fuel pool fire, for 20 minutes. The fuel is held in a pan placed 24 inches under the ESS and is sized (in diameter) to be large enough to cover the dimensions of the ESS. After the 20 minute exposure, the ESS is subjected to a hose down in accordance with UL 263, *Conduct of Hose Stream Test of the Standard for Fire Tests of Building Construction and Materials*, to represent the firefighter response that the system may be exposed to during a fire. The ESS must demonstrate that no explosion hazards exist by the observation and measurement of any projectiles that occur during the external fire test.

The internal fire test is meant to demonstrate how the ESS will prevent a single cell failure within the battery system from cascading into a fire and/or explosion. In the internal fire test, the fully charged ESS is subjected to heating until thermal runaway of one internal battery cell that is centrally located within the ESS. Once the thermal runaway is initiated, the mechanism used to create thermal runaway is shut off or stopped and the ESS is subjected to a one hour observation period. Fire cannot propagate during this observation period or result in an explosion.

- IEC 61427-1, *Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 1: Photovoltaic off-grid applications*, provides general information relating to the requirements for the secondary batteries used in photovoltaic energy systems (PVES) and the typical test methods used for the verification of battery performance. This standard deals with cells and batteries used in photovoltaic off-grid applications and is applicable to all types of secondary batteries, including Li-ion.[29]

[29] IEC 61427-1, *Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 1: Photovoltaic off-grid applications,* 2013 Edition

- IEC 61427-2, *Secondary cells and batteries for renewable energy storage – General requirements and methods of test – Part 2: On-grid applications*, is a standard currently under development by IEC that relates to secondary batteries used in on-grid electrical energy storage (EES) applications. It provides test methods for the verification of their endurance, properties, and electrical performance in such applications. The test methods are essentially battery chemistry neutral, i.e., applicable to all secondary battery types, including Li-ion. On-grid applications are characterized by the fact that batteries are connected via power conversion devices to a regional, nation-, or continent-wide electricity grid and act as instantaneous energy sources and sinks to stabilize the grid's performance when major amounts of electrical energy from renewable energy sources are fed into it.[30]

- IEC 62619, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for large format secondary lithium cells and batteries for use in industrial applications*, is under development by IEC and will provide requirements on safety aspects associated with the erection, use, inspection, maintenance and disposal of cells and batteries for stationary applications and motive (other than on-road vehicles). It includes safety requirements for Li-ion cells for stationary and off-road motive applications and some battery requirements (evaluation of battery and battery management system [BMS] combination). The standard is not a system standard however, as it covers only battery and BMS interactions.

Two standards are currently under development by UL and the IEC that, when finished, will directly apply to commercial and residential Li-ion battery ESSs, including:

- UL Subject 9540, *Outline of Investigation for Energy Storage Systems and Equipment* (UL 9540), which will cover various types of ESSs and is not specific to just one battery chemistry or technology. Its scope includes requirements for ESSs that are intended to store energy from power or other sources and provide electrical or other types of energy

[30] IEC 61427-2, *Secondary cells and batteries for renewable energy storage – General requirements and methods of test – Part 2: On-grid applications*, 2015 Edition

to loads or power conversion equipment. The ESSs may include equipment for charging, discharging, control, protection, communication, controlling the system environment, fuel or other fluid movement and containment. The system may be standalone to provide energy for local loads or can be in parallel with an electric power system, electric utility grid or applications that perform multiple operational modes. The standard contains a series of construction parameters with material flammability criteria and performance tests for ESSs. Although no full-scale fire test of the ESS as an assembly is required, UL 9540 does require that Li-ion ESSs meet the requirements of UL 1973, which contains two fire tests, as described previously.[31]

- IEC 62897, *Stationary Energy Storage Systems with Lithium Batteries – Safety Requirements*, is under development by IEC and will provide general safety requirements for stationary ESSs with lithium batteries. The standard will incorporate a number of requirements to address potential hazards with ESSs, including: electric shock or burn; mechanical hazards; spread of fire from the equipment; excessive temperature; effects of fluids and fluid pressure; liberated gases, explosion; and chemical hazards (e.g., electrolyte). The standard intends to cover small battery systems for residential or similar use that can be connected to a main source of supply.[32,33]

2.4.2 Codes and Regulations

In addition to safety standards, there are local, state, and national electrical, building, and fire codes to consider that could impact the installation of ESSs. In the United States, the codes affecting ESSs include the electrical installation codes, such as NFPA 70, *National Electrical Code* (NEC) and fire codes, such as NFPA 1, *Fire Code* (NFPA 1) or the International Code Council (ICC) code suite for building and fire codes. Electrical codes, such as the NEC, include requirements, among others, for wiring methods, grounding criteria, signage, and enclosures that impact ESS electrical safety.[34] Building and fire codes include requirements for battery

[31] UL 9540, *Outline of Investigation for Energy Storage Systems and Equipment*, Issue Number 1, June 30, 2014.

[32] http://www.iec.ch/dyn/www/f?p=103:38:0::::FSP_ORG_ID,FSP_APEX_PAGE,FSP_LANG_ID,FSP_PROJECT:1410,23,25,IEC%2062897%20Ed.%201.0

[33] UL, "Draft Storage/Stationary Batteries Standards List."

[34] NFPA 70, 2014 Edition, Article 480, *Storage Batteries*

rooms, spill containment, and fire protection systems for areas containing battery storage that impact the fire risk of the building, its occupants, and contents.

Concerns have arisen from the perceived lack of information contained in local, state, and national codes and regulations as they relate to Li-ion ESSs. Some of the concerns include: (1) limited information in the codes specifically relating to Li-ion batteries; (2) volume of electrolyte in the Li-ion battery being used to define its hazard level (which is not appropriate for Li-ion battery chemistry[35]); (3) fire suppression and detection systems required to protect ESSs; (4) whether or not these batteries are considered hazardous materials; and (5) separation of ESSs from other portions of the building.

2.4.2.1 Electrical Codes

NEC Article 480, *Storage Batteries*, applies to all stationary installations of storage batteries. Article 480 was originally written for and generally applied to stationary lead acid battery installations in the range of 48 volts. The section outlines a series of requirements for battery installations, however, most pertain to the electrical safety of the systems and have limited requirements specific to fire protection that would address the industry concerns listed above. For example, the NEC has sections on battery and cell terminations (Section 480.3), wiring and equipment supplied from batteries (Section 480.4), overcurrent protection (Section 480.5), disconnect methods (Section 480.6), insulation (Section 480.7), racks and trays that support the batteries (Section 480.8), battery locations (Section 480.9 Parts (A) , (B), and (G)), and safety vents[36] (Section 480.10). Section 480.9, *Battery Locations,* Parts (C) and (D) requires certain working spaces clearances for battery systems to allow for the units to be properly accessed. In addition, Part (E) requires that personnel door(s) intended for entrance to and egress from rooms designated as battery rooms open in the direction of egress and be equipped with listed panic

[35] There are a number of reasons why the "volume of electrolyte" is not appropriate. One example is that the volume of electrolyte inside a battery cell is not extractable from a completed cell; therefore, the volume of electrolyte inside a Li-ion cell does not meaningfully translate to a hazard. The volume of electrolyte is appropriate for other chemistries, such as lead acid, where the failure of a battery could lead to spilling of the aqueous solution; however, the failure of a Li-ion battery or cell will more likely lead to the venting of a flammable gas, not the release of a liquid.

[36] Li-ion batteries do not typically require venting due to their technology and design, which does not vent hydrogen.

hardware. Gas piping is also prohibited from being installed within a dedicated battery room in Section 480.9 Part (F).

The next edition of the NEC to be published, the 2017 edition, is proposed to have a new article (Article 706) dedicated to ESSs. This addition should further assist installers, AHJs and manufacturers with navigating the electrical installation requirements for these systems.

2.4.2.2 Building and Fire Codes

Below is a summary of the sections contained within the 2015 edition of the International Building Code (IBC), International Residential Code (IRC), International Fire Code (IFC), and NFPA 1 relating to Li-ion ESSs and the concerns listed above. Many of the identified gaps in the codes mentioned below are currently being worked on and may be addressed when the next round of codes are published.

1. **Limited information on Li-ion battery ESSs.** Recent additions to the building and fire codes have answered many industry concerns, providing more details and thresholds for when requirements are necessary for Li-ion battery systems. Starting in 2006 for the IFC and 2009 for NFPA 1,[37,38] Li-ion batteries for use in stationary storage battery systems were discussed. Many municipalities lag behind in the adoption of new editions of building and fire codes. As such, those areas still using older versions of the codes could encounter issues; however, this issue (besides the correlating issues highlighted below in #2) is one that should resolve itself with the adoption of the newer codes.

   The 2015 edition of the IRC does not contain language relating to stationary battery systems, ESSs, or other similar systems, which could be confusing for readers looking for guidance for systems being installed in one or two-family dwellings or townhouses.

2. **Volume of electrolyte.** Traditionally, the IBC, IFC, and NFPA 1 applied specific safety requirements to battery systems containing more than 50 gallons of electrolyte. However, this requirement cannot be applied to Li-ion battery systems, as the electrolyte

[37] 2006 IFC, Section 608.1

[38] NFPA 1, 2009 Edition, Section 52.1

is not stored in an aqueous solution. To account for this, starting in 2006 for the IFC and 2009 for NFPA 1, the fire codes defined the threshold at which requirements are necessary for Li-ion stationary storage battery systems according to their weight (1,000 pounds).[39,40] Adding to some of the confusion in the marketplace when discussing Li-ion battery packs and how best to define/categorize them, other agencies beyond the ICC and NFPA also utilize varying methods. For instance, the United Nations, *Recommendations on the Transport of Dangerous Goods - Manual of Tests and Criteria*, also defines and categorizes batteries by mass, where anything larger than 12 kilograms (kg) of gross mass is a "large battery" and anything less than 12 kg is a "small battery." In addition, a "large cell" is defined as anything with a gross mass greater than 500 grams (g). A cell less than 500 g is considered a "small cell."[41] The Department of Transportation (DOT) in 49 CFR 173.185 defines and categorizes batteries by "equivalent lithium content" (ELC), where the ELC is the product of the rated capacity, in Ah, of a Li-ion cell times 0.3, with the result expressed in grams. The ELC for a battery pack equals the sum of the grams of ELC contained in the component cells of the battery.[42] As such, DOT categorizes Li-ion batteries by their capacity, not the volume of electrolyte or mass of the cell or battery pack.

Even with the addition of the weight threshold for Li-ion battery systems in 2006 and 2009, the IBC, IFC, and NFPA 1 each still contain language in other sections of the codes that discuss requirements when the volume of electrolyte is above the 50-gallon threshold, not taking into account the weight of a Li-ion battery system. Three instances identified in the codes where this occurs include:

a. IBC Section 907.2.23, which states that any battery room with greater than 50 gallons of electrolyte must have a smoke detection system. IFC Section 608 applies directly to stationary storage battery systems and Li-ion batteries and resolves any confusion that exists in the code, as Section 608.9 requires a smoke

[39] 2006 IFC, Section 608.1

[40] NFPA 1, 2009 Edition, Section 52.1

[41] United Nations, *Recommendations on the Transport of Dangerous Goods - Manual of Tests and Criteria*

[42] 49 CFR 171.8

detection system for stationary battery systems that are large enough to trigger the thresholds, such as a Li-ion battery system greater than 1000 pounds.[43] However, if a reader were to miss that section of the IFC, and only read the section in the IBC, it could create confusion over how to apply section 907.2.23 to Li-ion battery systems.

b. IFC Section 105.7.2, which states that battery systems with more than 50 gallons of electrolyte require a permit before installation. However, no weight threshold is provided for Li-ion batteries.[44] As such, there could be confusion regarding whether or not a permit is required for Li-ion battery systems.

c. NFPA 1 Table 1.12.8(a), which states that lead-acid battery systems with more than 50 gallons (unsprinklered buildings) or 100 gallons (spinklered buildings) of electrolyte require a permit before installation. However, Li-ion battery systems are not addressed in Table 1.12.8(a).[45] As such, there could be confusion regarding whether or not a permit is required for Li-ion battery systems.

3. **Suppression and detection.** Where required, such as for a high-rise building, fire sprinklers are not required in the area where battery systems are installed, provided the space is equipped with an automatic fire detection system and is separated from the rest of the building with one hour barriers or two hour horizontal assemblies.[46] In addition, a smoke detection system is required for all Li-ion battery systems greater than 1,000 pounds.[47,48]

4. **Hazardous materials.** The IBC and NFPA 1 state that battery systems do not fall into the Hazardous Group H category (for the IBC) or should be considered a hazardous material (for NFPA 1) provided certain ventilation requirements for the ESS are met.[49,50]

[43] 2015 IFC, Section 608.1 and 608.9

[44] 2015 IFC, Section 105.7.2

[45] NFPA 1, 2015 Edition, Table 1.12.8(a)

[46] 2015 IBC, Section 403.3 and Exception to Section 903.2

[47] 2015 IFC, Section 608.9

[48] NFPA 1, 2015 Edition, Section 52.3.10

[49] 2015 IBC, Section 307.1.1(9)

However, Li-ion batteries typically do not require room ventilation,[51] as off gassing does not occur during normal operation. It is unclear if the IBC and NFPA 1 requirement for room ventilation is necessary for a Li-ion battery ESS to ensure it does not fall into the hazardous category.

5. **Separation.** The IBC states that Li-ion battery systems more than 1,000 pounds in weight shall be separated from the remainder of the building by either a one hour separation or two hour separation depending on the occupancy in which it is installed.[52]

Section 608 of the IFC and Chapter 52 of NFPA 1 provide further guidance on the proper installation of Li-ion ESSs. However, many of the requirements do not apply to Li-ion due to the chemistry of battery, including safety caps, spill control and neutralization measures, and room ventilation. Signage, seismic protection, and a fire/smoke detection system are required for Li-ion battery systems larger than 1,000 pounds.[53,54] A review of these two sections also identified another potential area of confusion for a user of the codes. The IFC does not require thermal runway protection for Li-ion battery systems, while NFPA contains contradictory guidance. Thermal runaway can occur in Li-ion battery systems and it is unclear why thermal runaway protection in Li-ion battery systems is not required in the IFC. NFPA 1 Table 52.1 states that Li-ion battery systems do not require thermal runaway protection; however, Section 52.3.2 states that Li-ion battery systems, "shall be provided with a listed device or other approved method to preclude, detect, and control thermal runaway." Table 52.1 and the language of Section 52.3.2 are in direct conflict with one another, leading to possible confusion for anyone using the code. A review of the Report on Proposals and Report on Comments from the 2009 NFPA 1 code development cycle provided some guidance regarding what the technical committee intended. It appears that the technical committee intended for the thermal runaway protection to be required; however, a typo in Table 52.1 was not fixed at the time of initial adoption or anytime during future code development cycles. This issue should be addressed in

---

[50] NFPA 1, 2015 Edition, Section 60.1.2

[51] 2015 IFC, Table 608.1 and NFPA 1, 2015 Edition, Table 52.1

[52] 2015 IBC, Table 509

[53] 2015 IFC, Table 608.1

[54] NFPA 1, 2015 Edition, Table 52.1

the next code development cycle to remove any confusion as to what NFPA 1 requires for thermal runaway protection of Li-ion battery systems.

2.5 ESS Fire Incidents

A review of fire incidents reported in the National Fire Incident Reporting System (NFIRS) from 1999 to 2013 was performed during the literature review. During this time period, only 44% of fires that fire departments respond to were captured in NFIRS. Thus, the numbers listed below do not account for every fire in the United States during that time. In addition, NFIRS currently does not have a means to report a stationary battery system or ESS fire; however, they do have a coding system for uninterrupted power supplies (UPS; code 226) and batteries (code 229). Table 1 provides a summary of the number of UPS and battery fires that were reported in NFIRS between 1999 and 2013.

Table 1 Summary of NFIRS Data

Incident Type	UPS Fire (Code 226)	Battery Fire (Code 229)
Structure Fire or Fire in Mobile Property used as a Fixed Structure	142	318
All Fires (not just Structures)	227	1,014

Exponent also searched for public incidents tied directly to the involvement of Li-ion ESSs in a fire. Through this search, only two major events involving battery ESSs were identified, one at a wind turbine power generating facility in Hawaii and one at a solar energy facility in Arizona. However, only the Arizona facility contained a Li-ion battery ESS, which was a pilot ESS that the facility was testing. Summaries of these two incidents ascertained from public sources are provided in the following sections.

No publically reported fire incidents were identified to have started in or significantly involved a commercial or residential ESS.

2.5.1 Kahuku Wind Energy Storage Farm Battery ESS Fires

Three fires occurred at the Kahuku Wind Energy Storage Farm over the course of a year and a half span from April 2011 to August 2012. The ESS contained 12,000 individual lead acid battery packs for a capacity of 15 megawatts (MW). The battery packs were stacked six feet high inside a 9,000 square foot metal warehouse building. It was determined that the fires were caused by undersized capacitors used by the battery system. The first two fires were allowed to self-extinguish, with limited damage to the system and the building; however, the third fire resulted in a total loss of the building and contents, including the 12,000 battery packs.[55,56,57]

The first incident occurred on April 22, 2011; the alarm was received by dispatch at approximately 5:45 p.m. and the Honolulu Fire Department (HFD) arrived on scene approximately 10 minutes later. An engineer from Xtreme Power, Inc. (Xtreme) was alerted by a remote alarm indicating that an exhaust fan on the Hawaiian Electric Company (HECO) side of the structure had overheated. The engineer also stated that smoke and popping sounds were emanating from the structure before HFD arrived. When HFD arrived, they noted smoke coming from the battery storage building. Approximately an hour after the first alarm, other arriving HFD personnel reported moderate grayish black smoke emanating from the structure, with no flames visible and no other structures in immediate danger. Facility personnel provided battery safety data sheets (SDS) for the lead acid batteries and building plans, however, HFD chose to wait for daylight to make an interior attack, primarily due to concerns regarding the stored energy in the batteries and possibly unsafe night operations. Major hazards identified by Xtreme and HFD included the batteries themselves (possibly explosive or energized), the sulfuric acid from the batteries, toxic environment, and energized electrical equipment. Xtreme advised HFD that water could not be used to extinguish the fire and that dry chemical, carbon dioxide (CO_2), or specialty foam (FM200) would be the best extinguishing agent. HECO personnel arrived on scene to secure the power to the building and advised of a sulfuric acid odor at the HECO switch box, emanating from the conduits within the building. A firewatch was present throughout the night. The following day, HFD made entry into the building, but no

[55] http://www.windpowermonthly.com/article/1284038/analysis-first-wind-project-avoids-storage-30m-fire

[56] http://www.greentechmedia.com/articles/read/Battery-Room-Fire-at-Kahuku-Wind-Energy-Storage-Farm

[57] http://www.scientificamerican.com/article/battery-fires-pose-new-risks-to-firefighters/

active burning was found. The building was ventilated and cleared and operators of the facility were allowed to investigate and notified HFD that the cause of the incident was a failed electrical inverter. HFD investigators concluded that the origin of the fire was in the battery ESS building, within the Inverter #9 cabinet. The first material ignited was most likely conductor insulation or associated components within the cabinet. The fire was classified as accidental, failure and/or malfunction of operating electrical equipment. Fire spread was confined to the object of origin.[58]

The second incident occurred on May 23, 2011; the alarm was received by dispatch at approximately 10:20 p.m. and HFD arrived on scene approximately 10 minutes later. When HFD arrived, they noted light smoke coming from the top of a roll up door at the same ESS building. Facility personnel advised HFD that the incident appeared to be the same as the first loss; therefore, the same actions were taken, including shutting down the power and closing the building until morning. The next morning, HFD arrived to no smoke. The building was ventilated and one inverter was found to be burned out, with no residual signs of heat.[59]

The third incident occurred on August 1, 2012; the alarm was received by dispatch at 4:44 a.m. and HFD arrived on scene approximately 15 minutes later. First Wind advised HFD that their sensors indicated the malfunction of an electrical inverter directly adjacent to the stacks of batteries in the ESS building. Due to the large amount of batteries stored on site and experiences in the prior incidents, HFD chose to standby and monitor the building until HECO arrived with their dry chemical extinguishing truck. The fire was monitored using a thermal imaging camera and smoke and heat intensified, eventually venting through the roof, with some flames visible. Water was used to cool the uninvolved side of the building, but was discontinued due to the risk of contact with the burning batteries. Once HECO arrived, HFD assisted with deploying the dry chemical extinguishing line; however, suppression efforts were unsuccessful, as the dry chemical could not reach all of the burning material and entry could not be made due to the hazardous conditions created by the burning batteries and lack of an adequate supply of dry chemical. The fire eventually involved the entire building. Water was

[58] Honolulu Fire Department Incident Report 2011-0018972.

[59] Honolulu Fire Department Incident Report 2011-0023875.

used to prevent spread to adjacent buildings, however, water could not be applied to the incident building due to environmental concerns regarding runoff water, as well as the high potential for stored electrical energy in the malfunctioning system and the large quantities of sulfuric acid involved; therefore, the fire was contained to the original building and allowed to burn until it eventually self-extinguished. HFD noted that significant/unusual fuel load from contents was a factor in suppressing the fire; with the material contributing most to flame spread being plastic used as electrical wire, cable insulation. HFD investigators concluded that the origin of the fire was in the battery ESS building. The first alarm activation was within the Inverter #9 cabinet, followed by general building smoke alarm activation. Video taken inside the ESS building showed fire in the proximity of the Inverter #9 cabinet. The first material ignited was most likely conductor insulation or associated components within the cabinet. The physical construction of the 12,000 batteries and associated conductors contributed mostly to fire spread. The fire was classified as accidental, failure and/or malfunction of operating electrical equipment.[60]

These fires demonstrate the need for better understanding of ESS fires so that the owner and fire departments responding to these incidents can better prepared in the event of a fire.

2.5.2 Arizona Public Service Company ESS Fire

In November of 2012, a fire occurred at a state-of-the-art solar energy storage system the Arizona Public Service Company (APS) was testing. The system, the relative size of a shipping container with a capacity of 1.5 MW, had been running since February of 2012. Similar to the First Wind fires, fire department personnel allowed the fire to burn freely for some time. The cause of the fire was not reported.[61,62] Exponent requested the local fire department reports on these fire incidents to obtain further details of the incidents, however, no response was received.

To date, relatively few ESS systems have been commissioned. In addition, most systems commissioned have been lead acid battery systems, not Li-ion. The search for fires involving

[60] Honolulu Fire Department Incident Report 2012-0038895.

[61] http://www.energy-storage-online.com/cipp/md_energy/custom/pub/content,oid,1133/lang,2/ticket,g_u_e_s_t/~/APS_fire_probed.html

[62] http://azdailysun.com/news/local/aps-fire-probed/article_1de2e924-ab0a-5e71-9a3a-6942c2d1c9bb.html

ESSs has identified only a few from publically available sources. In order to gain insight into how Li-ion ESSs will behave in fire scenarios, we can examine fires involving similar systems or battery fires in general.

2.6 Li-ion Battery Fires

Given the lack of ESS fire incidents documented in the literature, a review of Li-ion battery fires was conducted. Fires may occur in an ESS high voltage battery, or a fire may extend to the battery, attacking the ESS from the outside in. Previous research programs have been conducted focusing on large format Li-ion battery fires, electric drive vehicle (EDV) Li-ion battery fires, and Li-ion battery storage fires. This research involved full-scale fire tests of Li-ion batteries that were polymer, prismatic, and cylindrical designs.

For large format Li-ion battery systems with polymer or prismatic designs, the research has generally shown the following hazards associated with fires:

1. Fire tests of identical vehicles indicated that the heat release rate (HRR) of an EDV compared to a more common internal combustion engine (ICE) vehicle are similar[63] and a free burn (no suppression) test of an EDV battery did not produce significant HRRs.[64]

2. Test results indicate that water can be an effective extinguishing agent on large format Li-ion battery fires, however, large quantities may be required for extinguishment.[65,66,67]

3. During fires tests of EDVs with polymer pouch battery cells, no projectiles or explosions from the large format batteries were observed. [68,69,70]

[63] Lecocq, A, Bertana M, Truchot, B. and Marlair G. "Comparison of the Fire Consequences of an Electric Vehicle and an Internal Combustion Engine Vehicle." INERIS – National Institute of Industrial Environment and Risks, Verneuil-en-Halatte, France. Second International Conference on Fires in Vehicles, September 27-28, 2012, Chicago, IL.

[64] Long RT, Blum AF, Bress TJ, and Cotts BRT. "Emergency response to incidents involving electric vehicle battery hazards." Fire Protection Research Foundation Report, July 2013.

[65] Delphi Corporation. Hybrid Electric Vehicles for First Responders. Troy, MI. 2012.

[66] Long RT, Blum AF, Bress TJ, and Cotts BRT. "Emergency response to incidents involving electric vehicle battery hazards." Fire Protection Research Foundation Report, July 2013.

[67] Egelhaaf, M., Kress, D., Wolpert, D., Lange, T., Justen, R., and Wilstermann, H., "Fire Fighting of Li-Ion Traction Batteries," SAE Int. J. Alt. Power. 2(1):37-48, 2013, doi: 10.4271/2013-01-0213.

4. Gas samples collected during fire tests of complete (i.e., full) ICE vehicles and EDVs identified similar levels of toxic compounds in the smoke, including CO_2, nitrogen oxides (NO_x), hydrogen cyanide (HCN), hydrogen chloride (HCl), carbon monoxide (CO), and hydrogen fluoride (HF).[71] In addition, water samples collected after extinguishing Li-ion batteries showed concentrations of fluoride and chloride.[72,73]

5. Fire tests have also demonstrated that in the tested scenario, with a battery pack tested inside a vehicle fire trainer (i.e., not a powered consumer EDV), the shock/electrocution hazards of applying a water stream directly to an energized high voltage battery that has been compromised by heat and fire were negligible.[74] In addition, other fire tests where hose streams were applied directly to energized electrical equipment have demonstrated that current leakage through the suppression water is not a hazard, provided sufficient clearance distances for the given voltage of the electrical equipment are observed between the hose stream and conductors.[75,76,77,78]

---

[68] Long RT, Blum AF, Bress TJ, and Cotts BRT. "Emergency response to incidents involving electric vehicle battery hazards." Fire Protection Research Foundation Report, July 2013.

[69] Watanabe, N., Sugawa, O., Suwa, T., Ogawa, Y., Hiramatsua, M., Tomonoria, H., Miyamotoa, H., Okamotoa, K., and Honmaa, M. "Comparison of fire behaviors of an electric-battery-powered vehicle and gasoline-powered vehicle in a real-scale fire test." National Research Institute of Police Science, Japan. Presented at Second International Conference on Fires in Vehicles, September 27-28, 2012, Chicago, IL.

[70] Lecocq, A, Bertana M, Truchot, B. and Marlair G. "Comparison of the Fire Consequences of an Electric Vehicle and an Internal Combustion Engine Vehicle." INERIS – National Institute of Industrial Environment and Risks, Verneuil-en-Halatte, France. Second International Conference on Fires in Vehicles, September 27-28, 2012, Chicago, IL.

[71] Lecocq, A, Bertana M, Truchot, B. and Marlair G. "Comparison of the Fire Consequences of an Electric Vehicle and an Internal Combustion Engine Vehicle." INERIS – National Institute of Industrial Environment and Risks, Verneuil-en-Halatte, France. Second International Conference on Fires in Vehicles, September 27-28, 2012, Chicago, IL.

[72] Long RT, Blum AF, Bress TJ, and Cotts BRT. "Emergency response to incidents involving electric vehicle battery hazards." Fire Protection Research Foundation Report, July 2013.

[73] Egelhaaf, M., Kress, D., Wolpert, D., Lange, T., Justen, R., and Wilstermann, H., "Fire Fighting of Li-Ion Traction Batteries," SAE Int. J. Alt. Power. 2(1):37-48, 2013, doi: 10.4271/2013-01-0213.

[74] Long RT, Blum AF, Bress TJ, and Cotts BRT. "Emergency response to incidents involving electric vehicle battery hazards." Fire Protection Research Foundation Report, July 2013.

[75] Factory Mutual Handbook of Industrial Loss Prevention, "Electrical Conductivity of Extinguishing Agents"

[76] Sprague, C.S. and C.F. Harding. "Electrical Conductivity of Fire Streams" Research series no. 53. Engineering Experiment Station, Purdue University Lafayette, Indiana, January 1936.

[77] Bolander, G.G., Jughes, J. T., Toomey, T. A., Carhart, H.W., and J.T. Leonard. "Use of Seawater for Fighting Electrical Fires" Navy Technology Center for Safety and Survivability, Chemistry Division. May 25, 1989.

Previous research focusing on large format Li-ion battery fires with a polymer or prismatic design demonstrated that that some of the common concerns regarding Li-ion battery fires (namely explosions, projectiles, and toxic gas formation) have not been replicated in full-scale fire tests. However, fire tests of unconfined Li-ion batteries with a cylindrical design have demonstrated that "cell explosions" can occur with projectiles observed traveling up to 133 feet.[79]

2.7 Gap Analysis

Based upon the literature review conducted to date, Exponent has identified the following gaps in the knowledge base for commercial and residential Li-ion ESSs:

1. No public fire test data demonstrating the fire behavior of ESSs.

2. Limited public fire test data related to large format battery packs with cylindrical design utilized either in vehicles or storage systems.

3. No fire test data or publically available real world fire incidents involving residential or commercial Li-ion ESSs illustrating the hazards (projectiles, heat release, toxic gas production) to first responders and/or the best practices for fire department operations.

4. Limited real world fire incidents involving large-scale (grid size) ESSs.

5. No Li-ion ESS guidance in the IRC.

6. Some sections of the IBC, IFC, and NFPA 1 are confusing, as only the volume of the electrolyte (a requirement for older battery chemistries such as lead acid) and not the weight of the Li-ion battery system, is used as a threshold for when certain building or fire code requirements are necessary. In addition, other agencies, such as the United Nations and DOT, have other methods for defining and categorizing batteries. Many of

[78] Backstrom, R., Dini, DA, "Firefighter Safety and Photovoltaic Installations Research Project." Underwriters Laboratories Inc. November, 2011.
[79] Webster, H, "Preliminary Full-Scale Fire Tests with Bulk Shipments of Lithium Batteries." 2012 FAA Fire Safety Highlights, US Department of Transportation Federal Aviation Administration, 2012.

these code sections are presently being revised and could be addressed by the next published code set.

7. NFPA 1 provides contradictory guidance regarding thermal runway protection for Li-ion battery systems, while the IFC does not require thermal runaway protection for Li-ion battery systems at all. Many of these code sections are presently being addressed and could be resolved by the next published code set.

8. No post-fire incident response and recovery (i.e., overhaul) procedures.

9. No stationary battery system or ESS fire reporting code in NFIRS to assist in analyzing fire incidents and differentiate battery systems from household batteries.

3 Testing Program Summary

Exponent, in conjunction with the Project Technical Panel, their advisory groups, and industry sources, identified and procured two (2) Li-ion battery ESSs for full-scale testing. The battery pack utilized in the ESS is a 100 kWh unit manufactured by Tesla Energy (Tesla) meant for commercial applications (Powerpack). The Powerpack consists of a 52-inch long by 38-inch wide by 86-inch tall steel cabinet containing the battery, protection electronics, and thermal management systems. The total weight of the unit is 3,970 pounds and it mounts directly to a concrete pad. A more detailed description of the ESS tested is provided in Section 4.

The full-scale fire tests were separated into two categories: (1) external ignition of the Powerpack and (2) internal ignition of the Powerpack. During the external ignition test, the Powerpack was exposed to an external fire source (a propane burner) to simulate a fire scenario where a fire originates outside of the Powerpack. During the internal ignition test, individual battery cells within the Powerpack were forced into thermal runaway.

3.1 Test Instrumentation Summary

Both tests were performed outdoors in open air, on a concrete pad, exposed to natural weather conditions, as would be typical of an outdoor commercial installation. In the external ignition testing, a propane burner system was used to apply the thermal assault to the Powerpack and cause thermal runaway of the batteries within. During internal ignition testing, the batteries of the Powerpack were forced into thermal runaway at the individual cell level.

Data collected during the tests included:

- Internal and external Powerpack surface temperatures;
- Heat fluxes at varying stand-off distances from the Powerpack;
- Internal Powerpack cabinet and pod pressures;
- Select products of combustion;
- Weather conditions;

- Projectile observations;
- Still photography; and
- High definition video.

3.2 Full-scale Fire Protocols

Exponent and Tesla created two protocols for the full-scale fire tests: one for the external ignition test and one for the internal ignition test.

3.2.1 External Ignition Testing

The test protocol for the external ignition testing was as follows:

1. The Powerpack was positioned and the test equipment was set up as described in Section 3.1.

2. The following background data was collected as a steady-state baseline for 3 minutes:

    a. Thermocouples;

    b. Heat flux gauges; and

    c. Gas sampling.

3. High definition video recordings were started simultaneously with data collection.

4. After the 3-minute baseline was established, the propane burners were ignited to provide a 400 kW[80] exposure.

5. The 400 kW exposure was continued for approximately 60 minutes. Once at least twenty (20) cell thermal runaways were confirmed audibly, the burner was turned off.

6. Once the burner was shut off at the end of the approximate 60-minute 400 kW exposure, the progression of the Powerpack fire in the free burn state was monitored thereafter.

7. Visual observations of importance were recorded, including when smoke was first observed, when cells went into thermal runaway, smoke production/color, projectiles, when flames were first observed, height and severity of flames, etc.

8. Still photographs were recorded throughout the test, as appropriate.

[80] HRR from the propane burners was determined based upon the flow rate of propane recorded by a mass flow meter during testing times the heat of combustion of propane.

9. Data collection continued until all signs of combustion ceased.

3.2.2 Internal Ignition Testing

The test protocol for the internal ignition tests was as follows:

1. The Powerpack was positioned and the test equipment was setup as described in Section 3.1.

2. The following background data was collected as a steady-state baseline for approximately 1.5 minutes:

    a. Thermocouples and

    b. Gas sampling.

3. High definition video recordings were started simultaneously with data collection.

4. After the 1.5-minute baseline was established, multiple Powerpack cells were forced into thermal runaway through the use of heater cartridges by Tesla.

5. Visual observations of importance were recorded, including when smoke was first observed, when cells went into thermal runaway, smoke production/color, projectiles, when flames were first observed, height and severity of flames, etc.

6. Still photographs were recorded throughout the test, as appropriate.

7. Data collection continued until all signs of thermal runaway ceased.

4 ESS Description

This section provides an overview of the Powerpack (a 100 kWh commercial ESS) utilized for this testing program. The Powerpack can be a single standalone unit, as shown in Figure 5, or installed side by side with multiple Powerpacks if additional storage capacity is desired, as shown in Figure 6.

Figure 5 Single standalone Powerpack (100 kWh commercial ESS)

Figure 6 Multiple Powerpacks installed side by side in an array

4.1.1 ESS Battery Pack

The cells utilized within the Powerpack are 3.6 volt, 2.4 amp hour cylindrical 18650 cells. Two modules, each consisting of approximately 450 cells, are connected and enclosed inside a steel cover to form one energy storage pod, as shown in Figure 7. As such, one energy storage pod contains a total of two modules, or approximately 900 battery cells. Sixteen (16) energy storage pods are contained within the Powerpack cabinet for a total of approximately 14,400 battery cells within the Powerpack.

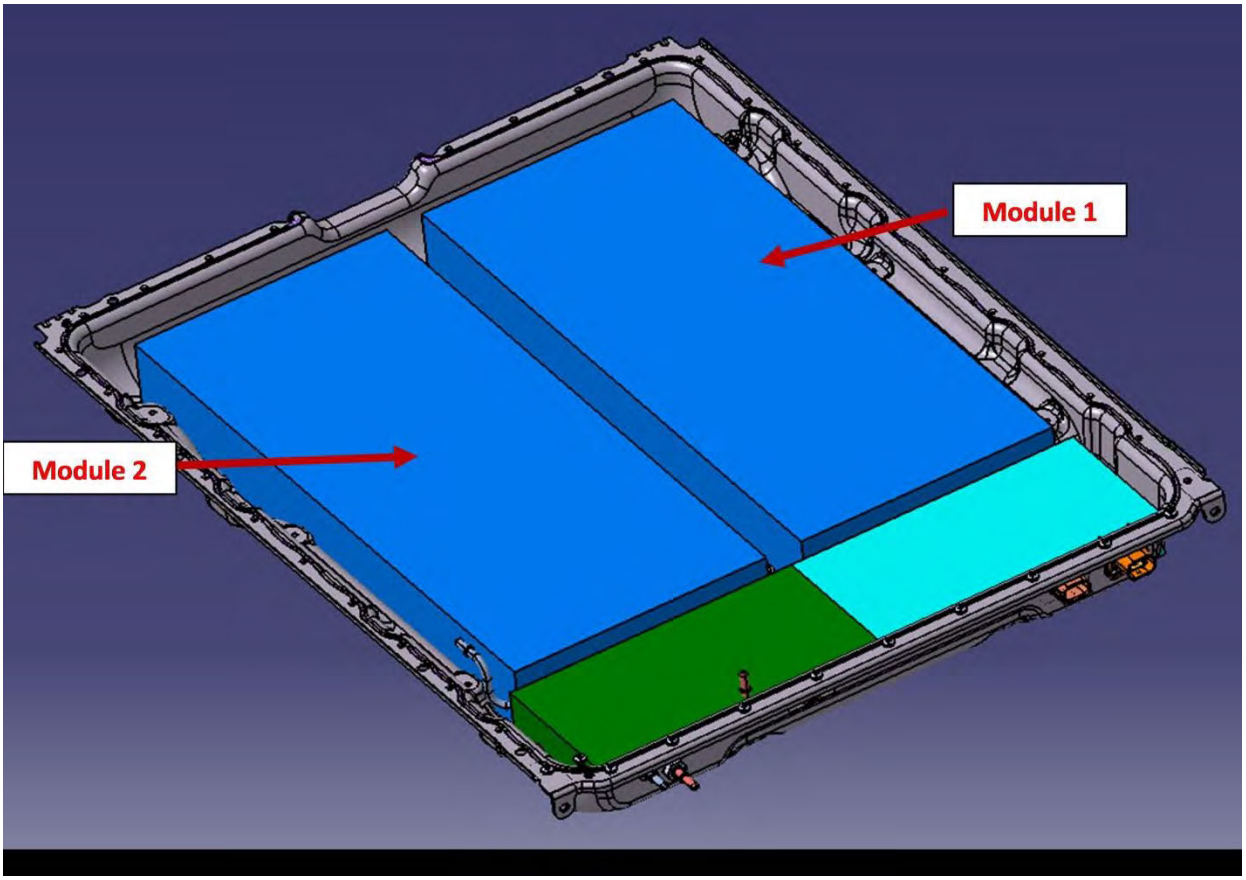


Figure 7 Illustration of a pod with two modules (blue); each module contains approximately 450 cylindrical Li-ion battery cells totaling 900 battery cells for each pod

4.2 ESS Design Layout

The Powerpack was designed for commercial installations. Within the Powerpack, Li-ion cells are contained within energy storage pods. The energy storage pods are housed inside a 52-inch long by 38-inch wide by 86-inch high steel cabinet. The total weight is 3,970 pounds. The front door of the Powerpack cabinet provides access to each of the 16 energy storage pods, as shown in Figure 8, and contains equipment designed to thermally cool the pods. The liquid cooling system pumps a 50% water / 50% ethylene glycol mixture to each of the 16 energy storage pods, as shown in Figure 9. The coolant pumps, reservoirs, and associated fans and radiators are mounted and contained within the front door of the Powerpack. A refrigerant system using 400 grams of R134a further cools the ethylene glycol and is also mounted on the front door of the Powerpack. The back of the energy storage pods connect to an exhaust manifold at the rear of the Powerpack that has a vent at the top, as shown in Figure 10.

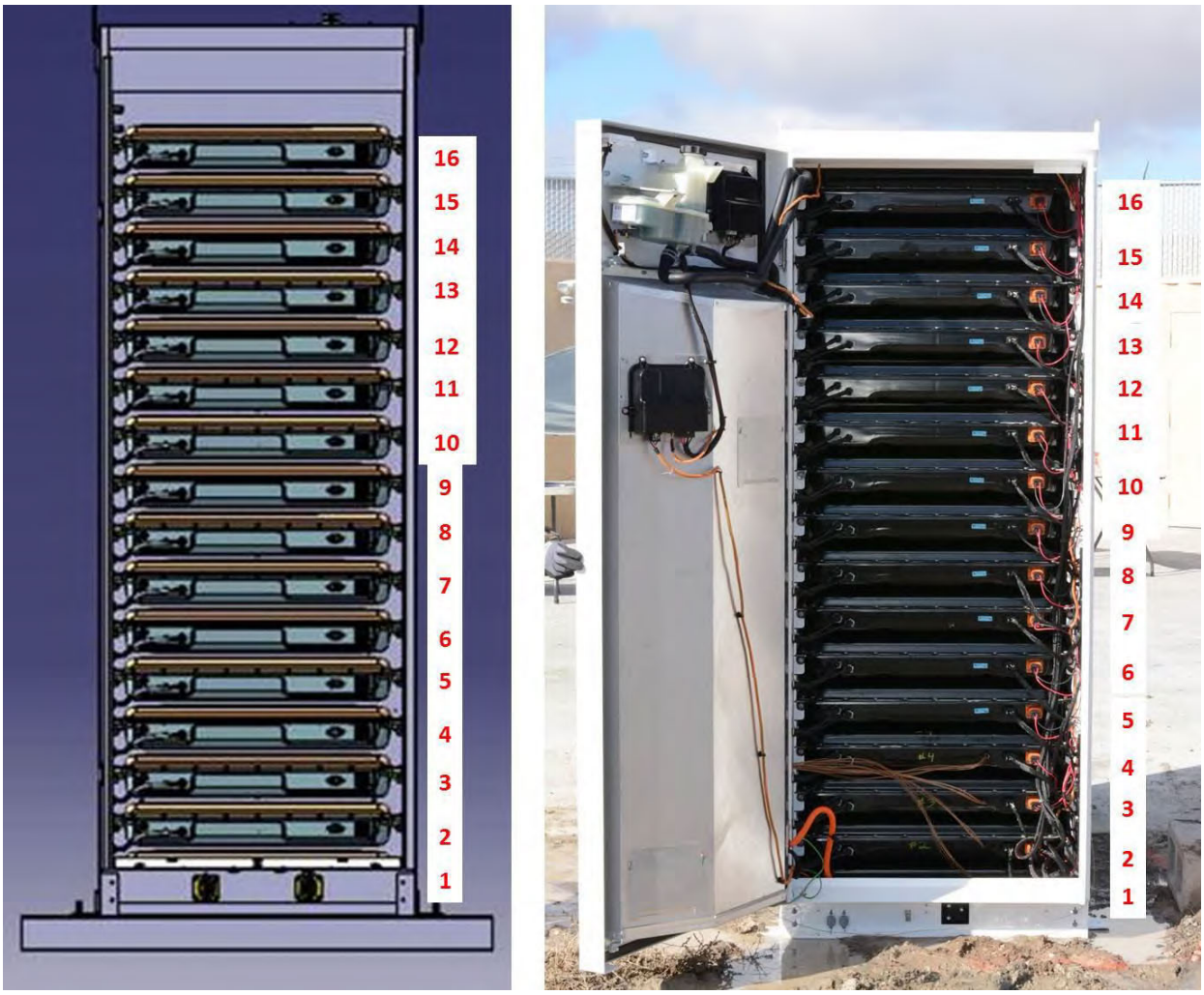


Figure 8 Powerpack illustration (left) and image (right); depicting the sixteen (16) energy storage pods installed within the cabinet and instrumented for testing

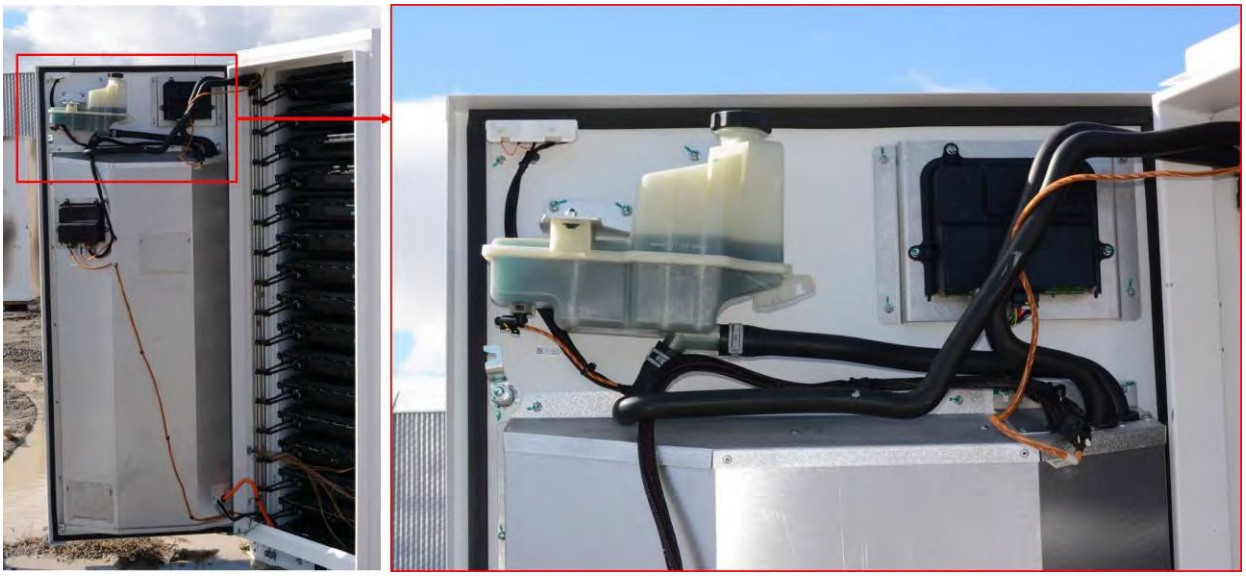


Figure 9 Powerpack thermal door (left) and close up of the refrigerant (right)

Figure 10 Illustration of the Powerpack exhaust vent (left) and an image of the vent at the top of the Powerpack (right)

4.3 ESS Safety Features

The Powerpack is listed to UL 1741, UL 1973, and IEC 62109. In addition, the Powerpack is designed to be compliant with UL 9540 and IEC 62619, currently under development by UL and IEC, respectively. UL1973, as described in Section 2.4.1, includes a number of construction requirements, performance tests, and production tests for stationary battery systems, including an external fire test and an internal fire test. The external fire test requires that the ESS not pose an explosion hazard if attacked by an external fire. The internal fire test demonstrates that a single battery cell failure within the center of the ESS battery pack will not result in a cascading thermal runaway of battery cells resulting in a propagating fire from the ESS and/or an explosion of the ESS.

Specific to the Powerpack design, each pod has a low voltage (approximately 50-volt) output that is later converted through power management electronics into the higher 400-volt Powerpack output. The energy storage pods are galvanically isolated and the 400-volt Powerpack output is only present when the Powerpack is in an active state and the power electronics are operational. Without active low voltage system electronics, because of the galvanic isolation, there is no electrical pathway from the live battery voltage to the exterior of a pod. As such, because of the design of the Powerpack, during charging or discharging, the cells are not at a high voltage. Each energy storage pod is encased inside a steel enclosure that prohibits any cell failure from projecting outside of pod. In addition, the pods are then enclosed within the steel Powerpack cabinet, which further reduces the possibility of projectiles from the unit. As described earlier, the energy storage pods are cooled by a thermal management system in the front door of the Powerpack cabinet that keeps the battery cells within safe operating temperatures. In the unlikely event of cell thermal runaway, the Powerpack has an engineered exhaust pathway, which directs runaway gas to a gas manifold that is directed out the top of the Powerpack. The Powerpack is designed to be installed side by side with multiple Powerpacks if additional storage capacity is desired. Clearance from the Powerpack is outlined in the manufacturer's installation manual, which requires that combustibles be kept six feet from the front, six inches from the sides and back, and five feet from the top of the Powerpack.

5 Testing Setup

The full-scale fire tests were separated into two categories: (1) external ignition of the Powerpack and (2) internal ignition of the Powerpack, as described below. For both tests, the Powerpack battery packs were charged to a full 100% state of charge (SOC) prior to testing.

5.1 External Ignition Testing

The external ignition test exposed the Powerpack to a propane burner to simulate a fire scenario where the fire originates outside of the Powerpack.

5.1.1 ESS Positioning

The Powerpack was positioned on a noncombustible surface similar to its intended end use for an outdoor installation on a concrete pad, as shown in Figure 5. The test instrumentation, including thermocouples (TCs), heat flux gauges (HFGs), pressure transducers, gas sampling, data acquisition, weather meter, and cameras were positioned around the Powerpack as illustrated in Figure 11. In addition, a propane burner, further described in Section 5.1.2, was placed to the right side of the Powerpack, allowing for direct flame impingement on the exterior of the Powerpack cabinet.

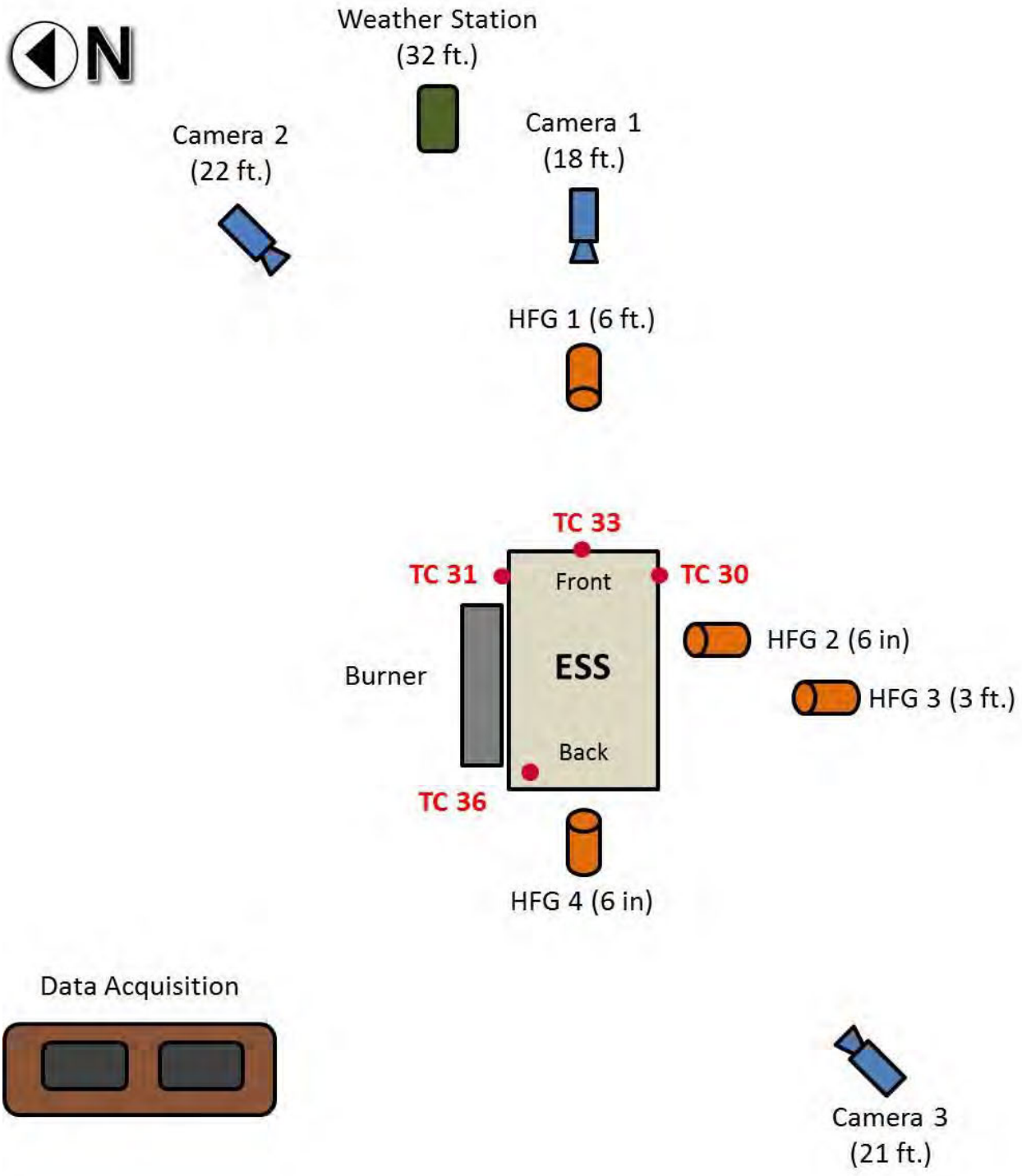


Figure 11 External fire test setup and instrumentation

5.1.2 Burner Description (Ignition Source)

The burner assembly consisted of three (3) drilled-pipe propane burners connected in parallel, as shown in Figure 12.

Each burner was 1.25 inches in diameter and 49 inches long and consisted of two rows of 2 mm orifices drilled at an angle 45 degrees apart. The orifices extended for 36 inches, spaced approximately 5 mm apart. The three burners were installed inside a five sided, 36 by 36 inch by 8 inch steel shell, with a steel mesh covering the opening to increase the amount of radiative heat load from the burner assembly to the exterior wall of the Powerpack enclosure. The burner assembly was positioned against the right side of the Powerpack cabinet to allow for direct flame impingement on the exterior of the unit, as shown in Figure 13. .

The flow of propane was monitored by a calibrated Omega FMA1845A mass flow meter, capable of measuring up to 1,000 liters per minute (lpm). The flow rate of propane was adjusted to provide an output of approximately 400 kW during the test.[81]

Figure 12 Burners utilized for testing

[81] HRR from the propane burners was determined based upon the flow rate of propane recorded by a mass flow meter during testing times the heat of combustion of propane.

Figure 13 Burner assembly and positioning

5.1.3 Temperature and Heat Flux Measurements

Temperatures were monitored with 1/8th-inch diameter bare bead Type K Chromel-Alumel thermocouples with an accuracy of ± 2.2°C or 0.75%, whichever is greater. Twenty-nine (29) thermocouples were placed on the exterior surfaces of the Powerpack, at selected battery pods inside the Powerpack, and within the Powerpack cabinet and exhaust manifold. Six (6) thermocouples were installed inside pods 1, 2, 3, and 4, for a total of 24 thermocouples monitoring the thermal runaway progression inside the battery pods, as shown in Figure 14. One (1) thermocouple was positioned inside the Powerpack cabinet exhaust manifold and another at the exhaust vent, as shown in Figure 15. Three (3) additional thermocouples were installed on the exterior surface of the Powerpack cabinet on the front, right side (burner side), and the left side of the Powerpack, as shown in Figure 11.

Heat fluxes were monitored with Schmidt-Boelter heat flux gauges capable of measuring up to 50 kW/m^2 ±3%. The heat flux gauge has a target 0.60 inches in diameter that is enclosed within a water cooled body two inches in diameter. Four (4) heat flux gauges were placed three feet above the ground at standoff distances of six feet in front of the Powerpack, six inches and three feet from the left side (opposite of the burner) of the Powerpack, and six inches from the back of the Powerpack, as shown in Figure 11. These distances are related to the clearance distances outlined in the Powerpack installation manual.

The location of each thermocouple and heat flux gauge is provided in Table 2 and Table 3.

Table 2 Summary of Thermocouple Locations for External Ignition Testing

TC	Measurement Location	TC	Measurement Location	TC	Measurement Location
0	Interior Pod #1	10	Interior Pod #2	20	Interior Pod #4
1	Interior Pod #1	11	Interior Pod #2	21	Interior Pod #4
2	Interior Pod #1	12	Interior Pod #3	22	Interior Pod #4
3	Interior Pod #1	13	Interior Pod #3	23	Interior Pod #4
4	Interior Pod #1	14	Interior Pod #3	30	Exterior Left
5	Interior Pod #1	15	Interior Pod #3	31	Exterior Right
6	Interior Pod #2	16	Interior Pod #3	32	Exhaust Manifold
7	Interior Pod #2	17	Interior Pod #3	33	Exterior Front
8	Interior Pod #2	18	Interior Pod #4	36	Exhaust Vent
9	Interior Pod #2	19	Interior Pod #4		

Table 3 Summary of Heat Flux Gauge Locations for External Ignition Testing

Heat Flux Gauge	Measurement Location	Heat Flux Gauge	Measurement Location
1	Front (6 ft)	3	Left (3 ft)
2	Left (6 in)	4	Back (6 in)

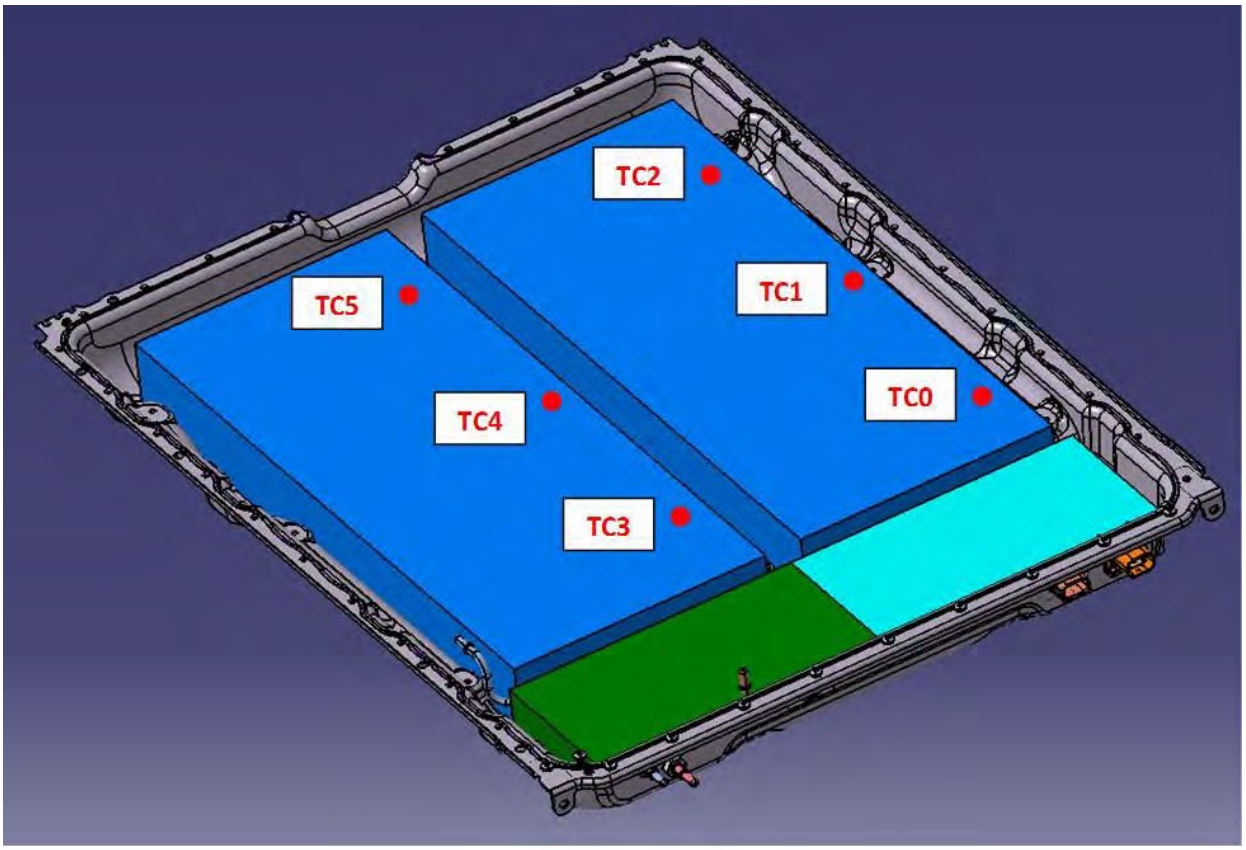


Figure 14 TC measurement locations within Pod 1; Pods 2 through 4 are similarly instrumented and labeled in the same numerical order

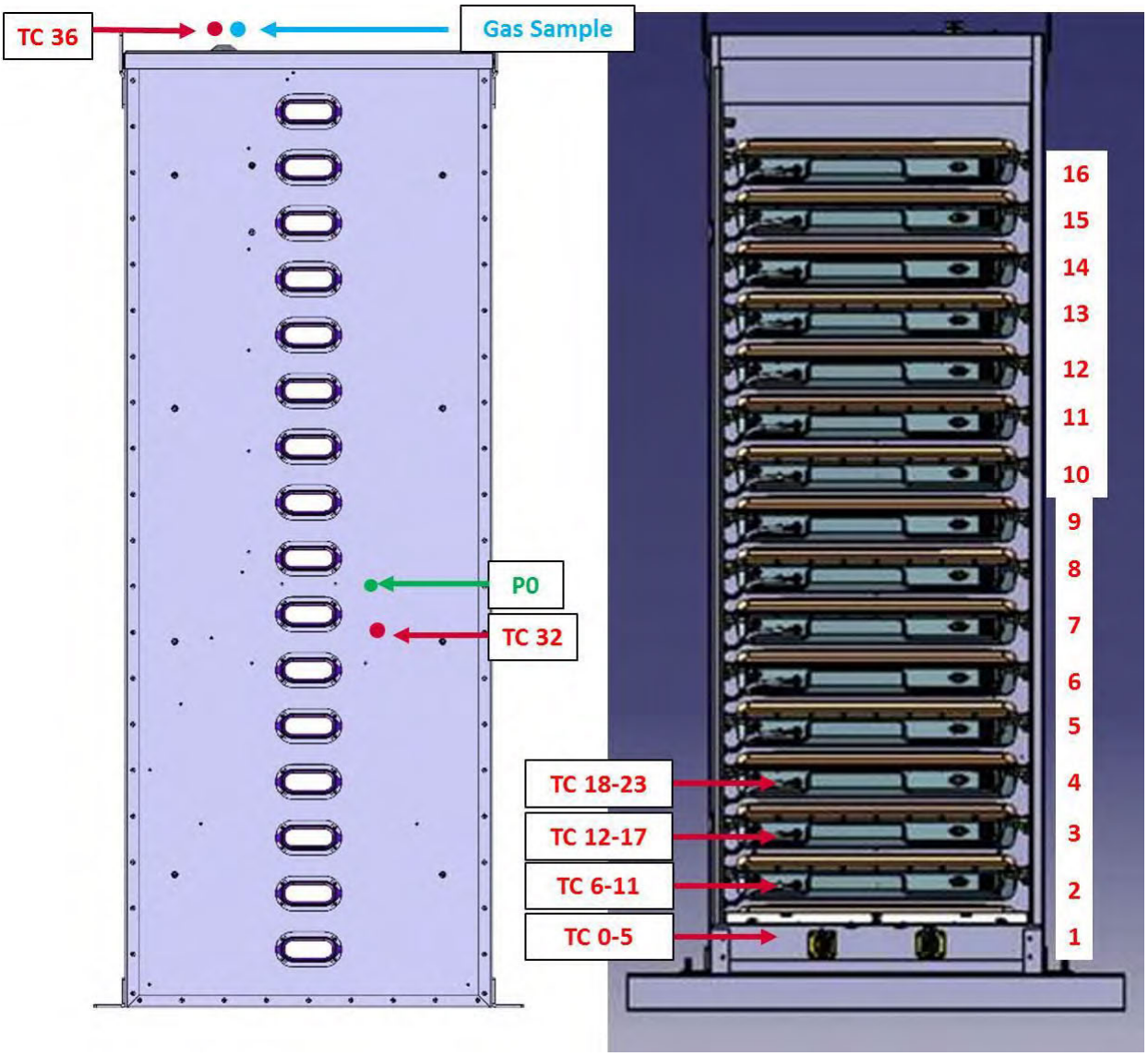


Figure 15 TC, gas sampling, and pressure measurement locations inside the Powerpack cabinet

5.1.4 Pressure Measurements

Pressures were monitored inside the Powerpack cabinet exhaust manifold using an Omega PX-309-015G5V pressure transducer capable of measuring up to 15 psi with an accuracy of ±0.25% full-scale. The transducer was positioned inside the Powerpack cabinet exhaust manifold to detect any overpressures inside the Powerpack cabinet during the test, as shown in Figure 15.

5.1.5 Products of Combustion Gas Sampling

Select products of combustion were monitored at the exhaust vent of the Powerpack cabinet as illustrated in Figure 15. The gas samples were analyzed with a MultiRAE Lite PGM-6208 and a calibrated PortaSens II portable gas leak detector; model C16, manufactured by Analytical Technology, Inc. Gases measured included CO, chlorine (Cl_2), methane (CH_4) (monitored by the MultiRAE Lite) and HF (monitored by the PortaSens II) at a range up to 2,000 ppm (±10 ppm), 50 ppm (±0.1 ppm), 0-100% volume/volume (±0.1%) and 100 ppm (±5%), respectively. Previous experience with Li-ion battery fires and information provided by Tesla focused the gas analysis to these four gasses during this test series. The two detectors were portable handheld units that contained their own built in pumps to draw a gas sample from the exhaust vent through tubing into the respective detector chamber.

5.1.6 Weather Meter

A Kestrel 4500 weather meter was utilized to monitor the ambient temperature, humidity, wind speed, and direction during testing. The Kestrel was positioned approximately 32 feet away from the Powerpack in an open space, away from any structures or objects that could affect the conditions being monitored, as illustrated in Figure 11.

5.1.7 Data Acquisition System

A National Instruments NI 9205 data acquisition unit was utilized to collect the heat flux and pressure measurements at a rate of 10 and 1,000 measurements per second, respectively, at a 16 bit resolution. A MeasurePoint DT9874 Isolation Temperature data acquisition unit was utilized to collect temperature measurements at a rate of 10 measurements per second at a 24 bit resolution. The gas analyzers and the weather meter utilized their own built in data acquisition and recording software to collect data.

5.1.8 Still Photography and High Definition Video

Still images and high definition videos were taken throughout the test. Video cameras were positioned around the Powerpack to get a 360-degree view of the Powerpack at all times, as illustrated in Figure 11. Still images were taken periodically during the test to capture the fire progression.

5.2 Internal Ignition Testing

The internal ignition test induced individual cells within the Powerpack to thermal runaway.

5.2.1 ESS Positioning

The Powerpack was positioned on a noncombustible surface similar to its intended end use installation on a concrete pad, as shown in Figure 5. The test instrumentation, including thermocouples (TCs), pressure transducers, gas sampling, data acquisition, weather meter, and cameras were positioned around the Powerpack as illustrated in Figure 16. In addition, heater cartridges utilized to force the individual batteries into thermal runaway, further described in Section 5.2.2, were positioned inside pod 6 (the initiator pod).

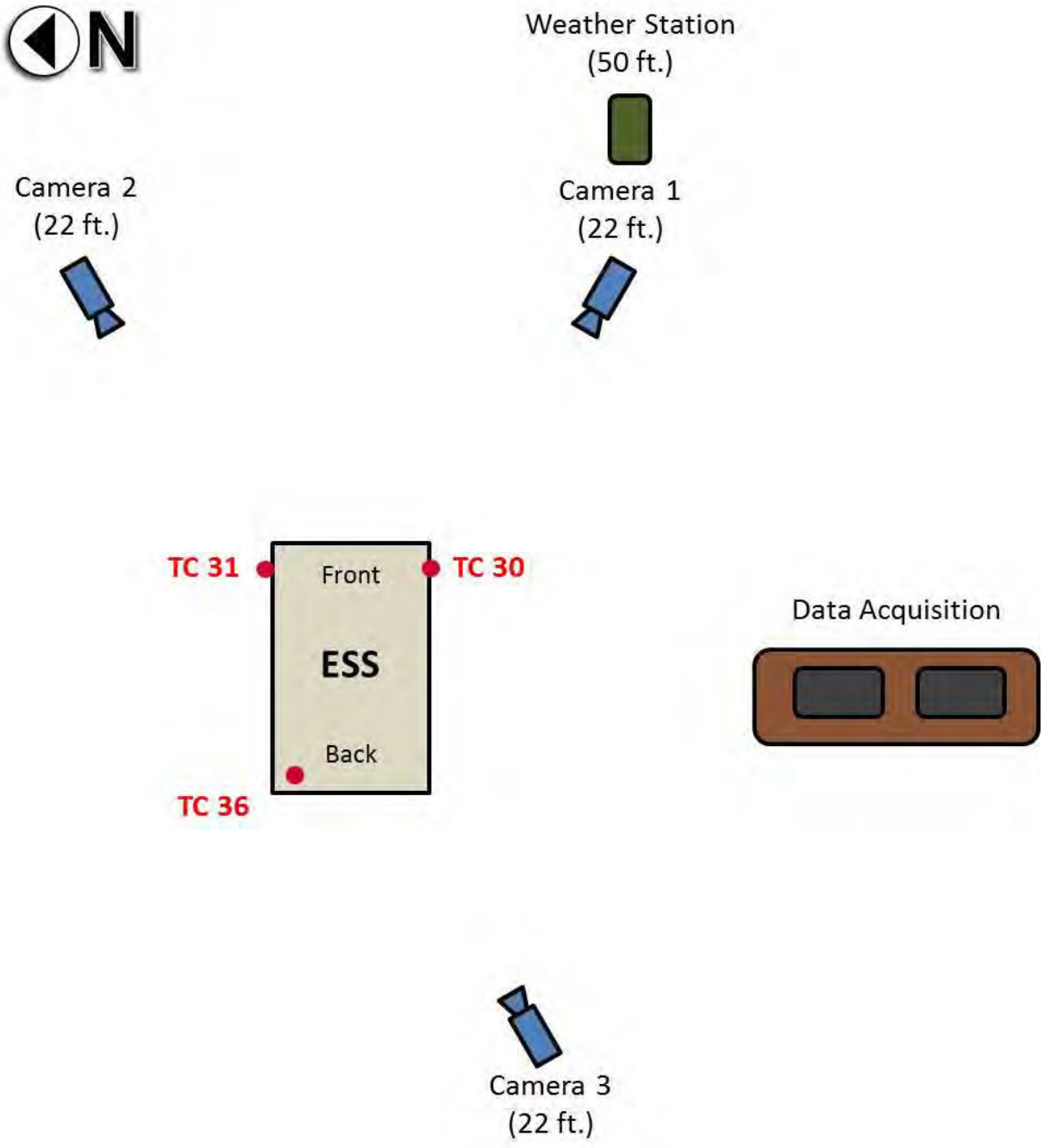


Figure 16 Internal ignition test setup and instrumentation

5.2.2 Internal Failure (Ignition Source)

The initiation method used in the internal ignition test consisted of using six (6) 1/8th-inch diameter 25-watt cartridge heaters, each placed in an interstitial space between the battery cells in Pod 6, as shown in Figure 18. All six heaters were clustered at the center of the module.

At the start of the test, current was applied to all six heaters simultaneously, resulting in an almost simultaneous thermal runaway of ten (10) cells. This method of inducing thermal runaway deliberately overwhelmed the passive propagation protection mechanisms of the Powerpack. After a minimum of ten cells had audibly undergone thermal runaway, the heaters were turned off.

5.2.3 Temperature Measurements

Temperatures were monitored with the same make and model 1/8th-inch diameter bare bead Type K Chromel-Alumel thermocouples as described in the external ignition testing. Thirty-seven (37) thermocouples were placed on the exterior surfaces of the Powerpack, at select battery pods inside the Powerpack, and within the Powerpack cabinet and exhaust manifold. Twelve (12) thermocouples were installed in the initiator pod (pod 6), as shown in Figure 17 and six (6) thermocouples were placed inside pod 5 and pod 7, the adjacent pods to the initiator pod, as shown in Figure 18 and Figure 19. In addition, two (2) thermocouples were placed on the top cover of pod 6, two (2) on the bottom of the cover of pod 7 and two (2) on the top of the cover of pod 5, to monitor the spread of fire, if any, outside of the initiator pod, as shown in Figure 20. Four (4) thermocouples were placed inside the Powerpack cabinet in the exhaust manifold and another thermocouple was placed at the exhaust vent, as shown in Figure 20. Two (2) final thermocouples were installed on the exterior surface of the Powerpack cabinet on the right and left sides of the Powerpack, as shown in Figure 16. The location of each thermocouple is provided in Table 4.

Table 4 Summary of Thermocouple Locations for Internal Ignition Testing

TC	Measurement Location	TC	Measurement Location	TC	Measurement Location
0	Interior Pod #6	12	Interior Pod #5	24	Pod #6 Cover
1	Interior Pod #6	13	Interior Pod #5	25	Pod #6 Cover
2	Interior Pod #6	14	Interior Pod #5	26	Pod #7 Cover
3	Interior Pod #6	15	Interior Pod #5	27	Pod #7 Cover
4	Interior Pod #6	16	Interior Pod #5	28	Pod #5 Cover
5	Interior Pod #6	17	Interior Pod #5	29	Pod #5 Cover
6	Interior Pod #6	18	Interior Pod #7	30	Exterior Left
7	Interior Pod #6	19	Interior Pod #7	31	Exterior Right
8	Interior Pod #6	20	Interior Pod #7	32	Exhaust Manifold
9	Interior Pod #6	21	Interior Pod #7	33	Exhaust Manifold
10	Interior Pod #6	22	Interior Pod #7	34	Exhaust Manifold
11	Interior Pod #6	23	Interior Pod #7	35	Exhaust Manifold
				36	Exhaust Vent

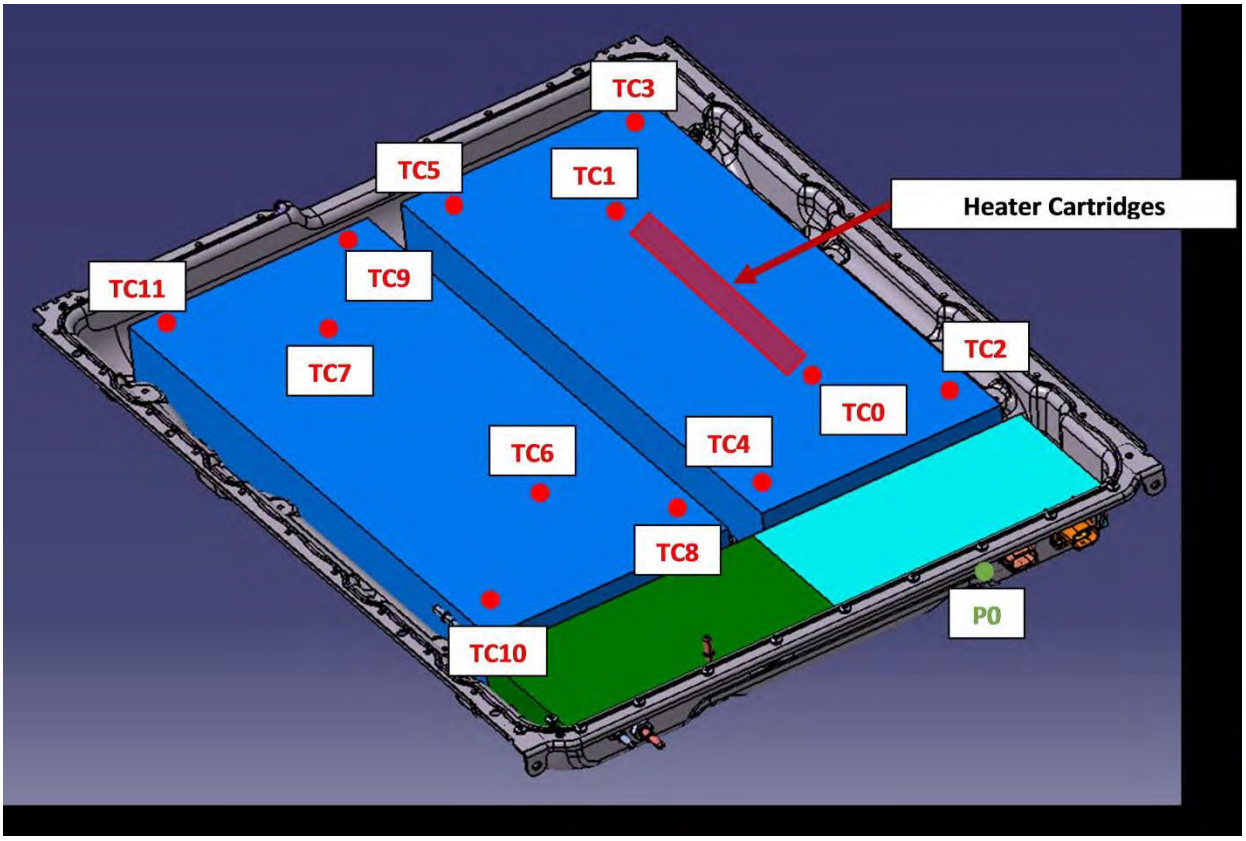


Figure 17 TC, pressure measurement and heater cartridge locations within Pod 6

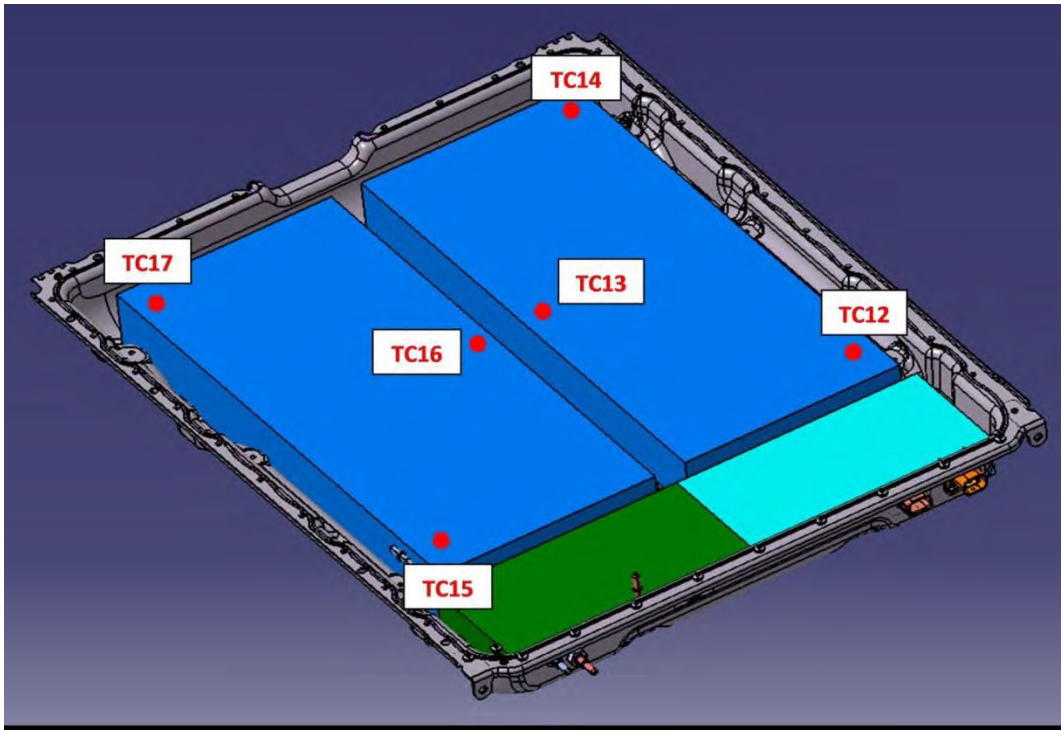


Figure 18 TC measurement locations within Pod 5

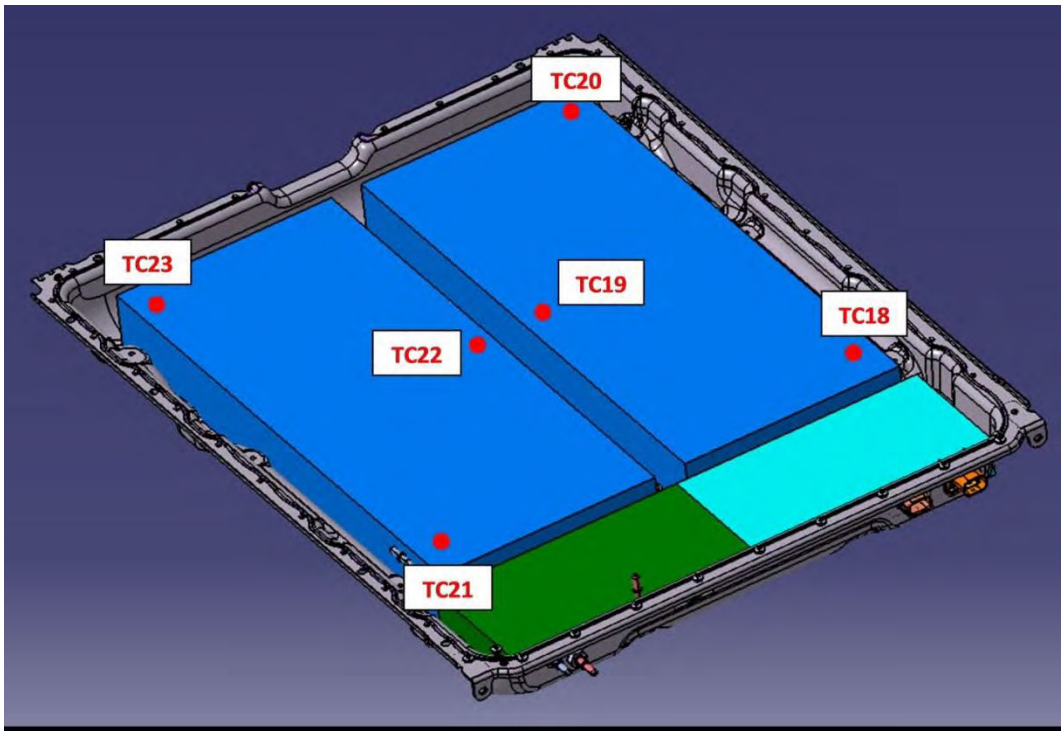


Figure 19 TC measurement locations within Pod 7

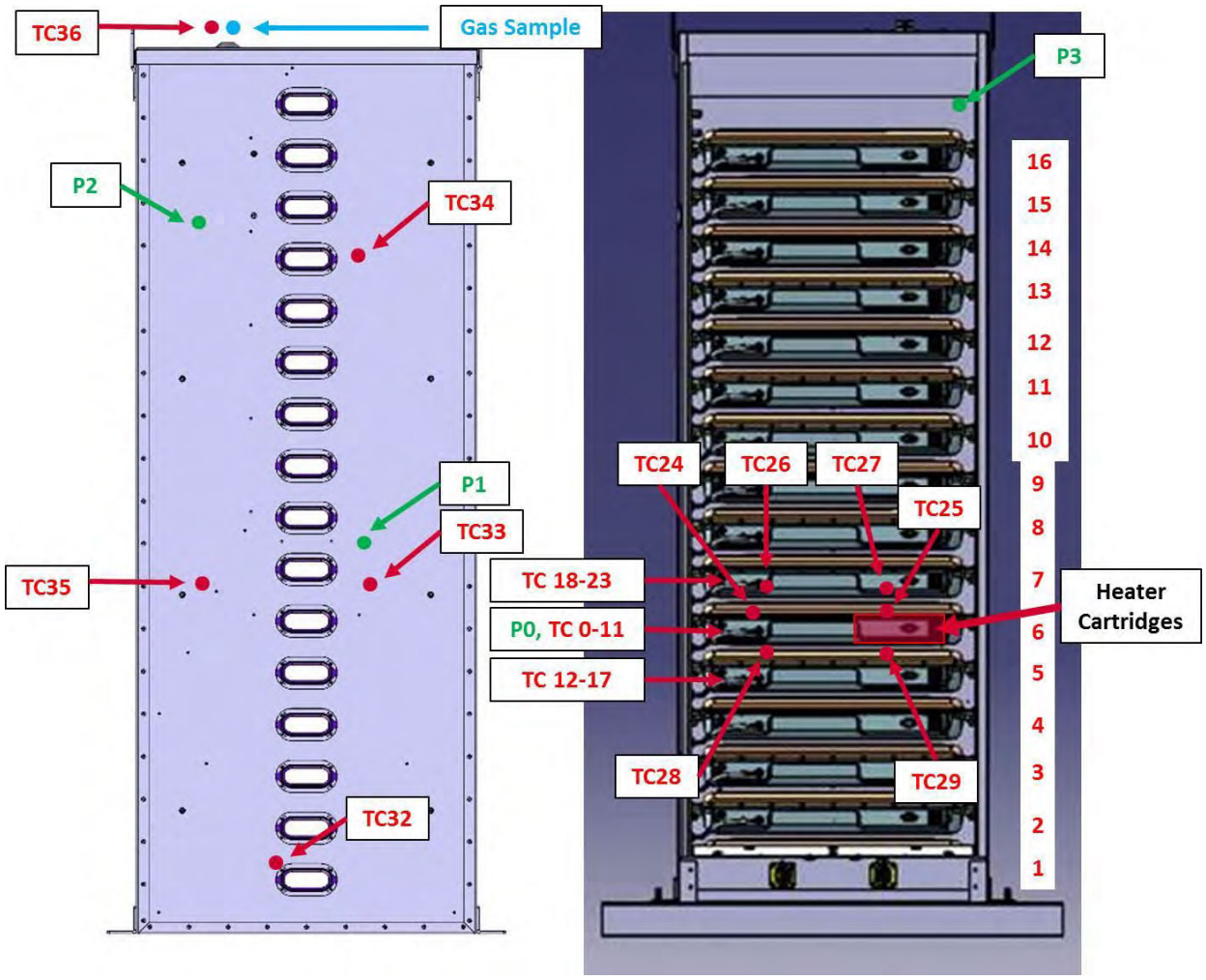


Figure 20 TC, gas sampling, and pressure measurement locations inside the Powerpack cabinet

5.2.4 Pressure Measurements

Pressures were monitored with the same make and model pressure transducers described in the external ignition testing. The transducers were positioned inside the Powerpack cabinet, as illustrated in Figure 20, as well as in the exhaust manifold and at the initiator pod to detect any overpressures in these locations during the test. The location of the pressure transducers is provided in Table 5.

Table 5 Summary of Pressure Measurement Locations for Internal Ignition Testing

Pressure Transducer	Measurement Location	Pressure Transducer	Measurement Location
0	Pod #6	2	Exhaust Manifold
1	Exhaust Manifold	3	Front Cabinet

5.2.5 Products of Combustion Gas Sampling

Select products of combustion were monitored at the exhaust vent of the Powerpack, as shown in Figure 20, with the same instrumentation as described in the external ignition test (see Section 5.1.5).

5.2.6 Weather Meter

Weather conditions were monitored with the same instrumentation as described in the external ignition test (see Section5.1.6). The weather meter was positioned approximately 50 feet away from the Powerpack, as shown in Figure 16.

5.2.7 Data Acquisition System

The same data acquisition unit described in the external ignition test (see Section 5.1.7) was utilized to collect the test data during the internal ignition test.

5.2.8 Still Photography and High Definition Video

Still images and high definition videos were recorded throughout the internal ignition test. Video cameras were positioned around the Powerpack to get a 360-degree view of the Powerpack at all times, as illustrated in Figure 16. Still images were taken periodically during the test to capture the test progression.

6 Test Results

Exponent witnessed the full-scale testing and reviewed the data collected to observe the behavior of the Powerpack when it is involved in a fire scenario. The tests were performed at the Tesla test facility on November 5, 2015, under the guidance and direction of FPRF and Exponent. Two tests were conducted; one external ignition test and one internal ignition test. For each test the Powerpack was positioned out in open air, on a noncombustible surface, as it would be typically installed in outdoor installations. The Powerpacks that were tested were 100 kWh units charged to 100% SOC, as described previously in Section 4.

6.1 External Ignition Testing

The external ignition test was conducted on November 5, 2015, at approximately 9:30 a.m. At the start of the test, the weather was overcast, with temperatures of approximately 35 °F and a relative humidity of approximately 65%. The wind was out of the west-southwest with a wind speed of 1.5 miles per hour (mph). Over the course of the three hour and forty-five minute test duration, the temperature slowly rose to 43 °F, the weather remained mostly overcast with no precipitation, the relative humidity dropped slowly to approximately 55%, and the wind remained calm out of the west or west-southwest, with speeds between 0 and 2.2 mph. The following sections summarize the data collected during the test.

6.1.1 Test Observations

Table 6 summarizes the key events observed by Exponent during the test. Images at significant test times are provided in Figure 21 through Figure 28. In general, the test demonstrated that an external heat source, such as a propane burner, could induce the Powerpack into thermal runaway and result in the ignition of electrolyte material and other combustibles within the Powerpack cabinet. Popping sounds from the interior of the Powerpack were heard throughout the test. White smoke was observed consistent with the release of flammable electrolyte material from individual cells. However, no violent projectiles, explosions, or bursts (other than an overpressure release of the thermal door refrigerant) were observed during the test while the Powerpack was exposed to the burners, while it was in a free burn state, or after flames were no longer visible. Flames remained mostly confined to the Powerpack itself. Weaker flames

emanated from the exhaust vent of the Powerpack, the front thermal door grill, and around the front thermal door seal at varying times throughout the test.

Table 6 External Ignition Test: Key Observations

Time (hr:min:sec)	Event
- 0:03:00	Start data acquisition and video cameras
0:00:00	Ignite burner
0:35:12	First smoke (white and/or grey) observed from Powerpack
0:45:02	Pop sound heard from Powerpack cabinet (pops)
0:46:54	Sustained flames first observed at exhaust vent
0:47:09	Sustained flames first observed at back Powerpack panel
0:47:57	Sustained flames first observed at the front door
0:48:00	Steady pops heard from Powerpack starting at this time until 3:10:50 consistent with cell thermal runaway
1:00:00	Burners “OFF”, jet fire exiting exhaust vent, flames coming out of the front door grill
1:05:00 – 1:10:00	Material ejected from exhaust vent
1:08:00	Fire inside Powerpack only involving combustibles near the top; no burning of materials near the bottom of the Powerpack
1:11:00	Jet flame at exhaust vent weakens intermittently
1:14:30	Jet flame at exhaust vent increases in intensity
1:20:05	Overpressure sound consistent with refrigerant failure
1:27:00	Jet flame at exhaust vent weakens intermittently
1:27:45	Smoke from Powerpack turns darker
1:29:45	Flames inside Powerpack moving lower
1:32:05	Fire inside Powerpack intensifying
2:00:00	Fire inside Powerpack intensifying
2:30:00	Fire inside Powerpack steady
2:33:30	Fire inside Powerpack decreasing in intensity
3:00:00	Fire insides subsiding, weak flames observed out the front door and exhaust vent
3:10:50	Last pop heard from Powerpack
3:30:00	Fire continues to decrease in intensity
3:41:10	Last visible flame out
3:45:00	Cameras and data acquisition off

Figure 21 External test screenshot: start of test, burners “ON”

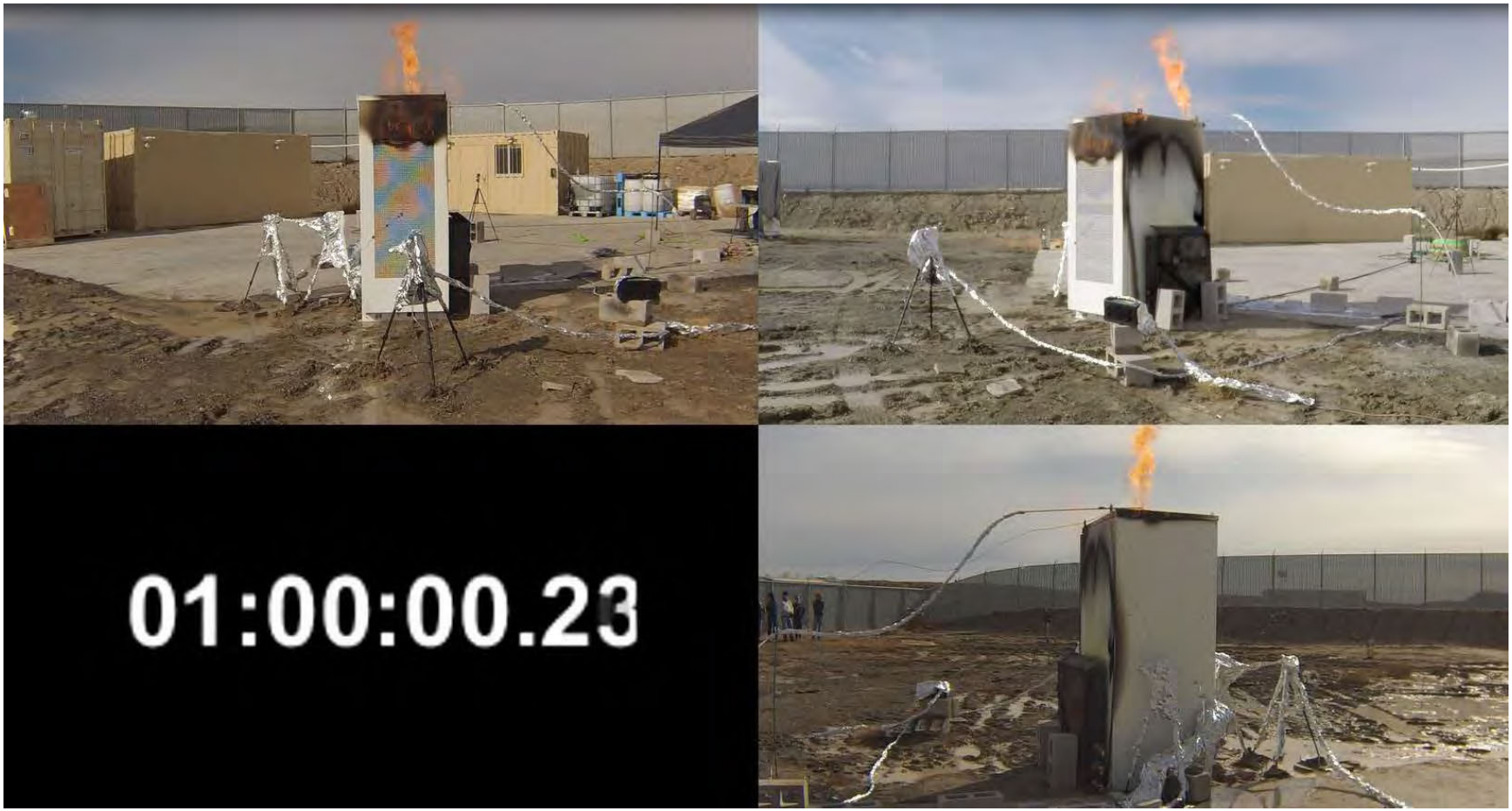


Figure 22 External test screenshot: test time = 1 hour, fire emanating from the front door and exhaust vent, pops consistent with battery cell thermal runaway heard steadily, burners turned “OFF”

Figure 23 External test screenshot: test time = 1 hour 30 minutes, flames at front door and exhaust vent intermittently decreasing in intensity

Figure 24 External test screenshot: test time = 2 hours, fire inside the Powerpack intensifying

Figure 25 External test screenshot: test time = 2 hours 30 minutes, fire inside the Powerpack intensifying

Figure 26 External test screenshot: test time = 3 hours, fire inside the Powerpack subsiding

Figure 27 External test screenshot: test time = 3 hours 30 minutes, fire inside the Powerpack burning itself out

Figure 28 External test screenshot: end of test, fire is out.

6.1.2 Temperatures and Heat Flux Measurements

Temperature and heat flux measurements were collected during the external ignition test and plots for each as a function of time are provided in Appendix A.

The maximum temperatures measured on the interior thermocouples installed within pods 1, 2, 3, and 4 were all consistent with direct flame contact, with temperatures in excess of 2,000 °F. The maximum temperatures measured on the exterior of the Powerpack cabinet were much lower. TC30, positioned on the left side of the Powerpack opposite of the burner, measured a maximum surface temperature of approximately 150 °F and TC33, positioned on the front door measured a maximum temperature of approximately 460 °F.

An analysis of the heat flux measurements yielded values inconsistent with observations of the test, the fire progression and its severity. As such, the data collected for heat fluxes was not considered in this fire hazard assessment.

6.1.3 Pressure Measurements

Pressure was monitored at the Powerpack exhaust manifold throughout the test and a plot of the pressure as a function of time is provided in Appendix B. No pressure build-up or release consistent with an overpressure event occurring inside the Powerpack cabinet was observed in the data or during the test.

6.1.4 Gas Sampling Measurements

Select products of combustion were monitored at the Powerpack exhaust vent throughout the test and a plot of CO and HF levels as a function of time are provided in Appendix C.

CO was first detected approximately 2.5 minutes after the burners were turned on at 10 ppm. The value steadily rose to its maximum value of 50 ppm approximately four minutes after the burners were turned on. The CO detected then slowly decreased to 0 ppm approximately 30 minutes after the burners were turned on and remained at 0 ppm for the remainder of the test. As such, the production of CO, as detected at the exhaust vent, only occurred while the external

burner was on and CO was not detected while the Powerpack underwent self-sustaining combustion (i.e., the external burner was off).

No Cl_2 or CH_4 were detected in any quantities during the test.

HF was detected two minutes after the burners were turned on at 2 ppm. The value of HF steadily rose from 2 ppm to its maximum value of 100 ppm approximately 30 minutes after the burners were turned on. The maximum range of the HF detector was 100 ppm. All HF data after 30 minutes was "over range" of the HF detector, indicating HF levels were greater than 100 ppm for the duration of the test.

6.1.5 Post Test

Following the test, it was determined that all of the energy pods were damaged and there was no stranded energy within the Powerpack.

6.2 Internal Ignition Testing

The internal ignition test was conducted on November 5, 2015, at approximately 2:45 p.m. At the start of the test, the weather was sunny, with temperatures of approximately 49 °F and a relative humidity of approximately 32%. The wind was out of the west with a wind speed of 1.3 mph. Over the course of the hour and a half test duration, the temperatures fluctuated between approximately 45 and 54 °F, the weather remained mostly sunny with no precipitation, the relative humidity remained between 30 and 32%, and the wind remained calm out of the west or west-southwest, with speeds between 0.1 and 2.5 mph. The following sections summarize the data collected during the test.

6.2.1 Test Observations

Table 7 summarizes the key events observed during the test. Images at significant test times are provided in Figure 29 through Figure 31. In general, the internal ignition test demonstrated that heater cartridges installed within the battery pack could induce multiple battery cells into thermal runaway; however, the failures did not result in thermal runaway of battery cells outside of the initiator pod. Popping sounds from the interior of the Powerpack were heard sporadically

throughout the test, and steadily for approximately 15 minutes. White smoke was observed consistent with the release of flammable electrolyte material from individual cells. However, no violent projectiles, explosions, or bursts were observed during the test. In addition, no flames or other signs of fire, other than smoke production, were observed. The event stopped on its own without thermal runaway occurring outside of the initiator pod.

Table 7 Internal Ignition Test: Key Observations

Time (hr:min:sec)	Event
- 0:01:30	Start data acquisition and video cameras
0:00:00	Turn on heater cartridges
0:12:35	Pop sound heard from Powerpack cabinet (pops)
0:15:10	First smoke (white and/or light grey) observed at exhaust vent
0:27:13	Light smoke continues at exhaust vent
0:29:35	Smoke at exhaust vent increasing
0:33:07	Pop heard from Powerpack cabinet
0:34:28	Smoke at exhaust vent increasing, getting darker (grey)
0:34:56	Pop heard from Powerpack cabinet
0:35:30	Smoke at exhaust vent increasing, getting darker (grey)
0:36:22	Steady pops heard from Powerpack starting at this time until 0:45:01 consistent with cell thermal runaway
0:38:34	Heater cartridges turned off.
0:45:01	Last pop heard from Powerpack
0:49:30	Smoke production at exhaust vent subsiding
1:00:00	Smoke production at exhaust vent subsiding
1:15:00	Smoke production at exhaust vent subsiding
1:30:00	Smoke production at exhaust vent barely visible, cameras and data acquisition turned off, test terminated

Figure 29 Internal test screenshot: start of test, heater cartridges “ON”

Figure 30 Internal test screenshot: peak smoke production approximately 35 to 40 minutes after the heater cartridges were turned “ON”

Figure 31 Internal test screenshot: end of test

6.2.2 Temperatures

Temperatures were collected during the internal ignition test and plots of the temperatures as a function of time are provided in Appendix D.

The maximum temperatures were measured in the initiator pod, Pod 6. In the module with the heater cartridge, maximum temperatures were recorded in excess of 2,000 °F for approximately two seconds at TC1 , which was one of the thermocouples installed closest to the heater cartridges and may have come in contact with a brief (2 second) flame as the cell underwent thermal runaway. The rest of the thermocouples within the module recorded temperatures up to approximately 1,550 °F. In the second module within pod 6, the temperatures were lower, with the maximum temperatures between 200 and 400 °F for the six thermocouples installed within that module. The maximum temperatures measured on the adjacent pods, pod 5 and pod 7, were much lower as well. Pod 5 recorded maximum temperatures between 80 and 125 °F and pod 7 recorded maximum temperatures between 80 and 180 °F. TC30, positioned on the left side of the Powerpack cabinet exterior, measured a maximum surface temperature of 70 °F and TC31, positioned on the right side of the Powerpack cabinet exterior, measured a maximum temperature of 60 °F.

6.2.3 Pressure Measurements

Pressure was monitored inside the Powerpack cabinet, exhaust manifold and at the initiator pod throughout the test and a plot of the pressure as a function of time is provided in Appendix E. No pressure build-up or release consistent with an overpressure event occurring inside the Powerpack cabinet or the initiator pod was observed in the data or during the test.

6.2.4 Gas Sampling Measurements

Select products of combustion were monitored at the Powerpack exhaust vent throughout the test and a plot of CO, CH_4, and HF levels as a function of time is provided in Appendix F.

CO was first detected approximately 10.5 minutes after the heaters were turned on at 10 ppm. The value steadily rose to its maximum value of 2,000 ppm approximately 12 minutes after the heaters were turned on, which is the maximum range for the CO detector. The value of CO

remained at its maximum detection level of 2,000 ppm from the 12 minute mark until 63.5 minutes after the heaters were turned on. It then slowly decreased for the remaining 30 minutes of the test.

No Cl_2 was detected in any quantities during the test.

CH_4 was first detected approximately 12 minutes after the heaters were turned on. The detector measured CH_4 in percent volume fraction and steadily rose until approximately 36 minutes after the heaters were turned on, to a recorded a maximum percentage of 96.9. This time correlates with when the most cell runaways were observed in the test, as described in Section 6.2.1. It then slowly decreased for the remaining 54 minutes of the test.[82] The elevated CO and CH_4 levels detected after the heater cartridges were turned off and after thermal runaway of the cells had ceased indicates that CO and CH_4 can still be vented from the cells as they are cooling and obvious signs of thermal runaway (i.e., popping) are no longer observed.

HF was detected approximately 21 minutes after the heater cartridges were turned on at 1 ppm. The value of HF steadily rose from 1 ppm to its maximum value of 26 ppm approximately 46 minutes after the heater cartridges were turned on. The value plateaued at 26 ppm for 2 additional minutes (minute 47 and 48), then steadily declined back down to a value of 2 ppm by the end of the test.

6.2.5 Post Test

Following the test, it was determined that only one of the energy pods (the initiator pod) was damaged. The other 15 pods remained operational and had a full SOC. The energy pods were discharged and the Powerpack was recycled.

[82] During thermal runaway of the battery cell methane can be released. During the external ignition test no methane was detected at the exhaust vent, likely a result of the fire inside the ESS igniting any off gassing methane from the cells. However during the internal ignition test, no flames were observed and the released methane vented into the exhaust manifold and out the exhaust vent. Methane was also detected in previous testing programs, such as during the FAA's fire tests of cylindrical battery cells.

7 Key Findings

The following section is a discussion of the data and observations collected during the literature review and full-scale testing and supplements the presentation of the data in Sections 2 and 6.

7.1 Literature Review Summary

Li-ion ESSs are becoming more popular and are posed to be installed in many occupancies across the country, including commercial and residential buildings. However, little public knowledge is known about the fire hazards they pose to those buildings and their occupants.

7.1.1 Electrical, Fire, and Building Codes

Several gaps were identified in a review of electrical, fire, and building codes typically adopted in the United States as they relate to ESSs. These gaps are predominantly related to sections of the codes categorizing battery systems based on the volume of liquid electrolyte, which is not appropriate for assessing Li-ion ESS hazards. In addition, NFPA 1 provides contradictory guidance regarding thermal runaway protection for Li-ion battery systems, while the IFC does not require it at all. These gaps can be corrected with changes to the sections identified at the ICC code action hearings and NFPA technical committee meetings, some of which are currently being undertaken. In addition, the next edition of the NEC, the 2017 edition, is proposed to have a new article (Article 706) dedicated to ESSs. This addition should further assist installers, AHJs, and manufacturers with navigating the electrical installation requirements for these systems. However, it should also be noted that guidance for Li-ion battery system installations is currently within the codes and has been since 2006, most notably Section 608 of the IFC and since 2009, Chapter 52 of NFPA 1. Many of the concerns over the installation of battery systems could be addressed by local jurisdictions adopting more current editions of the ICC codes.

7.1.2 Design Standards

The ESS assessed in this testing program was listed to UL 1741, UL 1973, and IEC 62109 and was designed to be compliant with UL 9540 and IEC 62619, currently under development. UL

1973 requires stationary battery systems to meet two fire tests: one originating internally at the battery cell level and one externally by means of a hydrocarbon pool fire.

7.1.3 ESS Fires

Real world experience with Li-ion ESS fire incidents are limited, likely stemming from the early stage of adoption that these systems are currently in. Only one case was identified in the public records where a Li-ion ESS was involved in a fire; however, the details of that fire are not known, as requests for more information for public sources have not yielded any additional details. Previous research on other large format Li-ion batteries had demonstrated that the batteries did not significantly add to the HRR of the fire, that the fires can be extinguished with large amounts of water, the batteries can pose a projectile hazard when designed with cylindrical 18650 cells, but do not pose that hazard with polymer or pouch style cells, that toxic compounds such as CO_2, NO_x, HCN, HCl, CO, and HF can be produced during the fires, water samples collected after extinguishing Li-ion battery fires can contain concentrations of fluoride and chloride, and that no electrical hazards exist for personnel suppressing a battery fire from current leakage through the hose stream provided they are standing at specified standoff distances.

7.1.4 Knowledge Gaps

As stated in Section 2, the following gaps in the knowledge base for commercial and residential Li-ion ESSs have been identified:

1. No public fire test data demonstrating the fire behavior of ESSs.

2. Limited public fire test data related to large format battery packs with cylindrical design utilized either in vehicles or storage systems.

3. No fire test data or real world fire incidents involving residential or commercial Li-ion ESSs illustrating the hazards (projectiles, heat release, toxic gas production) to first responders and/or the best practices for fire department operations.

4. No Li-ion ESS guidance in the IRC.

5. Limited real world fire incidents involving large-scale (grid size) ESSs.

6. Some sections of the IBC, IFC, and NFPA 1 are confusing, as only the volume of the electrolyte (a requirement for older battery chemistries such as lead acid) and not the weight of the Li-ion battery system, is used as a threshold for when certain building or fire code requirements are necessary. In addition, other agencies, such as the United Nations and DOT, have other methods for defining and categorizing batteries. Many of these code sections are presently being revised and could be addressed by the next published code set.

7. NFPA 1 provides contradictory guidance regarding thermal runway protection for Li-ion battery systems, while the IFC does not require thermal runaway protection for Li-ion battery systems at all. Many of these code sections are presently being addressed and could be resolved by the next published code set.

8. No post-fire incident response and recovery (i.e., overhaul) procedures.

9. No stationary battery system or ESS fire reporting code in NFIRS to assist in analyzing fire incidents and differentiate battery systems from household batteries.

7.2 Test Summary

The following sections highlight the key findings from the full-scale fire tests.

7.2.1 Overall Test Observations

A 400 kW propane burner impinging directly on the side of the Powerpack for approximately 60 minutes was required to achieve self-sustaining thermal runaway in the Powerpack battery pack and ignite interior components within the Powerpack cabinet. The test had a duration of approximately 3 hours and 45 minutes until the fire burned itself out. Flames were observed breaching the cabinet at the front door of the Powerpack and out the top of the Powerpack at the exhaust vent. No projectiles or explosions were observed at any time during either test.

During the internal ignition test, individual battery cells were forced into thermal runaway; however, no flames were observed at any time. Smoke was observed emanating from the Powerpack at the exhaust vent, however, within 1 hour and 30 minutes the smoke had dissipated and the thermal event was over. The Powerpack was designed to stop a single battery cell

failure from cascading into a series of thermal runaways of adjacent battery cells, a design safety feature deliberately overwhelmed in this test through the use of multiple heater cartridges. However, the event was still contained within the Powerpack and did not propagate outside of the initial pod where the heaters were installed.

7.2.2 Flame Spread Hazards

Temperature measurements in the external ignition test demonstrated that a fire inside the Powerpack can reach elevated temperatures in excess of 2,000 °F. Exterior temperatures at the Powerpack cabinet were much lower and would not pose a fire spread hazard if the manufacturer recommended clearance distances to combustibles, as specified by the installation manual, are followed. Flames did breach the front door; however, the recommended clearance distance of six feet would likely eliminate any direct flame spread from the front door to nearby combustibles. Given that the unit tested can be installed outdoors, wind conditions could affect any flames emanating from the Powerpack. During these tests, the wind was calm with speeds at or less than 2 mph. As such, the hazard that a high wind scenario could inflict on the flame spread was not directly assessed during these two tests and may warrant further investigation. In addition, a standalone Powerpack was tested in this test program, not a large installation with many Powerpacks installed in an array. As such, the effects, if any, of additional Powerpacks installed within close proximity to one another was not directly assessed during these two tests and may warrant further investigation.

Flames several feet high were observed from the exhaust vent at the top of the Powerpack. The installation manual recommends at least five feet of clearance above the Powerpack. This clearance may not be sufficient if combustible materials are installed above the Powerpack, such as a building canopy or awning. It is recommended that this clearance distance be evaluated when a system is being installed, especially if the installed system is adjacent to a building or structure that has or could have combustibles installed above the Powerpack.

During the internal ignition test the temperatures recorded were much lower, with exterior cabinet surface temperatures only slightly higher than ambient and no observed flames emanating from inside the Powerpack. Based on this test, the flame spread hazard from an

internal cell failure for combustibles positioned at the recommended clearance distances away from the Powerpack is negligible.

7.2.3 Products of Combustion Hazards

The release of HF during Li-ion fires is well known and HF was detected in both fire tests. The maximum range for the portable detector utilized in testing was 100 ppm, which was exceeded during the external ignition test after 30 minutes of burner exposure to the Powerpack. During the internal ignition test, the maximum recorded HF was 26 ppm, as less battery cells were involved compared to the external ignition test. Both of these measurements are greater than the recommended exposure levels over an 8 hour period as specified by the Occupational Safety & Health Administration (OSHA). It is recommended that first responders don typical firefighting self-contained breathing apparatus (SCBA) equipment when responding to an outdoor Li-ion battery fire. CO was also detected in both fire tests, though more significantly in the internal ignition fire test. Based on these test results, if installed indoors, additional ventilation of the Powerpack and/or for the room in which it is installed may be required. In addition, this test series only assessed select products of combustion produced during the Powerpack fires, namely HF. Additional testing accounting for other toxic products of combustion may warrant further investigation.

8 Recommendations and Future Work

The following recommendations and possible future work are suggested (Phase II) to further identify and understand the fire hazards of Li-ion ESSs:

- Research studying first responder tactics and suppression for Li-ion ESS fires.
- Research studying post fire incident response and recovery (i.e., overhaul) procedures.
- Heat release rate testing of ESSs.
- Testing to study what effect, if any, severe wind conditions may have on the spread of flames from one ESS to another or to other nearby combustibles.
- Testing to study what effect, if any, an array of ESSs installed within close proximity to one another would have on the spread of flames from one ESS to another or to other nearby combustibles.
- Testing of ESSs inside a compartment to study what effect, if any, a room will have on the fire behavior and potential toxic gas hazards within an enclosure.
- Testing to study different ESS manufacturers' products, battery chemistries, and/or sizes under similar conditions to verify the performance of other ESSs under these fire conditions.
- The addition of a stationary battery or ESS code in NFIRS such that fires in these systems can be differentiated from other battery fires, such as household batteries.
- Resolve the conflicting code sections relating to ESSs.

9 Acknowledgements

The authors would like to thank Tesla for donating the Powerpacks and for their significant efforts during this project.

The authors further thank Kathleen Almand, Executive Director of FPRF, Daniel Gorham, Research Project Manager, and everyone on the FPRF Advisory Panel.

Appendix A: External Ignition Test: Temperature and Heat Flux Plots

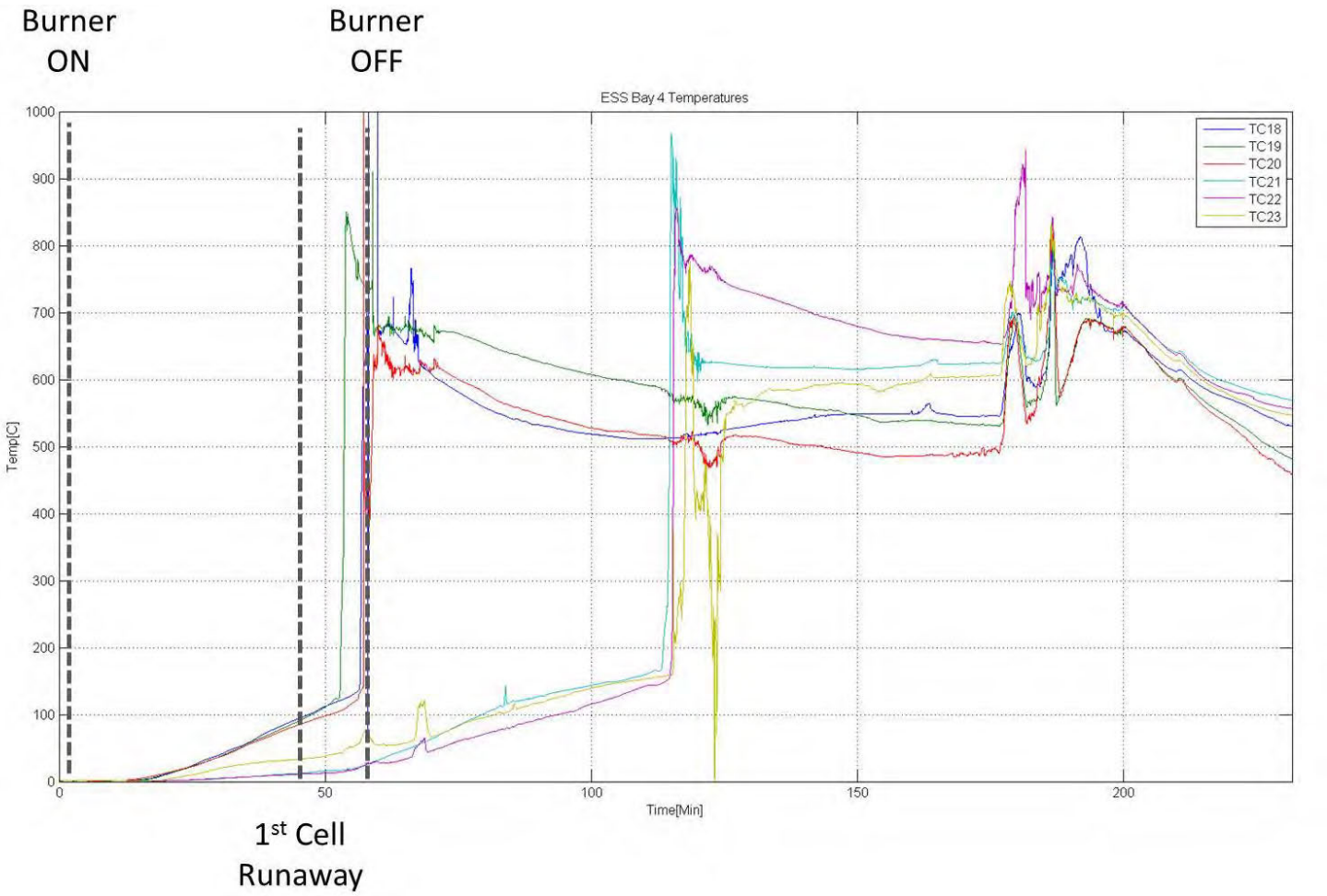


Figure 32 Powerpack Pod 4 temperatures (noise observed in the data is consistent with electrical interference that occurs during voltage leakage from the damaged batteries after thermal runaway)

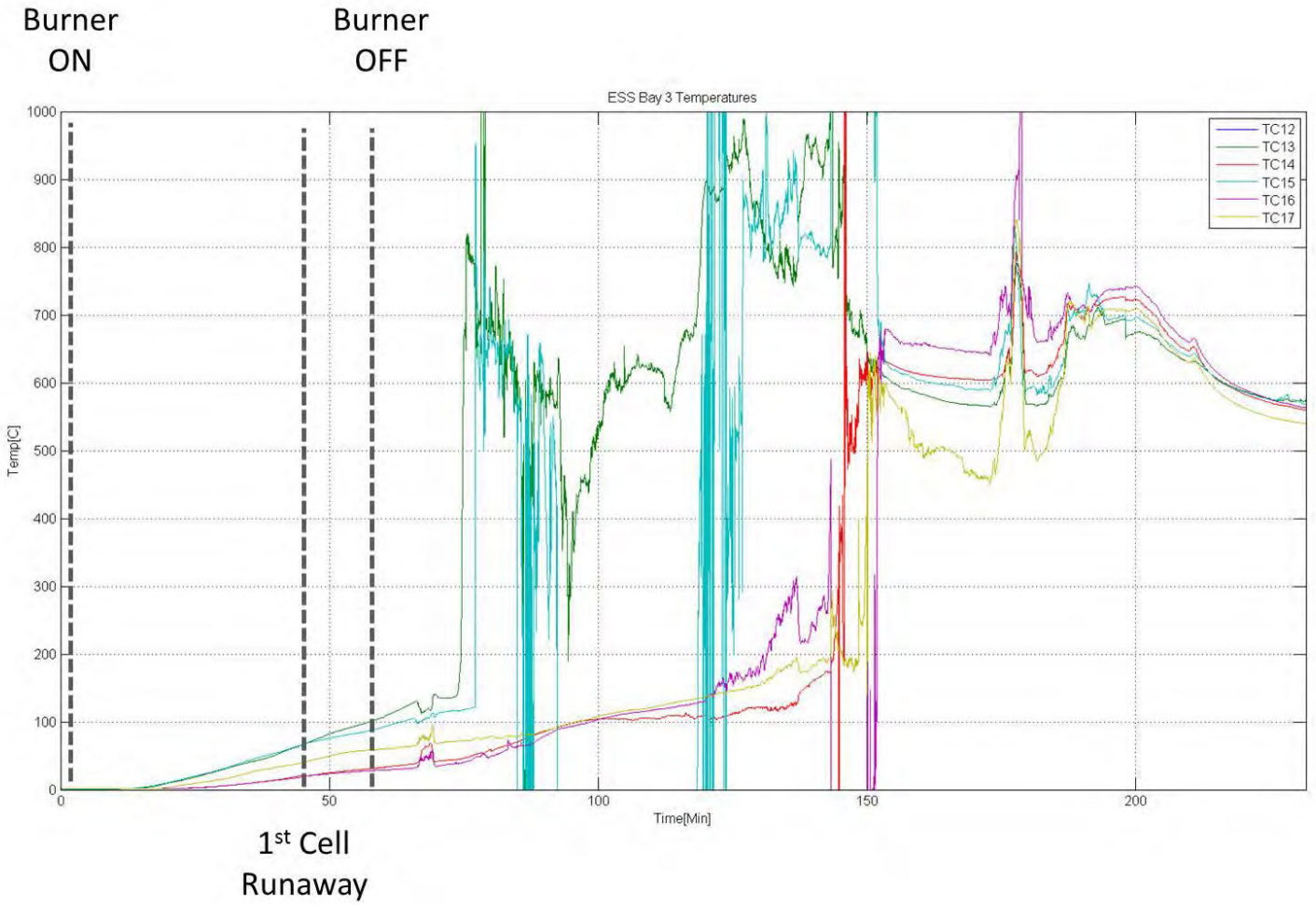


Figure 33 Powerpack Pod 3 temperatures (noise observed in the data is consistent with electrical interference that occurs during voltage leakage from the damaged batteries after thermal runaway)

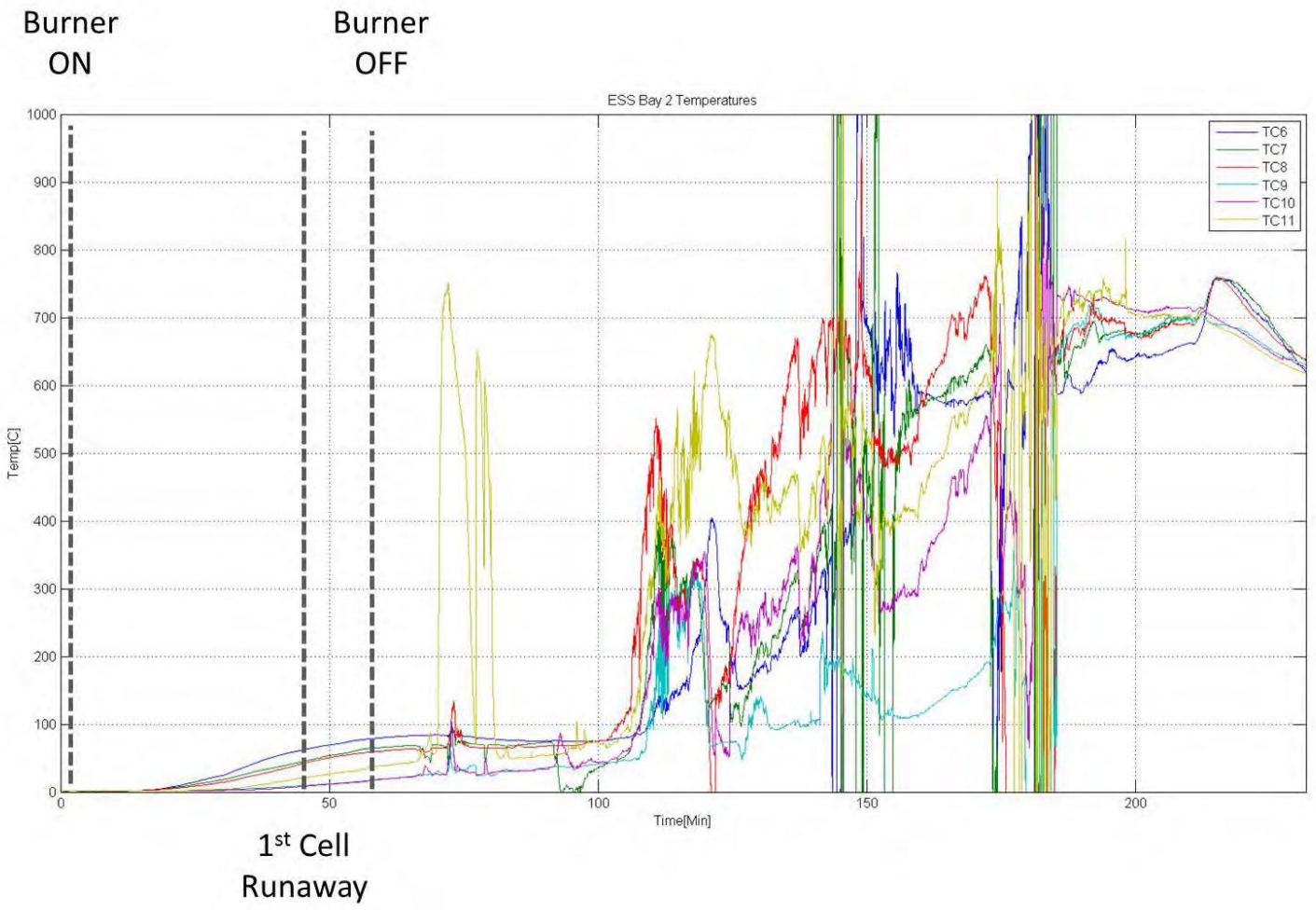


Figure 34 Powerpack Pod 2 temperatures (noise observed in the data is consistent with electrical interference that occurs during voltage leakage from the damaged batteries after thermal runaway)

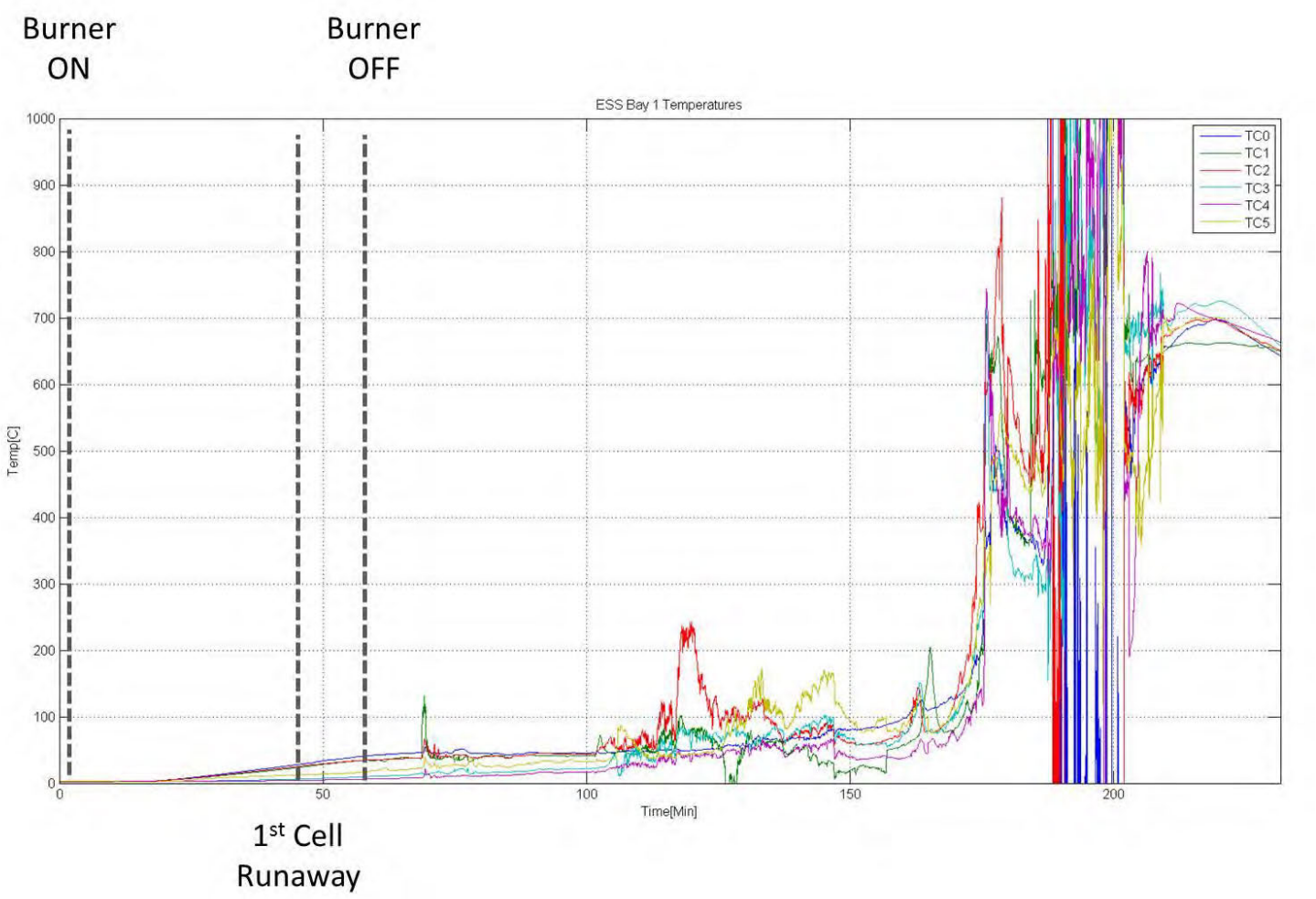


Figure 35 Powerpack Pod 1 temperatures (noise observed in the data is consistent with electrical interference that occurs during voltage leakage from the damaged batteries after thermal runaway)

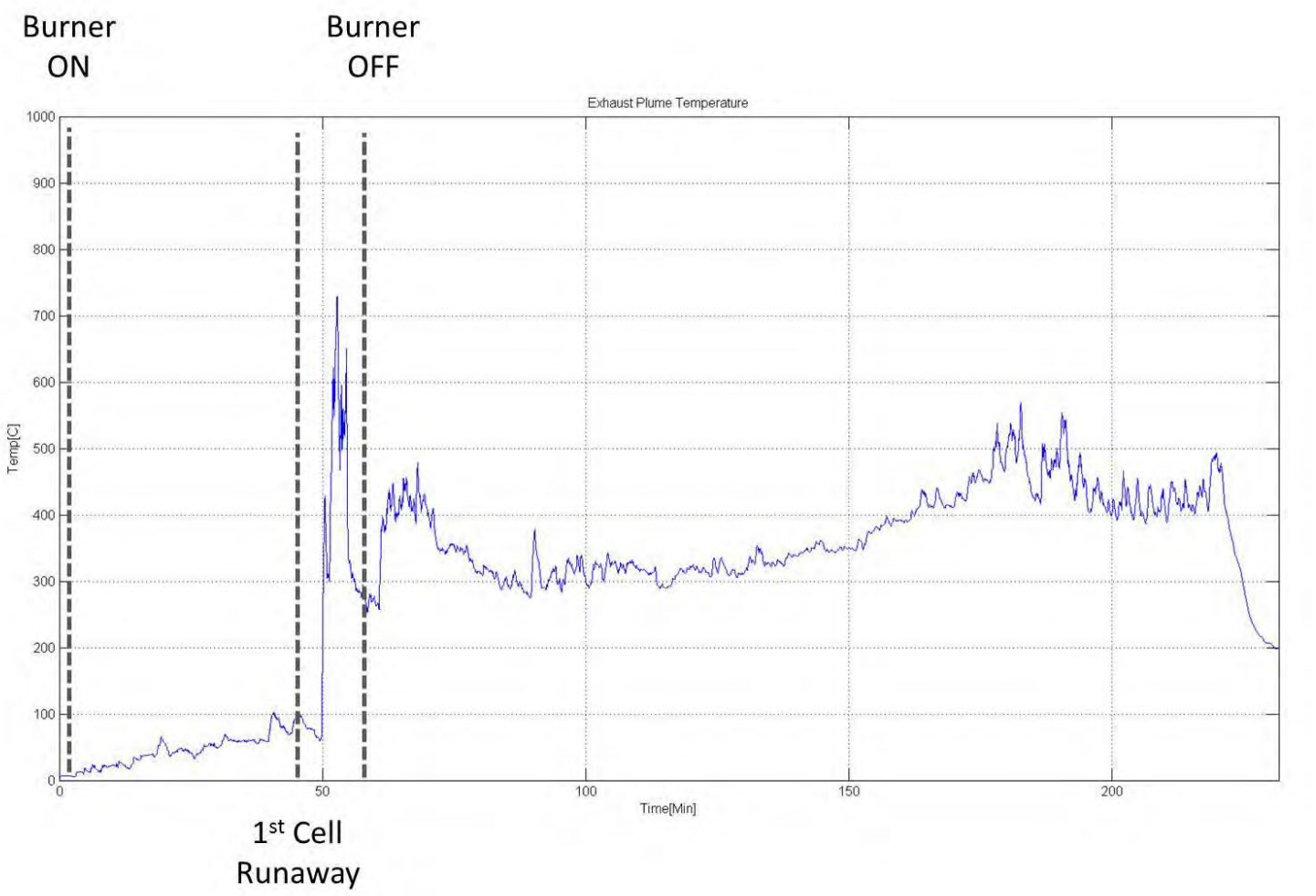


Figure 36 Powerpack exhaust vent temperature

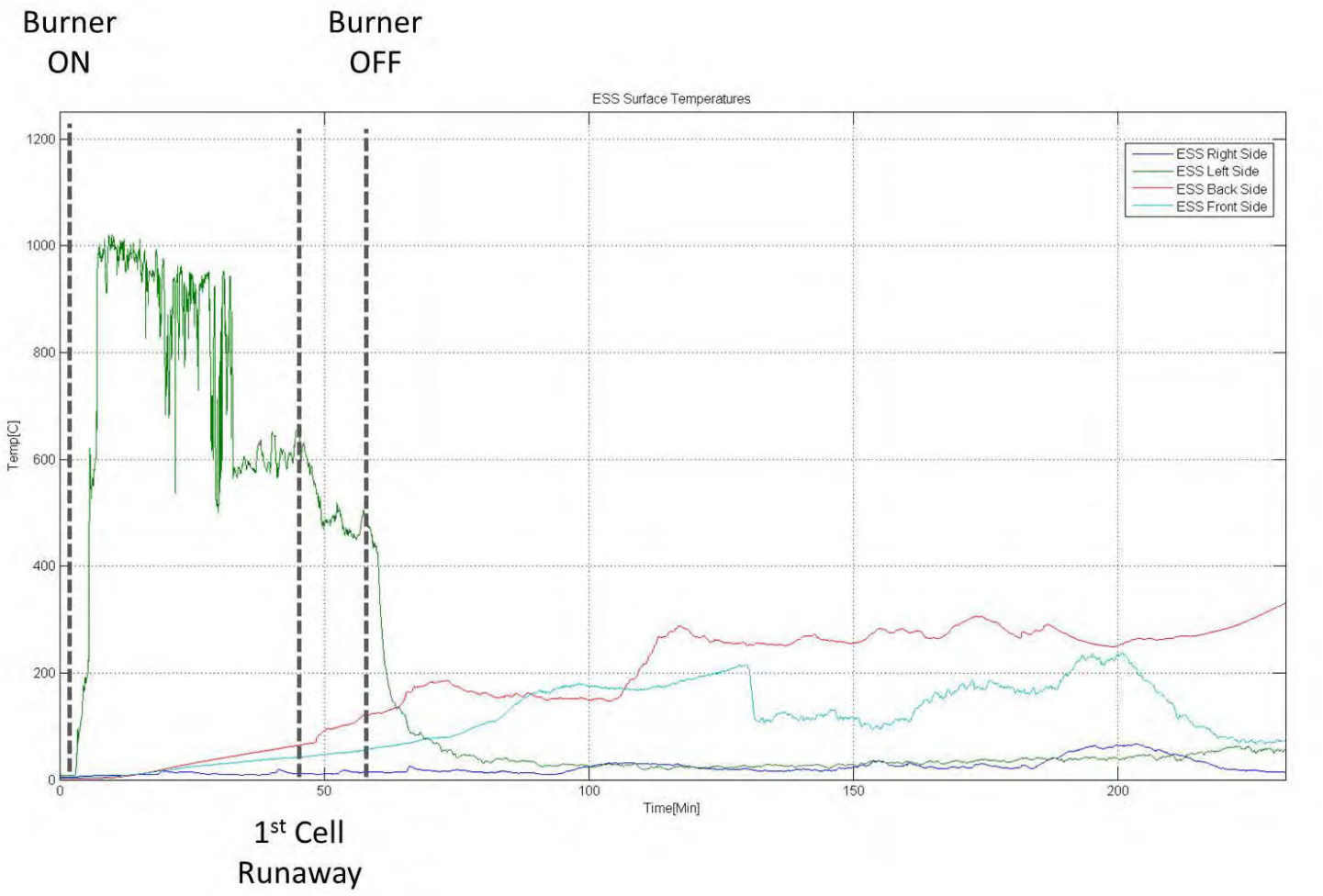


Figure 37 Powerpack external surface temperatures

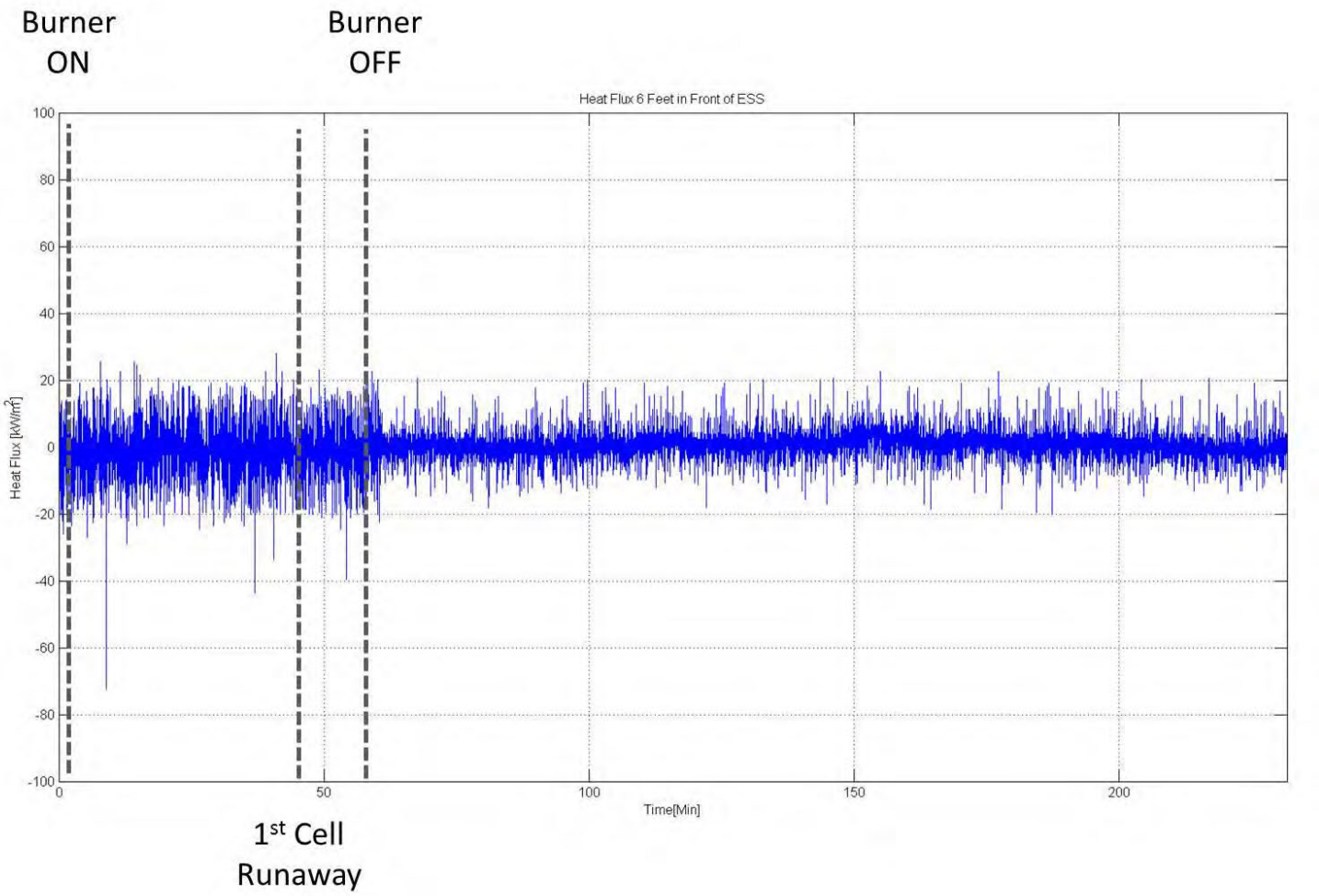


Figure 38 Heat flux measurements at HFG1, 6 feet from the front of the Powerpack

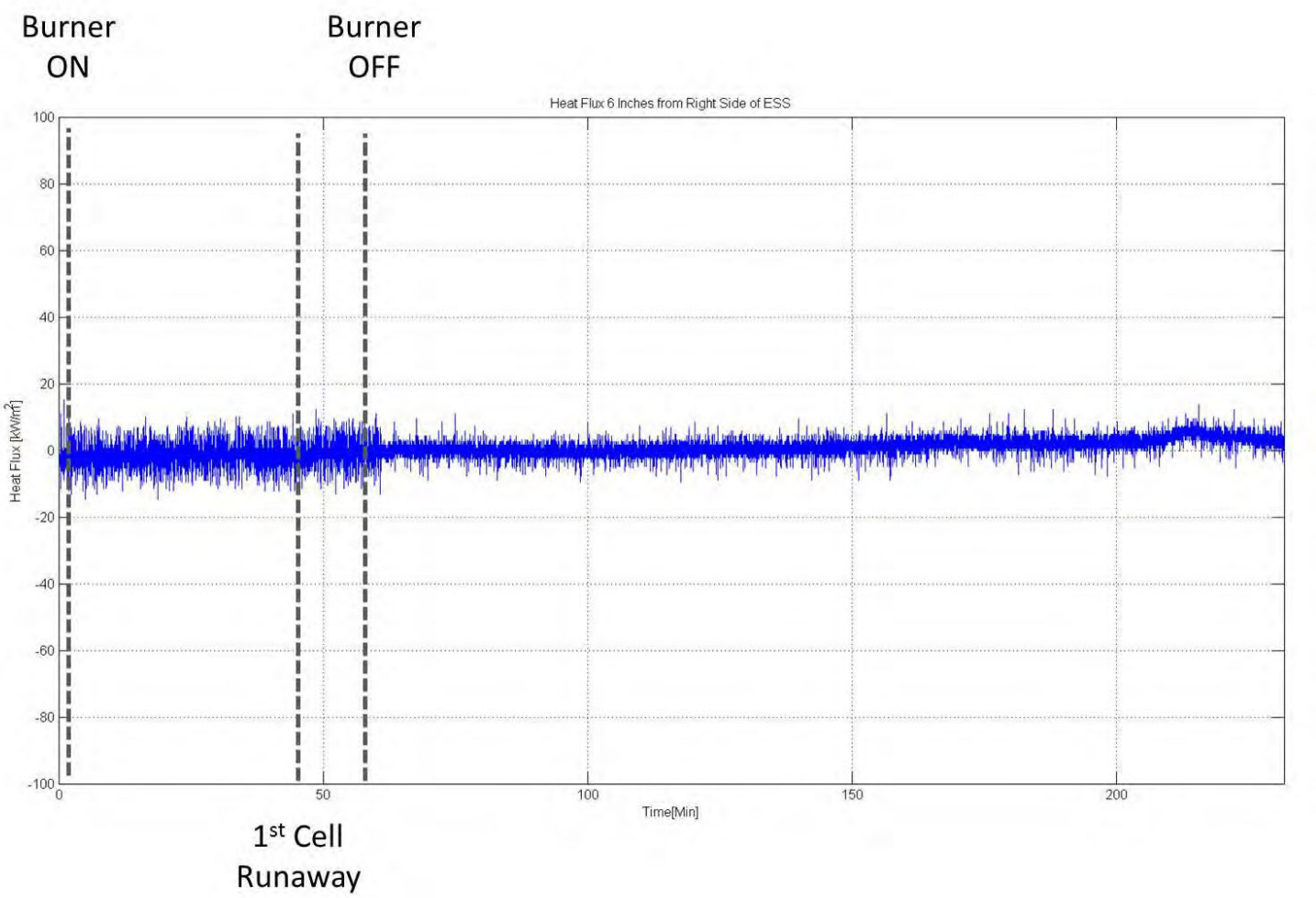


Figure 39 Heat flux measurements at HFG2, 6 inches from the side of the Powerpack

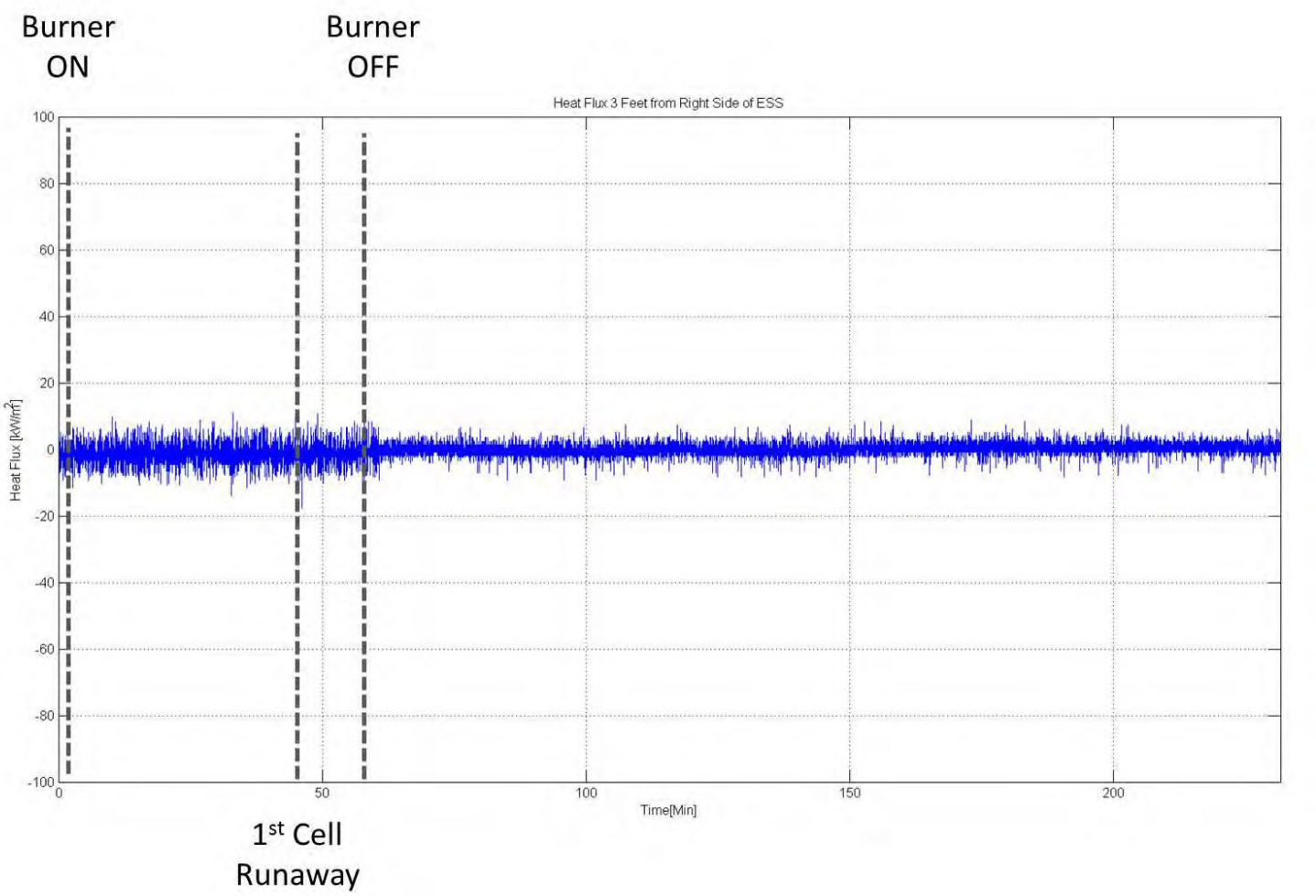


Figure 40 Heat flux measurements at HFG3, 3 feet from the back of the Powerpack

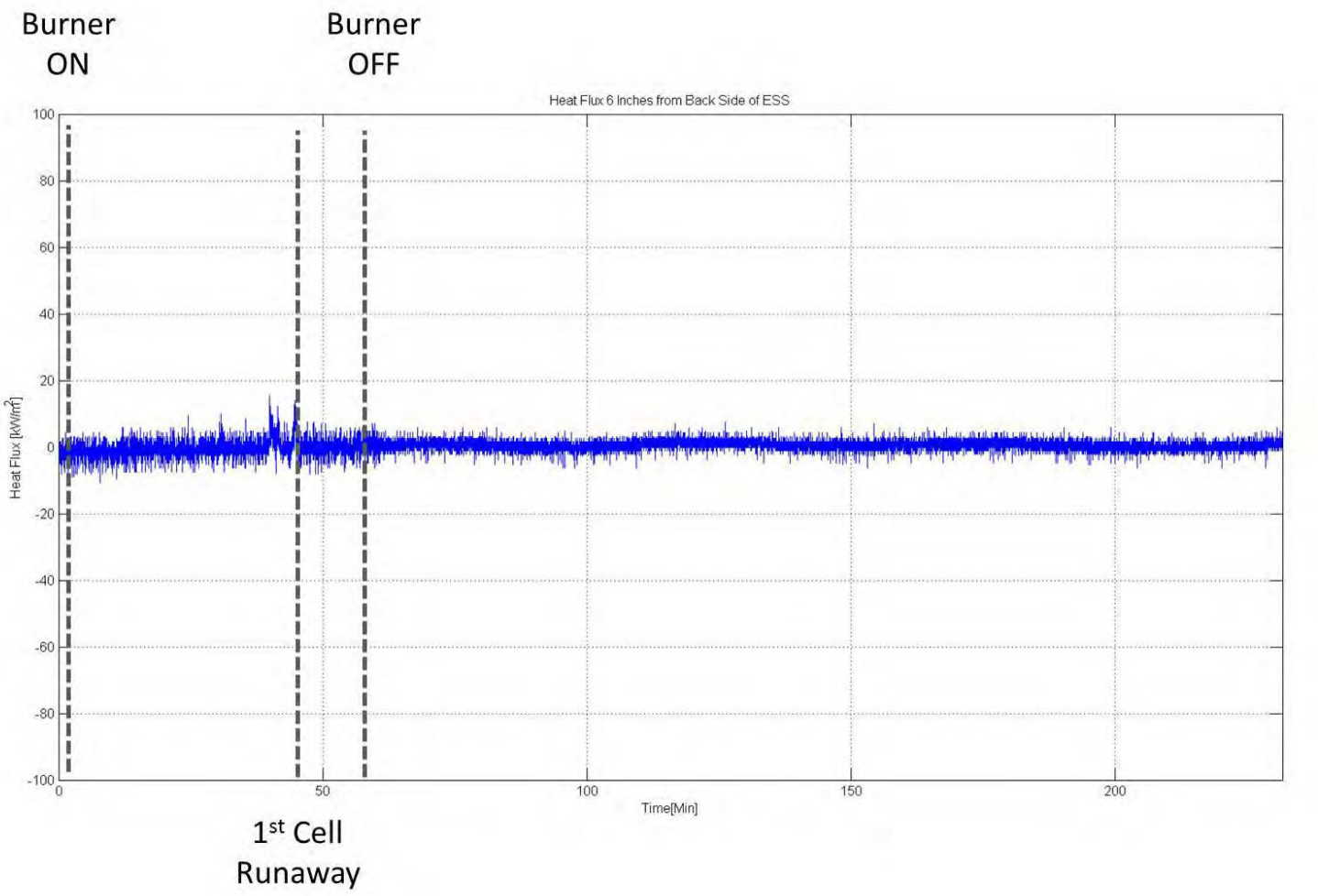


Figure 41 Heat flux measurements at HFG4, 6 inches from the side of the Powerpack

Appendix B: External Ignition Test: Pressure Plot

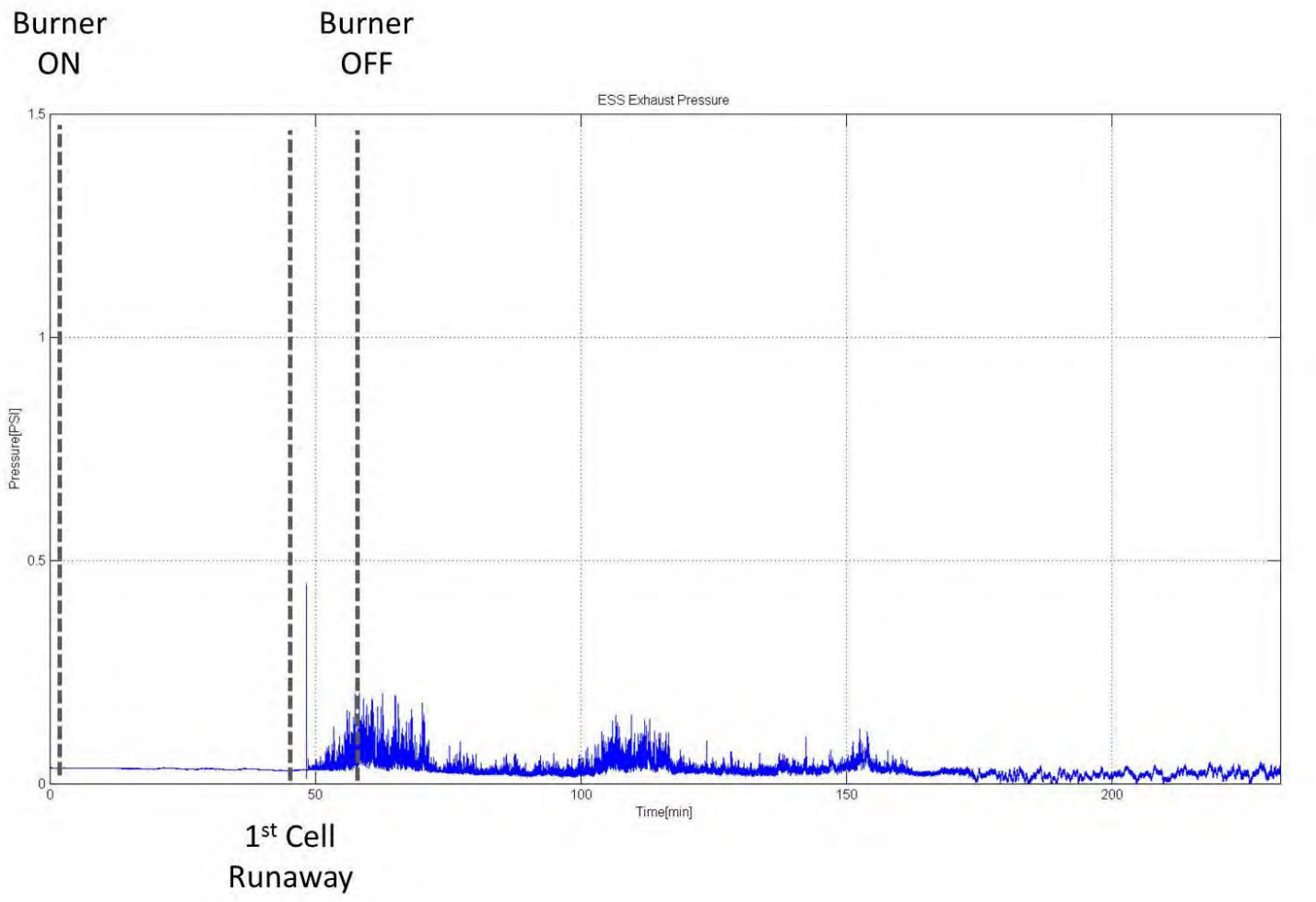


Figure 42 Exhaust manifold pressure

Appendix C: External Ignition Test: Gas Sampling Plot

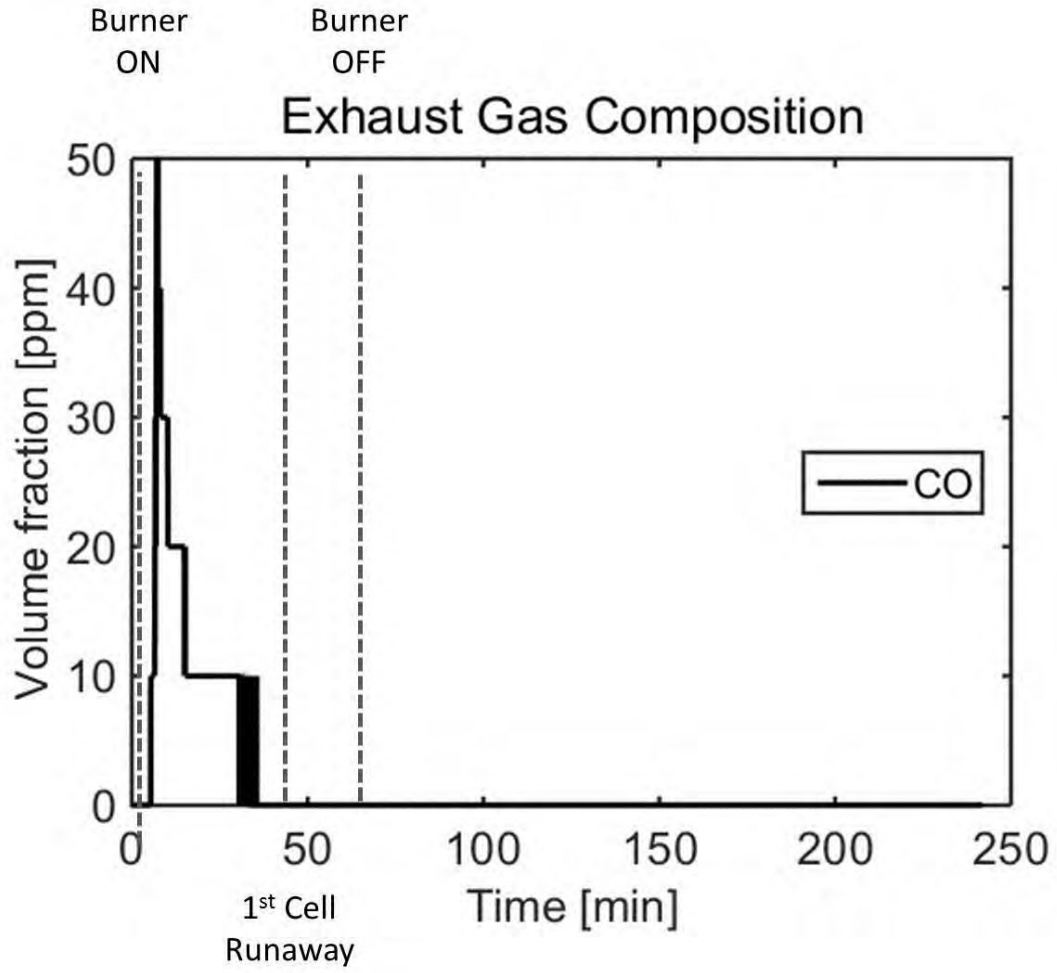


Figure 43 CO detected at the exhaust vent

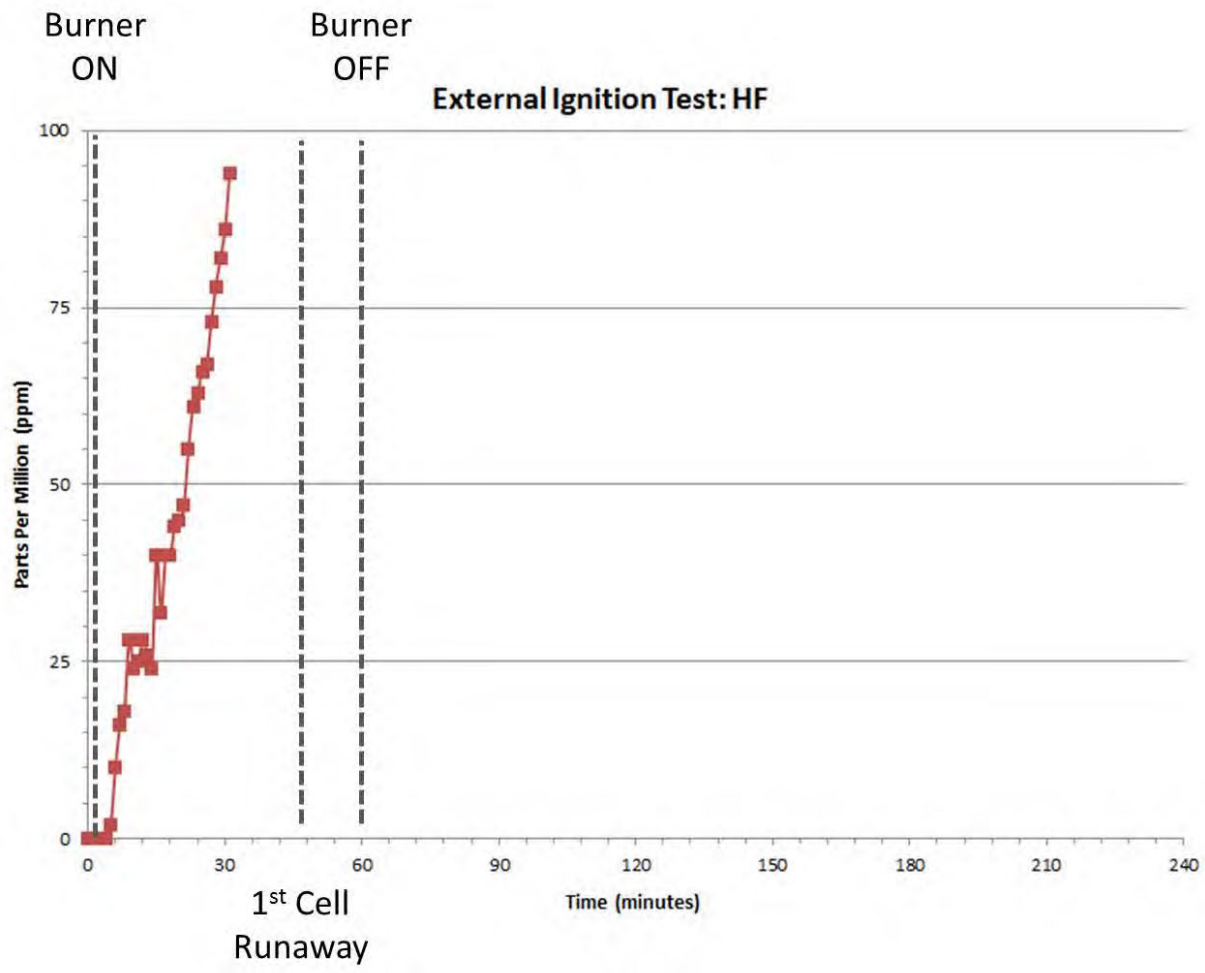


Figure 44 HF detected at the exhaust vent (detector maximum range was 100 ppm; all measurements after minute 30 were “over range,” indicating the HF values were greater than 100 ppm for the remainder of the test

Appendix D: Internal Ignition Test: Temperature Plots

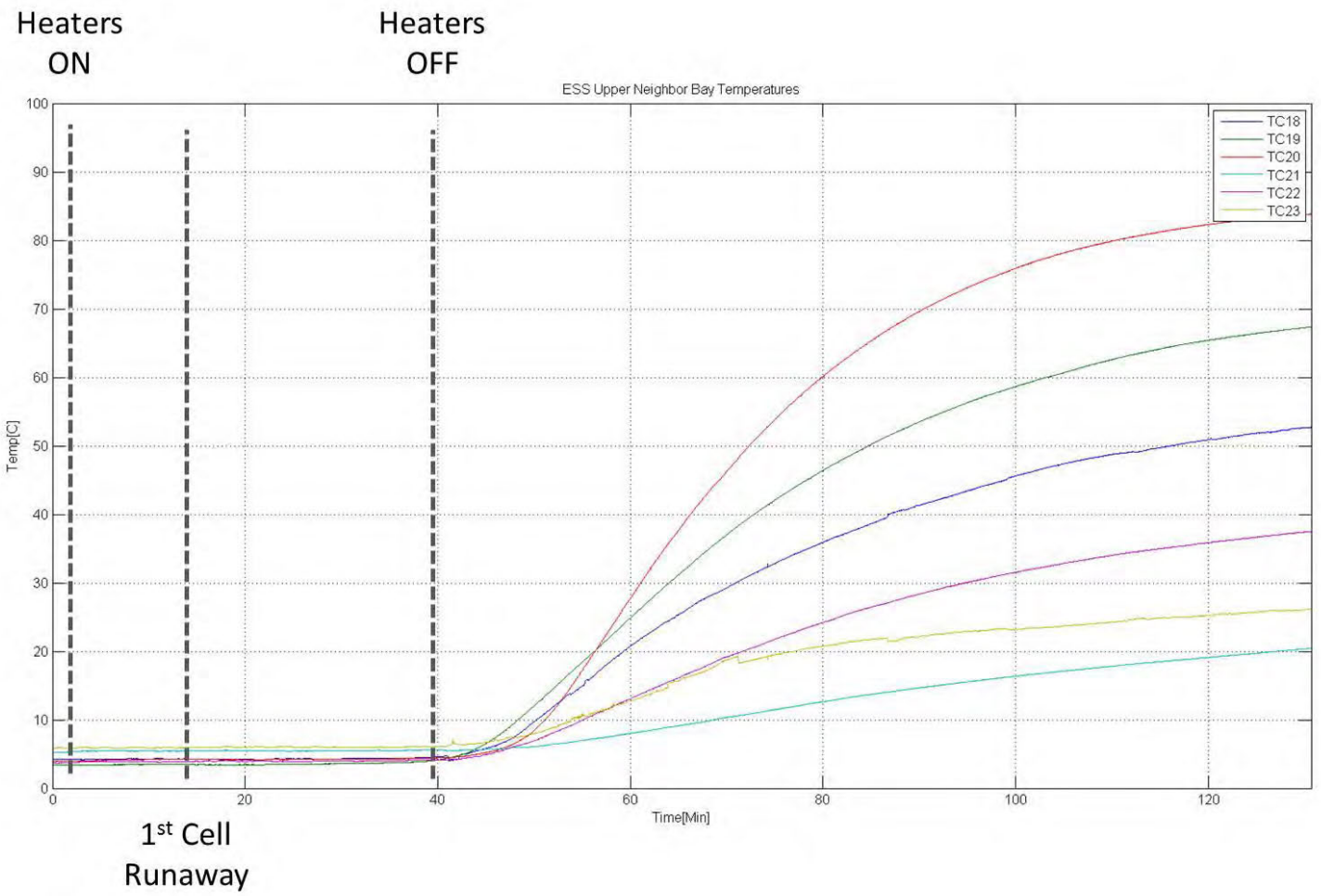


Figure 45 Pod 7 temperatures

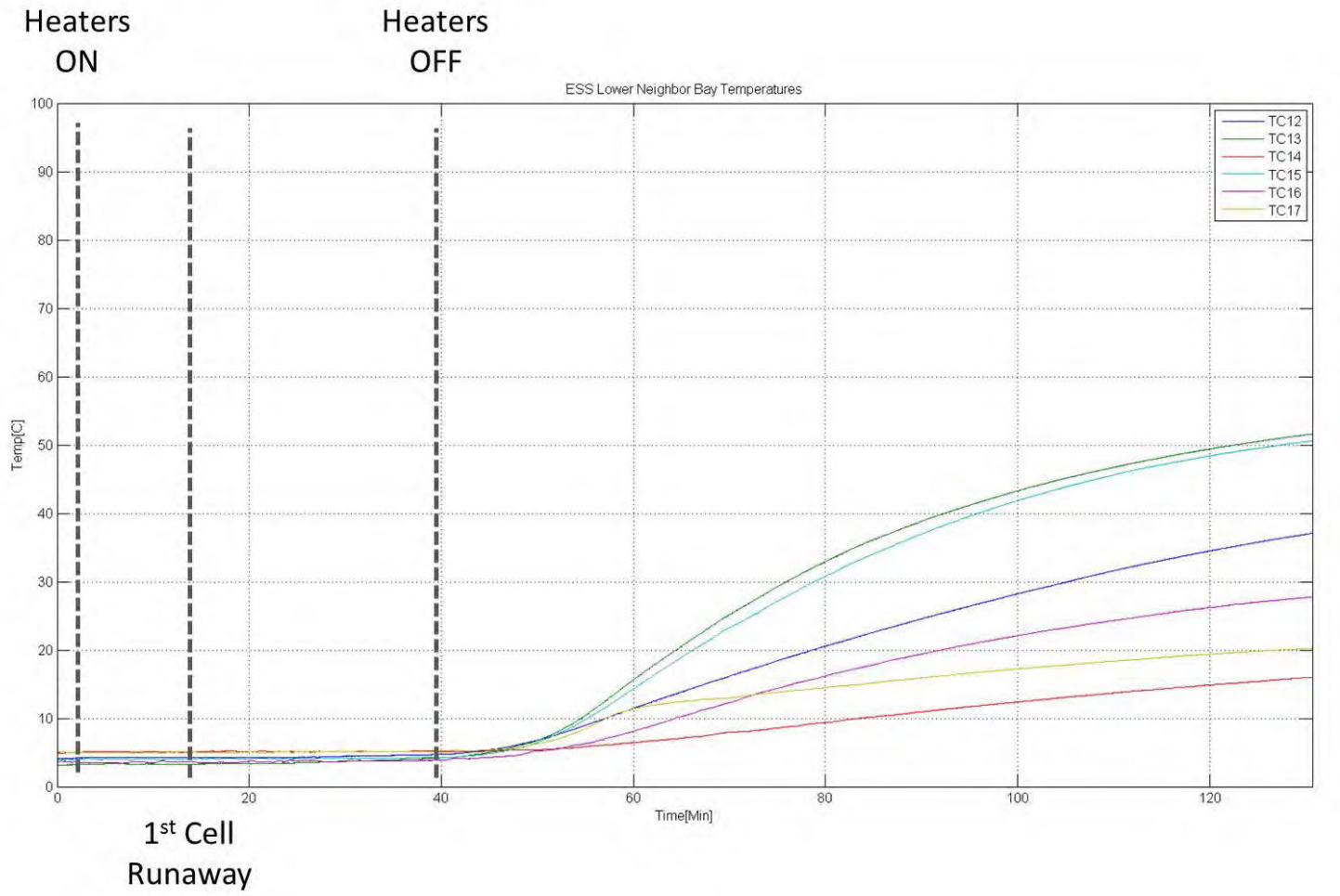


Figure 46 Pod 5 temperatures

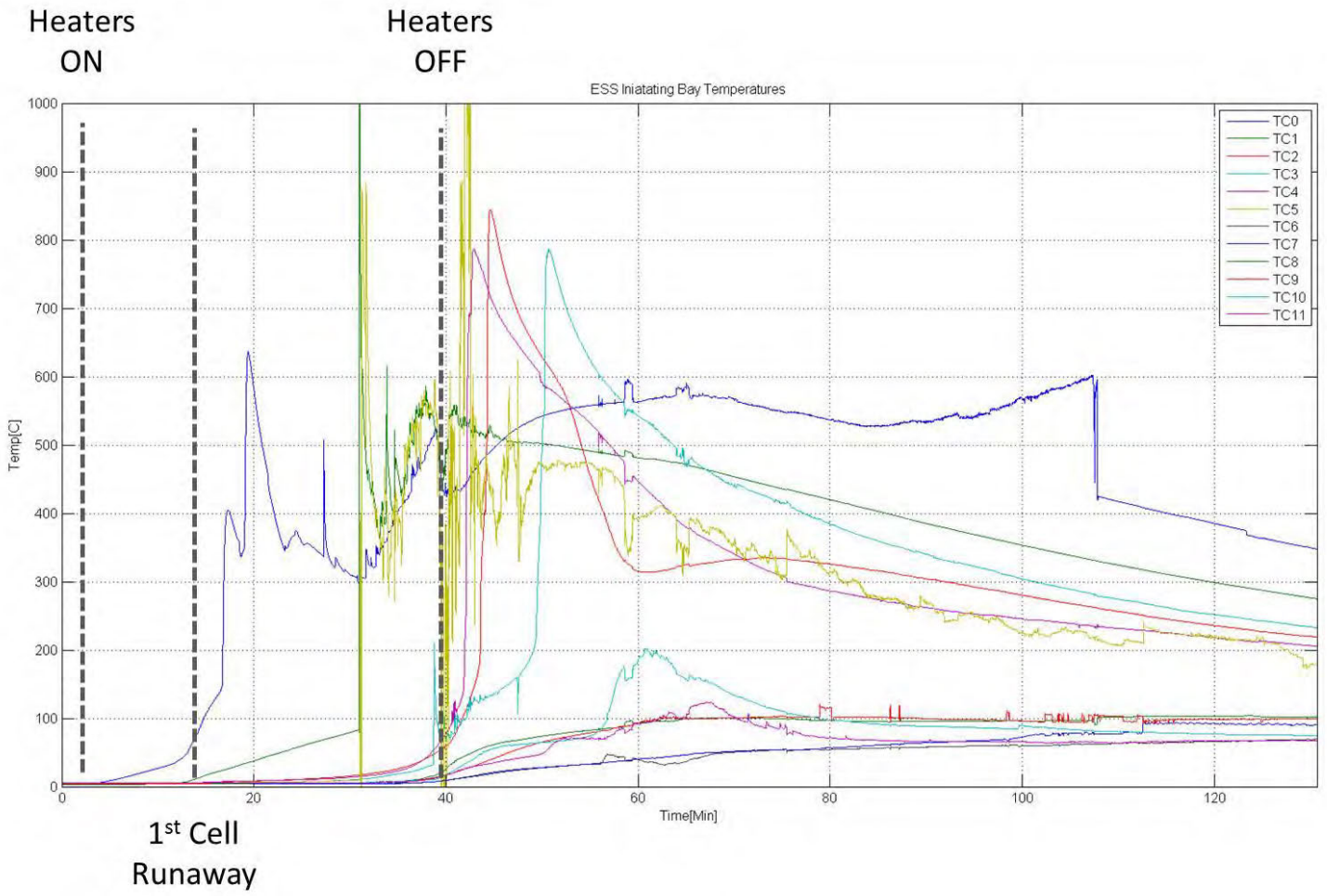


Figure 47 Pod 6 (initiator pod) temperatures (noise observed in the data is consistent with electrical interference that occurs during voltage leakage from the damaged batteries after thermal runaway)

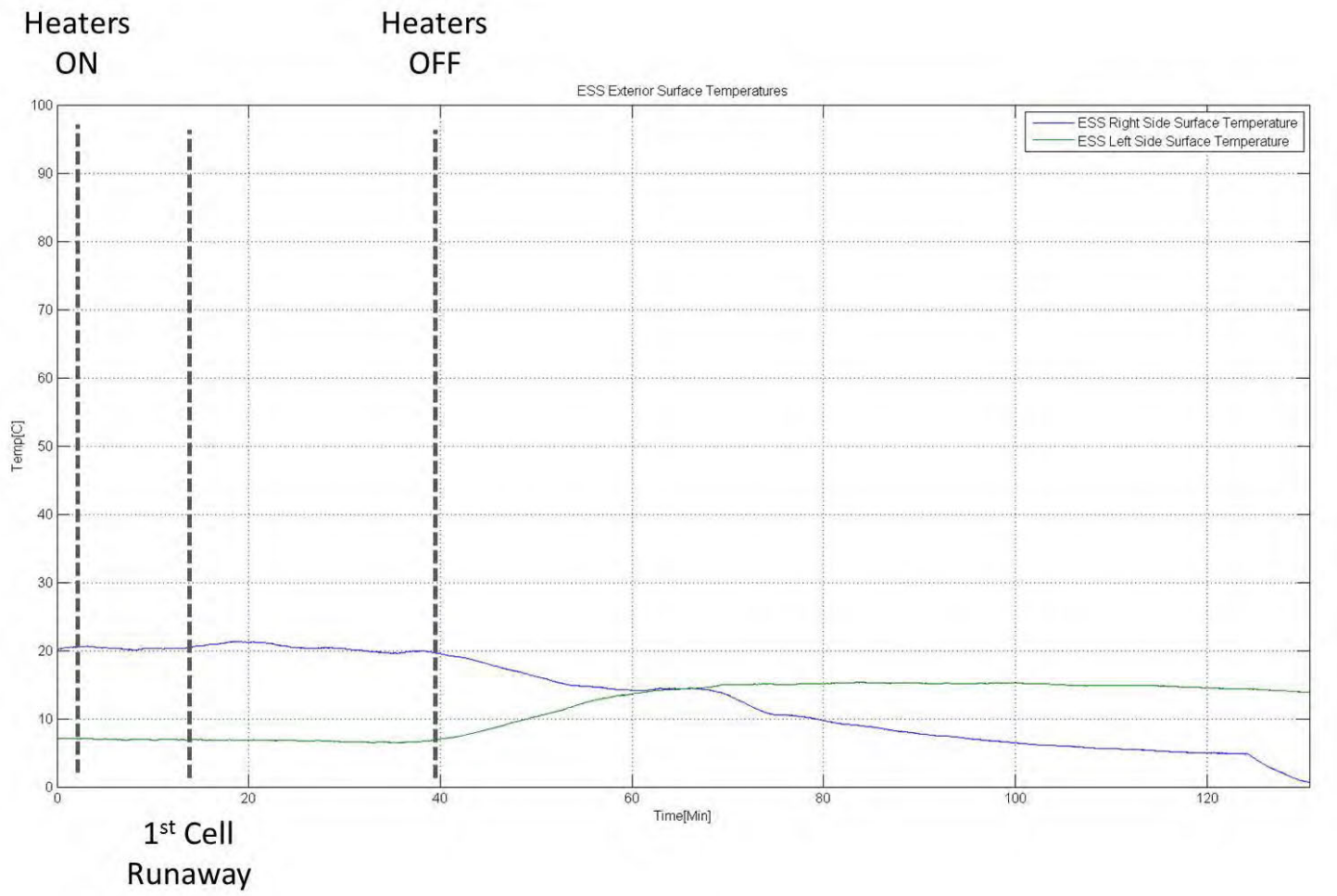


Figure 48 Exterior Powerpack surface temperatures

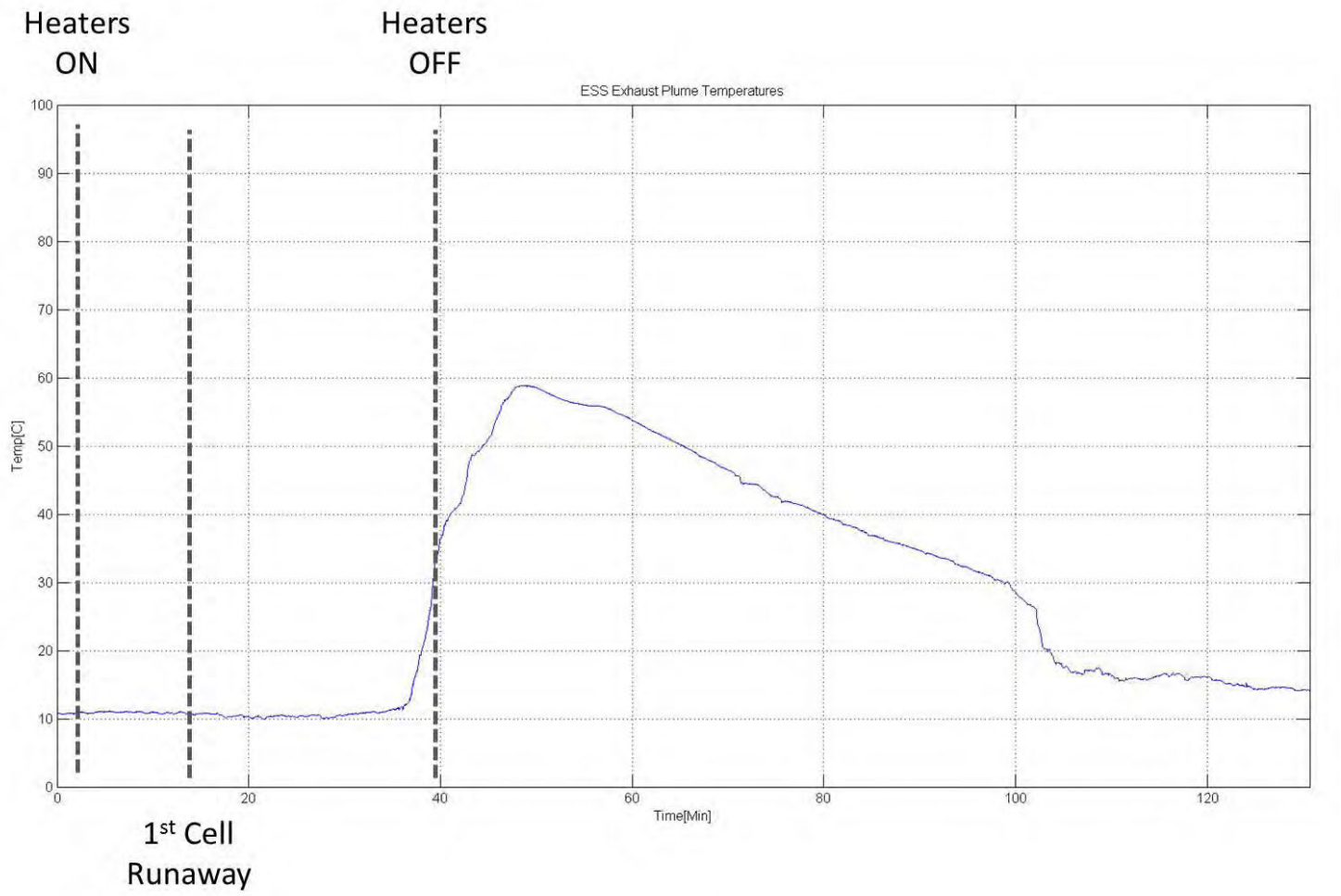


Figure 49 Exhaust vent temperature

Appendix E: Internal Ignition Test: Pressure Plots

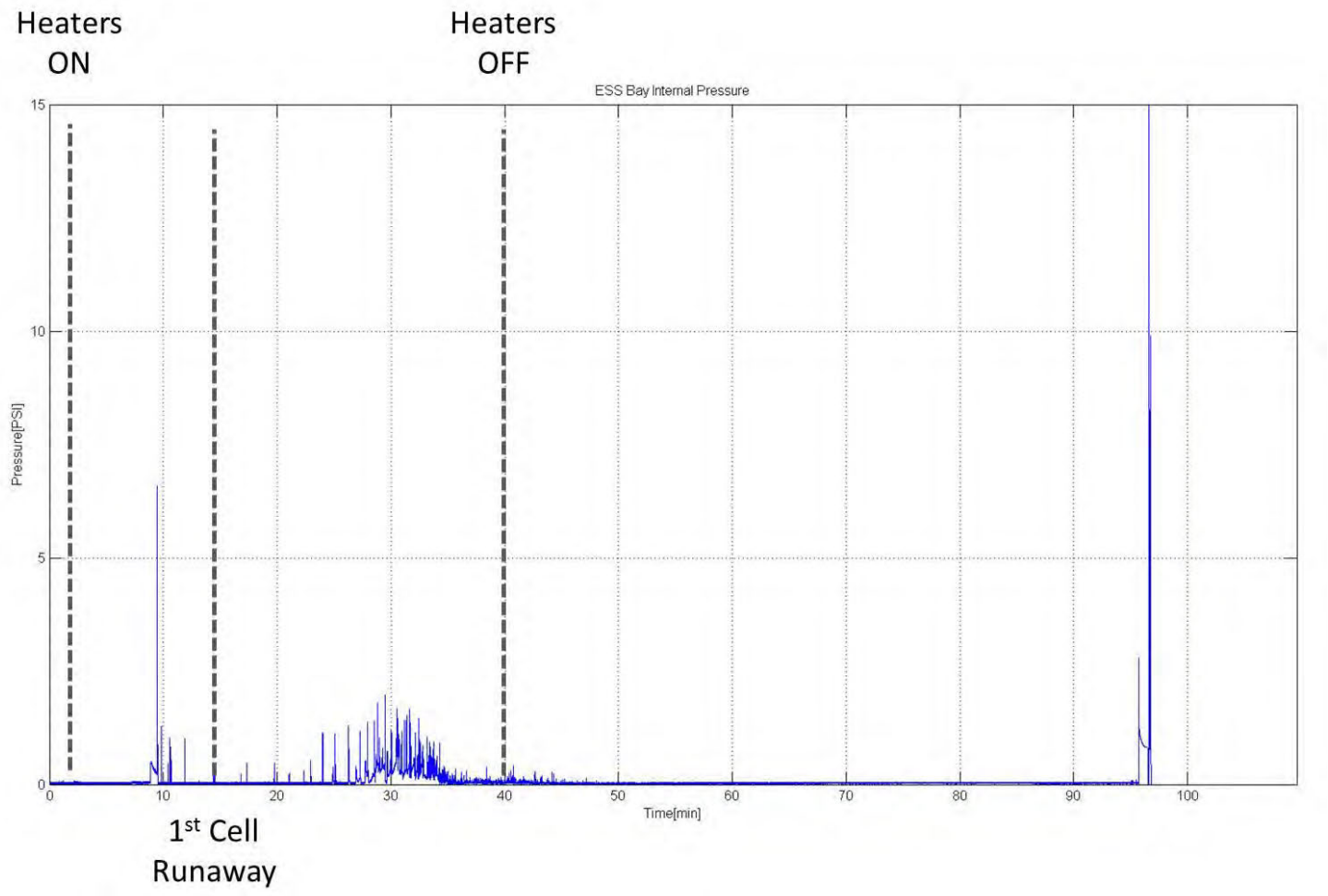


Figure 50 Pod 6 (initiator pod) pressure

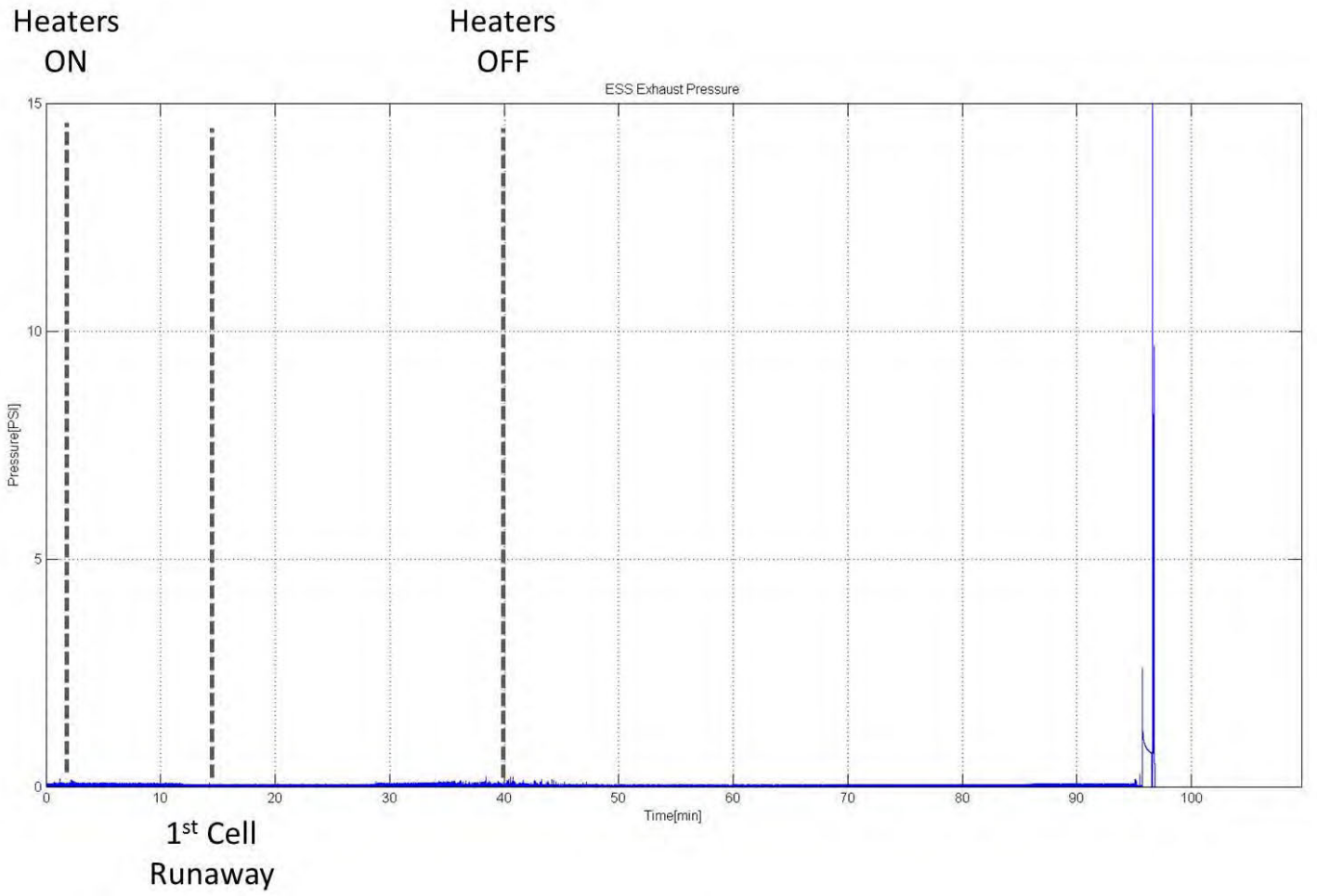


Figure 51 Powerpack exhaust manifold pressure

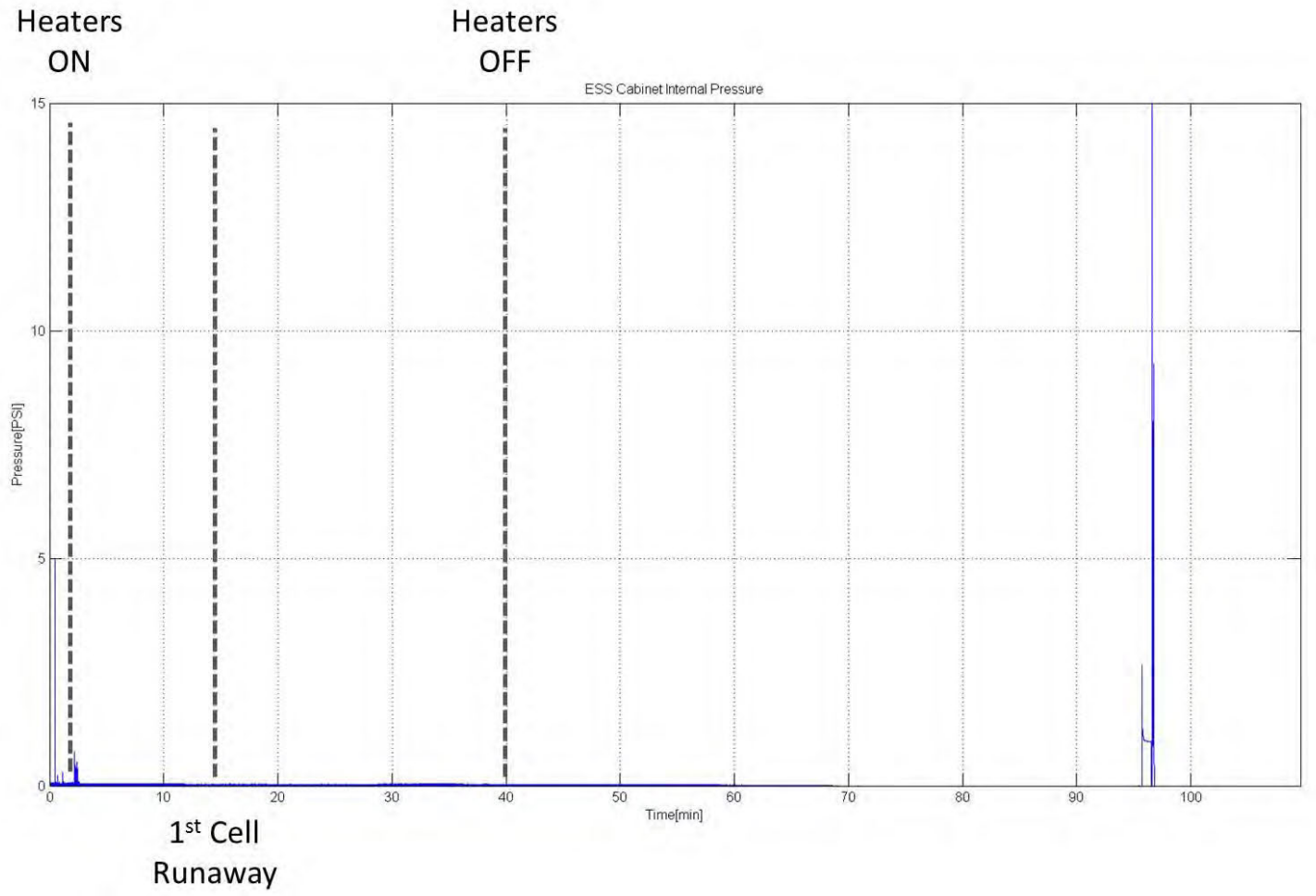


Figure 52 Powerpack cabinet pressure

Appendix F: Internal Ignition Test: Gas Sampling Plot

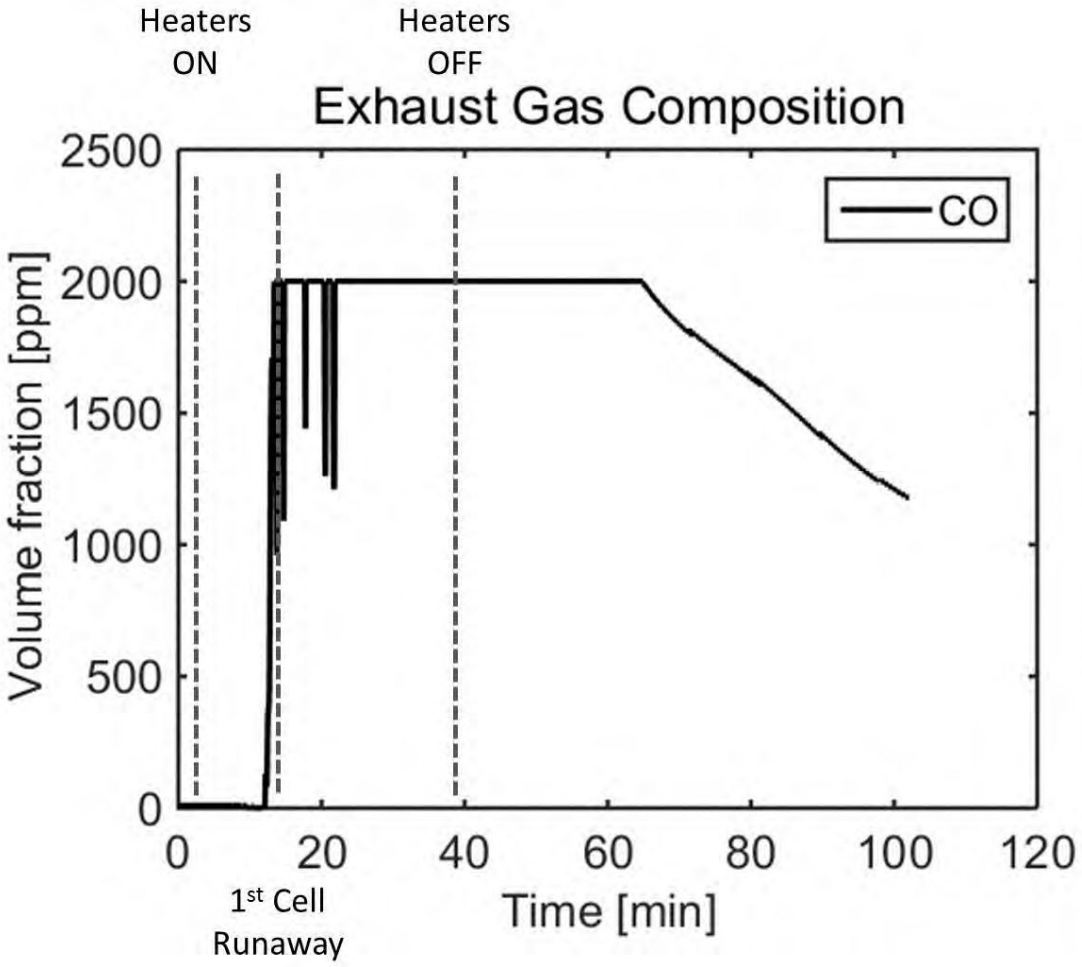


Figure 53 CO detected at exhaust vent

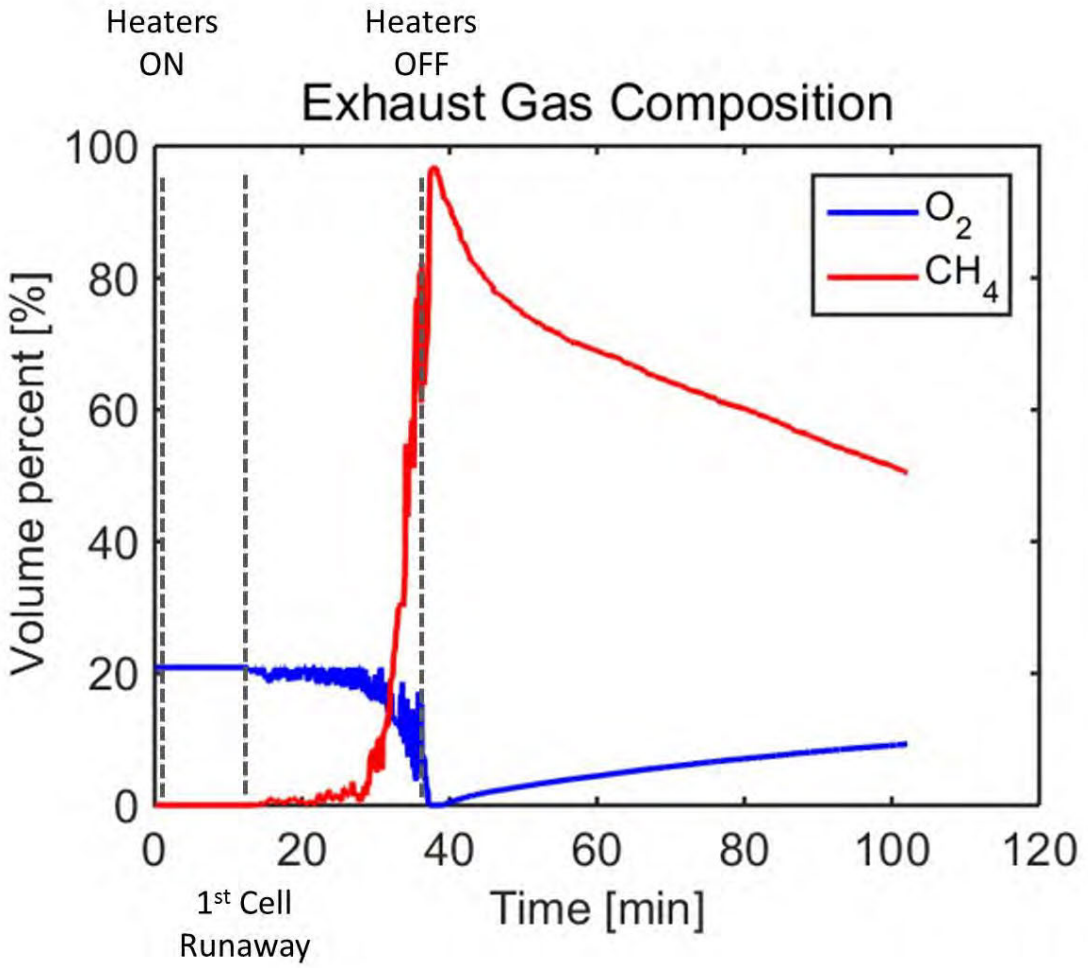


Figure 54 CH_4 detected at exhaust vent

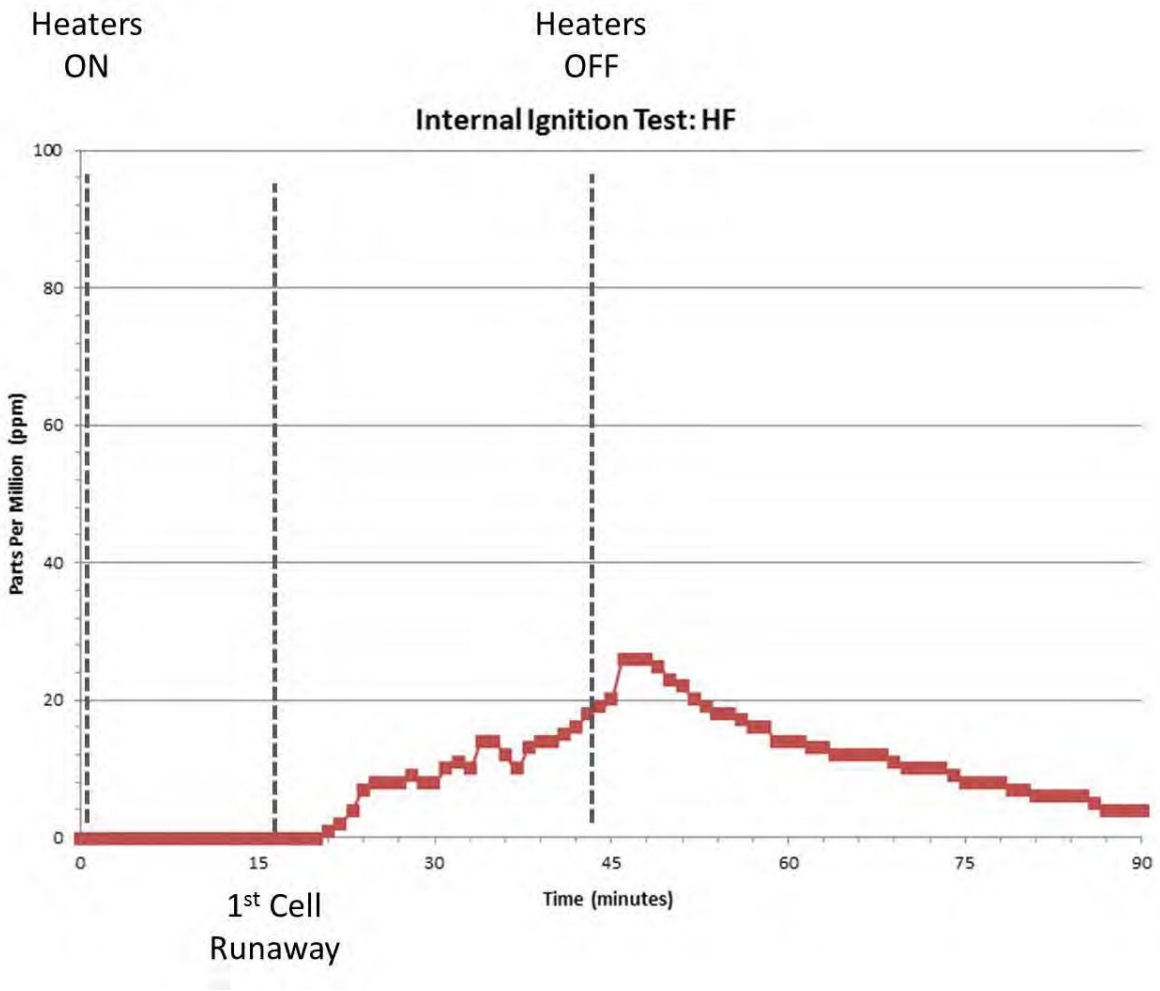


Figure 55 HF detected at the exhaust vent

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK: COMMERCIAL DIVISION

WALMART INC. (f/k/a WAL-MART STORES, INC.,

Plaintiff,

- against -

TESLA ENERGY OPERATIONS, INC. (f/k/a SOLARCITY CORPORATION),

Defendant.

New York County
Index No.: _____/2019

SUMMONS

TO THE ABOVE NAMED DEFENDANT:

YOU ARE HEREBY SUMMONED to answer the complaint in this action and to serve a copy of your answer upon the undersigned within twenty (20) days after the service of this summons, exclusive of the day of service, or within thirty (30) days after service is complete, if this summons is not personally delivered to you within the State of New York. In case of your failure to answer, judgment will be taken against you by default for the relief demanded in the complaint.

Plaintiff designates New York County as the place of trial. The basis of the venue designated is New York Civil Practice Law and Rules 501 and 503(a). Venue is proper because Defendant agreed to designate New York County as the venue for disputes relating to, arising out of, or in connection with certain of the Solar Power & Services Agreements, Solar Power Lease and License Agreements, and Solar Power and Energy Storage Services Agreements between Plaintiff and Defendant, and because none of the parties reside in the state of New York.

To:

Tesla Energy Operations, Inc.
f/k/a SolarCity Corporation
6900 Dumbarton Circle
Freemont, CA 94555

SolarCity Corporation
3055 Clearview Way
San Mateo, CA 94402

The Norton Law Firm PC
299 Third Street, Suite 106
Oakland, California 94607
Attention: Fred Norton

Dated: New York, New York
August 20, 2019

DAVIS POLK & WARDWELL LLP

By: */s/ James P. Rouhandeh*
James P. Rouhandeh

James P. Rouhandeh
Paul S. Mishkin
450 Lexington Avenue
New York, New York 10017
(212) 450-4000
rouhandeh@davispolk.com
paul.mishkin@davispolk.com

Attorneys for Plaintiff

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK: COMMERCIAL DIVISION

WALMART INC. (f/k/a WAL-MART STORES, INC.),

Plaintiff,

- against -

TESLA ENERGY OPERATIONS, INC. (f/k/a SOLARCITY CORPORATION),

Defendant.

Index No.: _____/2019

COMPLAINT

Plaintiff Walmart Inc. ("Walmart") (f/k/a Wal-Mart Stores, Inc. ("Wal-Mart Stores")), by its attorneys Davis Polk & Wardwell LLP, for its complaint against Tesla Energy Operations, Inc. ("Tesla") (f/k/a SolarCity Corporation ("SolarCity" or "Tesla")), alleges as follows, based on personal knowledge as to itself and upon information and belief as to all other matters:

NATURE OF THE ACTION

1. This is a breach of contract action arising from years of gross negligence and failure to live up to industry standards by Tesla with respect to solar panels that Tesla designed, installed, and promised to operate and maintain safely on the roofs of hundreds of Walmart stores.

Fires Break Out on Walmart's Roofs

2. At approximately 4 p.m. on March 7, 2018, a fire broke out on the roof of Walmart's store in Beavercreek, Ohio. Local news photographs and videos of the store showed a tremendous plume of black smoke emerging from flames as firefighters arrived at the scene. As smoke invaded the store, Walmart employees made an announcement over the store's public address system and instructed shoppers to evacuate. Customers in nearby shops were also evacuated until firefighters were able to control the blaze. The fire destroyed significant

amounts of store merchandise and required substantial repairs, totaling hundreds of thousands of dollars in out-of-pocket losses. The store remained closed for eight days. Ominously, the fire had occurred near gas lines on the store's roof. By stroke of luck, the gas lines remained intact, and catastrophic damages and injuries were averted.

3. On May 21, 2018, a fire broke out on the roof of another Walmart store, this one located in Denton, Maryland. The fire caused significant damage, including punctures of the membrane of the store's roof. By another stroke of luck, this fire did not progress further and no one was injured.

4. On the opposite side of the country eight days later, fire struck again—this time on the roof of a Walmart store in Indio, California. Local news coverage on May 29, 2018 described a scene of "[t]hick black smoke billow[ing]" from the store's roof, substantial portions of which were "engulfed in flames, which spread into the store." "[C]ustomers and employees were evacuated to the parking lot." A firefighter was treated for smoke inhalation but, by yet another stroke of luck, was not grievously injured. This fire resulted in millions of dollars' worth of losses.

5. Why were multiple Walmart stores located all over the country suddenly catching fire? The answer was obvious and startling: the stores all had Tesla solar panels installed by Tesla on their roofs. At each location, the fire had originated in the Tesla solar panels.

6. The stores in Beavercreek, Denton, and Indio were three of more than 240 stores where Walmart had leased or licensed its roof space to Tesla for the installation, operation, and maintenance by Tesla of "photovoltaic" (i.e., solar) systems. Tesla designed these systems and represented them as safe, reliable, and an environmentally conscious way for Walmart to reduce its energy costs. In the contracts between Walmart and Tesla governing the solar systems, Tesla

retained ownership of the solar systems, promised to design, install, inspect, and maintain them non-negligently and in accordance with prudent industry practices, and agreed to handle every aspect of the solar panels' operation on Walmart's roofs in a non-negligent manner. Walmart thus bargained for and obtained—not the right to have a particular system installed on its roofs—but rather the right to enjoy perpetually safe and reliable solar panel systems free of any operation or maintenance responsibilities, which fell entirely to Tesla.

Tesla Agrees to De-Energize the Solar Systems

7. By May 2018, it was clear that Tesla had breached its contractual obligations. To state the obvious, properly designed, installed, inspected, and maintained solar systems do not spontaneously combust, and the occurrence of multiple fires involving Tesla's solar systems is but one unmistakable sign of negligence by Tesla. To this day, Tesla has not provided Walmart with the complete set of final "root cause" analyses needed to identify the precise defects in its systems that caused all of the fires described above. The number of defects, however, is overwhelming and plainly indicative of systemic, widespread failures by Tesla to meet the standard of care, as set forth in the governing contracts, as to the solar systems installed at Walmart's stores.

8. Fearing for the safety of its customers, its employees, and the general public, and wishing to avoid further damages and store closures, Walmart demanded on May 31, 2018 that Tesla "de-energize" (i.e., disconnect) all of the solar panel systems that Tesla had installed at Walmart sites. Tesla complied, conceding that de-energization of all the sites was "prudent" and recognizing that it could provide no assurances that the deficiencies causing its systems to catch fire were confined to particular sites or particular components.

9. Unfortunately, even de-energization was not enough to prevent an additional fire. In November 2018, Walmart discovered that yet another fire had occurred at a Walmart store in Yuba City, California—even though the solar panels at this store had been de-energized since June 2018. Wires on the store's rooftop were still sparking at the time that Walmart discovered the fire and could have ignited more extensive flames, with potentially devastating consequences. Equally troubling, after Tesla technicians visited the rooftop, one of the technicians failed to close the cover to a combiner box, exposing this important piece of equipment to the elements and thereby creating a fire hazard. Still more troubling, Walmart subsequently learned (independent of Tesla) that a potentially dangerous ground fault alert had occurred at the Yuba City site during the summer of 2018. Tesla either ignored the alert or deliberately failed to disclose it to Walmart. The issues that caused that ground fault alert likely caused or contributed to the subsequent fire in the fall of 2018, revealing Tesla's utter incompetence or callousness, or both.

10. As of November 2018, no fewer than seven Walmart stores had experienced fires due to Tesla's solar systems—including the four fires described above and three others that had occurred earlier (one in Long Beach, California, in August 2012; one in Milpitas, California, in 2016; and one in Lakeside, California, in 2017). The Long Beach fire resulted in the evacuation of the store and caused damage to merchandise as water leaked into the store through the roof and skylights. As a result of the fire, Walmart incurred over $25,000 in repair costs, along with other expenses and damage to merchandise totaling nearly $65,000. Tesla ultimately agreed to pay for a portion of these losses. The Milpitas fire also caused extensive damage, resulting in over $500,000 in losses to Walmart, a portion of which Walmart ultimately recovered from

Tesla. Both the Milpitas and Lakeside fires were caused by faulty connectors in Tesla's solar panel systems.

11. In addition to those fires, a Sam's Club store owned by Walmart experienced a power outage in January 2017, forcing the store to close. An electrical contractor called to the site found that the outage was caused by water intrusion into the breaker—which in turn resulted from "a bad installa[tio]n of the conduits" on the Sam's Club's solar panel system, which had recently been installed by Tesla. Walmart experienced over $55,000 in losses as a result of the outage, for which Tesla eventually compensated Walmart.

Walmart Finds Gross Negligence

12. Beginning after the Beavercreek fire and continuing through December 2018, Walmart's consultants accompanied Tesla personnel on inspections of various solar system sites, including both those that had experienced fires and those that had not. These visits revealed that Tesla had engaged in widespread, systemic negligence and had failed to abide by prudent industry practices in installing, operating, and maintaining its solar systems—conduct that greatly increased the risk of fire at Walmart sites.

13. For example, solar panels across the inspected sites contained numerous hotspots—or localized areas of increased and excessive temperature—as well as yellowed encapsulant and micro-cracks, which are precursors to hotspots. Many of these defects were either visible to the naked eye or readily identifiable with the proper use of standard equipment, indicating either that Tesla had not been inspecting the sites or that its inspection protocols were woefully deficient. Indeed, Walmart quickly discovered that Tesla routinely deployed individuals to inspect the solar systems who lacked basic solar training and knowledge. Tesla's personnel did not know, for example, how to conduct inspections or how to use simple tools,

such as temperature-measuring "guns" used to detect hotspots, and a Tesla employee failed to identify multiple hotspots that Walmart's consultants observed.

14. Walmart's inspectors observed negligent and dangerous wire connection practices, which were readily apparent at many of the sites visited and are a critical risk factor in contributing to fires. Tesla personnel had made numerous on-site cable connections using connectors that were not compatible with one another, and they had often failed to "torque" (i.e., tighten) the connectors adequately, due at least in part to their failure to use proper tools for that purpose.

15. Moreover, Tesla's wire management practices were negligent and inconsistent with prudent industry practices. Loose and hanging wires were present at multiple Walmart locations, resulting in abraded and exposed wires, decreased insulation, and a phenomenon known as arcing that substantially increases the risk of fire by causing electricity to travel through an unintended path. Tesla also failed to "ground" its systems properly, violating basic practices for the installation and operation of electrical systems in a way that increased the risk of electrical fire.

16. Many of the problems stemmed from a rushed, negligent approach to the systems' installation. On information and belief, Tesla's predecessor-in-interest—SolarCity—had adopted an ill-considered business model that required it to install solar panel systems haphazardly and as quickly as possible in order to turn a profit, and the contractors and subcontractors who performed the original installation work had not been properly hired, trained, and supervised. For example, the solar panel systems were installed at about 40% of the Walmart sites (approximately 80 to 100 locations) in a one-year period—far exceeding the appropriate rate of installations had adequate quality-control checks or supervision protocols

been in place. On information and belief, when Tesla purchased SolarCity to bail out the flailing company (whose executives included two of Tesla CEO Elon Musk's first cousins), Tesla failed to correct SolarCity's chaotic installation practices or to adopt adequate maintenance protocols, which would have been particularly important in light of the improper installation practices.

17. Tesla also had not kept proper documentation related to the systems. For example, supposedly "as-built" system drawings, which should reflect the actual design, layout, and installation locations of system components as they were actually installed, were anything but "as-built." They often reflected, at best, potential or proposed versions of the system installations, or otherwise erroneous depictions, which deviated substantially from how the systems were actually installed. That meant that system components, including safety switches and other critical portions of the systems, could not be readily located at the sites in the event of a fire or other emergency. The absence of reliable as-built drawings is a basic failing that adversely affects the safety, reliability, and maintenance of the systems. Tesla also lacked maintenance records indicating how (or whether) the solar panels had been inspected and maintained over time.

18. The more Walmart looked into the details, the more deficiencies it identified. Site after site displayed troubling problems that were indicative of widespread negligence and were inconsistent with any suggestion that discrete or isolated problems had caused the seven fires. Based on the fact of the fires, Tesla's failure to provide any final root cause analyses for over a year, and the inspections that Walmart conducted in mid- to late 2018, re-energization of any of the solar systems at that time posed an unacceptable risk to Walmart's employees, its customers, and the general public.

19. Walmart nevertheless worked closely with Tesla to explore a potential path toward re-energization of the systems. Walmart discussed with Tesla in detail the concerns it had about the conditions it discovered at the sites, and Walmart's consultants helped educate Tesla's personnel on how to conduct solar system inspections properly, including the types of conditions that can contribute to the risk of fire, how to use equipment and tools properly to look for and correct such conditions, and how to follow site safety and inspection protocols. Of course, Tesla was contractually obligated to know all of this already and Walmart had no obligation whatsoever in this regard, but Walmart nonetheless opted to work cooperatively with Tesla employees. By January 2019, Tesla purported to have significantly enhanced its inspection protocols and began a renewed series of site inspections, which it claimed would provide sufficient assurances to Walmart to permit re-energization of the systems that passed the inspections.

20. Far from providing assurances that re-energization was safe, Tesla's inspections carried out in 2019 confirmed and amplified Walmart's profound concerns with the solar systems. Tesla's inspection reports identified numerous action items for each of the sites inspected, many of which (according to Tesla's own inspectors) reflected unsafe or potentially unsafe conditions at the inspected sites. For example, across the 29 inspection reports delivered to Walmart as of August 16, 2019, Tesla identified a total of 157 action items requiring repairs or replacement of system components, 48 of which Tesla itself characterized as reflecting conditions that rendered the sites *unsafe or potentially unsafe*. Based on the reports' descriptions of other troubling conditions (that Tesla inexplicably and incorrectly did not designate as posing potential safety concerns), even these numbers understate substantially the safety of the site conditions.

21. Tesla's inspection reports have revealed, among other things:

- improper wire management, including abraded and hanging wires;
- inadequate wire connecting practices and poor grounding;
- inaccurate as-built drawings; and
- solar panel modules that were broken or contained dangerous hotspots.

In other words, Tesla itself has now documented the same—or worse—symptoms of gross negligence at not fewer than 29 sites that Walmart's earlier analysis (and the fact of the seven fires) had already made clear. On information and belief, the actual conditions are worse than as documented by Tesla, based on Tesla's history of deficient and incompetent inspections, including Tesla's reliance on untrained, unqualified, and unsupervised personnel to install and maintain the systems.

22. Tesla has also demonstrated an inability or unwillingness to remediate the dangerous conditions documented in its inspection reports. On information and belief, at least one report stated that Tesla had replaced all field-made connectors at a site even though site conditions indicated otherwise. Connectors also remained under-torqued even after Tesla had conducted a site inspection, and some were so loose that they could be unscrewed by hand. At best, the inspection reports overstate Tesla's efforts to repair solar system defects; at worst, they contain misrepresentations about Tesla's remediation efforts. Either way, the reports are not reliable indicators of site safety.

23. Even assuming that Tesla could remediate every site and achieve the outward appearance of safe solar systems as of a particular point in time—something Tesla has failed to do for more than a year and has shown no capacity to do—that would not address the more fundamental problem that Tesla is incapable of maintaining solar systems in a safe condition and

consistent with the standard of care. Remediating that fundamental deficiency would require, among other things, that Tesla overhaul, expand, and upgrade its internal resources for providing solar system maintenance services (including through proper hiring, training, and supervision of a sufficient number of qualified solar professionals), or that Tesla contract with a qualified third-party provider of those services at Tesla's expense. Tesla has neglected to do either.

24. For all of the foregoing reasons, Tesla has breached all of the solar panel system contracts with Walmart, and operation of the systems at present would create an immediate and imminent risk of injury and harm to Walmart, its customers, its employees, and its property.

* * *

25. Based on Tesla's history of failures with respect to the solar panel systems and its unwillingness and/or inability to correct those failures, Walmart brings suit for breach of 244 of its currently operative solar panel contracts with Tesla. Each of those contracts contains provisions requiring Tesla to install, operate, and maintain the solar panel systems safely, non-negligently, and in accordance with prudent industry practices. Tesla has failed to live up to those obligations and, despite extensive opportunities to cure, has failed to correct its prior breaches (some of which are not curable in any event). In light of Tesla's breaches of the contracts, Walmart now seeks a declaration that Tesla has breached its contractual obligations and recovery of the out-of-pocket costs and other contractual payments that Tesla has refused to pay, along with any other damages and relief that this Court deems just and proper.

PARTIES

26. Plaintiff Walmart is a corporation organized under the laws of Delaware with its principal place of business in Bentonville, Arkansas. Walmart operates over 5,000 retail stores

across the United States that sell food and household products, among other items. Before February 1, 2018, Walmart was known as Wal-Mart Stores, Inc.

27. On information and belief, Defendant Tesla is a corporation organized under the laws of Delaware with its principal place of business in San Mateo, California, and is a wholly owned subsidiary of Tesla, Inc.

JURISDICTION AND VENUE

28. Jurisdiction and venue in this Court are proper under the Solar Power & Services Agreements ("SPSAs"), Solar Power Lease and License Agreements ("SPLLAs"), and Solar Power and Energy Storage Services Agreements ("SPESSAs") between Walmart (or related entities) and Tesla, and under CPLR 301, 302(a), 501, and 503(a).

29. The parties to the SPSAs, SPLLAs, and SPESSAs either agreed, accepted, and submitted themselves to the jurisdiction of the courts of the State of New York in the city and county of New York or, on information and belief, transacted business within the state and contracted to supply goods or services in the state in such a manner that their acts gave rise to the causes of action enumerated in this complaint. *See* Appendix Z.

30. This Court has jurisdiction over Tesla pursuant to CPLR 302(a) because it transacts business within New York and contracts to supply goods or services in New York (including some of the business and services at issue in this dispute), regularly does business in New York, and derives substantial revenue from interstate and international commerce.

31. Venue in this Court is proper pursuant to CPLR 501 to the extent that the parties to the SPSAs, SPLLAs, and SPESSAs designated New York County as the venue for disputes relating to, arising out of, or in connection with the SPSAs, SPLLAs, and SPESSAs. Venue in this Court is also proper pursuant to CPLR 503(a) because none of the parties reside in the state, permitting Walmart to designate New York County as the venue for this dispute.

SUBSTANTIVE ALLEGATIONS

I. Tesla, Inc. Acquires—and Bails Out—the Struggling SolarCity

32. On information and belief, Tesla, Inc. acquired SolarCity on November 21, 2016. Long before the acquisition, the ties between Tesla, Inc. and SolarCity were close ones: as multiple news outlets have reported, Tesla, Inc.'s CEO Elon Musk developed the idea for a solar-power company in 2004 while on a road trip with his cousin, who co-founded SolarCity and became its Chief Executive Officer. The other co-founder—another of Mr. Musk's first cousins—was named the company's Chief Technology Officer, and Musk was the chairman of SolarCity's board and its largest stockholder.[1]

33. On information and belief, SolarCity's business model was to design, install, and lease rooftop solar systems and to sell the energy produced by those solar systems to consumers. Banks and other financial institutions funded the installation process and earned a return over the life of the solar energy contract.[2] On information and belief, SolarCity's goal was to install as many solar systems as quickly as possible, generating the contracts that provided the foundation for SolarCity's revenue stream. As SolarCity's CEO stated in a conference call in October 2015, "the strategy of the company has all been about growth . . . to achieve scale."[3]

34. On information and belief, SolarCity's business model was ultimately a bust. Unbeknownst to its customers until public reports later exposed its shoddy practices, SolarCity

---

[1] Martin LaMonica, *SolarCity CEO Lyndon Rive: From Burning Man to the NASDAQ*, GREENBIZ (Oct. 9, 2013), *available at* https://www.greenbiz.com/blog/2013/10/09/solarcity-lyndon-rive-future-distributed-solar; *Musk Cousin Lyndon Rive, Former SolarCity CEO, to Leave Tesla*, BLOOMBERGNEF (May 16, 2017), *available at* https://about.bnef.com/blog/musk-cousin-lyndon-rive-former-solarcity-ceo-to-leave-tesla/.

[2] LaMonica, *supra* note 1.

[3] Austin Carr, *The Real Story Behind Elon Musk's $2.6 Billion Acquisition of SolarCity and What It Means for Tesla's Future—Not to Mention the Planet's*, FAST COMPANY (June 7, 2017), *available at* https://www.fastcompany.com/40422076/the-real-story-behind-elon-musks-2-6-billion-acquisition-of-solarcity-and-what-it-means-for-teslas-future-not-to-mention-the-planets.

suffered from "a quality assurance problem."[4] Consumers began to complain about "installers failing miserably," equipment that "just isn't installed correctly," and SolarCity's failure to respond for months to "faulty installation" issues—a problem that "is more than just a few poorly trained technicians" and "le[ft] customer[s] hanging for weeks on end with serious issues."[5] On information and belief, as SolarCity's problems accumulated, its stock plummeted 77% from its summit in February 2014,[6] and its debt increased thirteen-fold over a three-year period, rising to $3.3 billion in June 2016.[7]

35. On information and belief, in a heavily criticized deal entered into on August 1, 2016, Tesla, Inc. acquired SolarCity for approximately $2.6 billion in stock, converting it into its wholly owned subsidiary Tesla, and assumed nearly $3 billion in SolarCity's net debt, nearly doubling Tesla, Inc.'s debt load.[8] A *Wall Street Journal* columnist, referring to the financial difficulties plaguing both companies, wrote, "Tesla latching on to SolarCity is the equivalent of a shipwrecked man clinging to a piece of driftwood grabbing on to another man without one."[9]

36. That diagnosis turned out to be accurate, if not charitable. Although Tesla, Inc. prided itself on the fact that its "experience in design, engineering, and manufacturing should

---

[4] Sarah Hancock, *The 6 Most Common Problems with SolarCity*, BEST COMPANY (June 26, 2019), *available at* https://bestcompany.com/news/problems-with-solarcity.

[5] *Id.*

[6] Carr, *supra* note 3.

[7] Joe Ryan, *Musk Touts SolarCity Deal Synergy, But It May Be About Debt*, BLOOMBERG (June 22, 2016), *available at* https://www.bloomberg.com/news/articles/2016-06-22/musk-says-solarcity-deal-about-synergy-but-it-may-be-about-debt.

[8] *Tesla's Trumpeted Solar Shingles Are a Flop*, MIT TECHNOLOGY REVIEW, *available at* https://www.technologyreview.com/f/613541/teslas-trumpeted-solar-shingles-are-a-flop/; Bob Bryan, *Tesla s Buying SolarCity for $2.6 Billion*, BUSINESS INSIDER (Aug. 1, 2016), *available at* https://www.businessinsider.com/tesla-is-buying-solarcity-for-26-billion-2016-8.

[9] Spencer Jakab, *A Double Dose of Risk for Tesla in SolarCity Deal*, WALL STREET JOURNAL (Aug. 1, 2016), *available at* https://www.wsj.com/articles/a-double-dose-of-risk-for-tesla-in-solarcity-deal-1470067165.

help continue to advance solar panel technology,"[10] on information and belief, Tesla and Tesla, Inc. proved unable to manage the solar panel systems that they had inherited from SolarCity, to correct the problems that SolarCity's grow-fast business model had created, and to maintain the already faulty solar systems that Tesla was under a contractual obligation to operate. As elaborated below, Walmart's experience bears out Tesla, Inc.'s and Tesla's inability to turn around and bail out the solar panel operations acquired from SolarCity.

II. How Tesla's Solar Panel Systems Function

37. The purpose of Tesla's solar panel systems—in technical terms, solar photovoltaic systems—is to convert sunlight into electricity. Solar photovoltaic systems consist of solar modules—i.e., the solar panels visible on the tops of roofs around the world—which consist of a string of photovoltaic solar cells.

38. The process of converting sunlight into electricity is made possible by the fact that the sun generates massive amounts of power and radiates light particles—known as photons—into space in all directions.

39. When the photons strike a solar cell, they excite electrons in the surrounding material, generating both electrical potential (or voltage) and electrical current. This process of generating electrical potential and electrical current is known as the photovoltaic effect.

40. Like water building up behind a dam, voltage can be thought of as electrical pressure—the force that pushes current to flow through an electrical circuit. Electrical current refers to the rate at which electric charges flow.

---

[10] *Tesla Makes Offer to Acquire SolarCity*, TESLA (June 21, 2016), *available at* https://www.tesla.com/blog/tesla-makes-offer-to-acquire-solarcity.

41. The photovoltaic effect results in a type of current known as direct current ("DC"), which consists of an electric current that flows in only one direction.

42. Because the electrical grid uses alternating current ("AC") power, and because the solar panel systems are connected to the electrical grid, the systems must convert DC power into AC power. (AC power consists of an electric current that switches direction many times per second.)

43. A device known as an inverter performs this conversion from AC to DC power in solar panel systems. The inverter than sends the AC power to the electrical grid, where it can be metered.

44. Devices known as connectors connect each solar module to the next, forming an electrical "string." Multiple strings are connected to each other in a combiner box. Connectors must be capable of enduring extreme temperatures and weather conditions, as well as shifts in temperature, and resisting mechanical deterioration or other events that might result in disconnection.

45. At the back of each solar module is a junction box, which holds cables and connectors. Each junction box contains bypass diodes, which prevent current from flowing backwards and bypass currents when a row of solar cells is shaded or obstructed. If a portion of a solar module becomes covered (such that photons no longer reach the module's surface), bypass diodes—when functioning properly—allow electric current to bypass the blocked parts of the obstructed module or, if necessary, the entire module, which prevents solar cells from overheating and ensures that current can still flow to the end user. When a portion of a module overheats, the area of concentrated temperature increase is known as a hotspot.

III. Walmart Enters into Solar Panel Agreements with Tesla

46. Between February 2010 and February 2016, Walmart and/or related entities entered into at least 244 contracts, known as Solar Power & Services Agreements, Solar Power Lease and License Agreements, or Solar Power and Energy Storage Services Agreements, with Tesla. The SPSAs, SPLLAs, and SPESSAs at issue in this lawsuit are attached as Exhibits 1–244 and are collectively referred to as the "Agreements." The Agreements require Tesla to install, maintain, and operate solar photovoltaic systems at Walmart stores.

47. [redacted]

48. The Agreements broadly fall into two categories: (1) those that are structured as leases and (2) those that are structured as solar power purchase agreements. [redacted]

49. [redacted]

[redacted]

50. As owner and operator of the solar photovoltaic systems, Tesla took on specified obligations. [redacted]

51. Tesla's covenants and warranties to Walmart under the Agreements generally provide that Tesla will, among other things:

[redacted]

[redacted]

[redacted]

52. The Agreements also impose obligations on Tesla in the event of system malfunctions or emergencies. [redacted]

53. [redacted]

[redacted]

[redacted]

56. The Agreements outline certain procedures regarding Tesla's assignment of rights under the Agreements. *See* Appendices AA, BB. [redacted]

[redacted]

60. Tesla has breached multiple provisions of the Agreements with respect to *all* of the solar panel system sites that it operates for Walmart—most prominently, Tesla's promise to construct, install, and maintain the solar panel systems with due care and to handle the solar panel systems in accordance with Prudent Industry Practices. Tesla's conduct falls far short of satisfying those baseline standards and reflects gross negligence.

IV. Walmart Roofs Catch on Fire Due to Tesla's Solar Panels

61. Between March and May 2018, three Walmart properties in three different states—all with solar panel systems owned, operated, and maintained by Tesla—experienced

fires that originated with Tesla's solar panels, resulting in significant damage and endangering the safety of Walmart customers, employees, and the public.

62. On March 7, 2018, Walmart store 2124 in Beavercreek, Ohio, experienced a roof fire caused by the Tesla-installed solar panel system at that site. Local news coverage depicted a massive plume of black smoke emerging from the Walmart roof and stated that "[a] light smoke haze was reported inside the store" as shoppers were evacuated.[13] On March 8, 2018, Tesla representatives arrived at the store, without providing Walmart any notice, removed materials from the site, and conducted an investigation of site conditions.

63. The fire apparently originated in a portion of a solar module identified as inverter "D." On information and belief, various installation, inspection, and maintenance problems contributed to the generation and build-up of heat in the inverter, eventually causing the fire that erupted on the roof. One of the problems identified by subsequent inspections was that inverter housing—which had been improperly sealed during installation—permitted water intrusion into the inverter, likely contributing to the fire's ignition. Another problem was that the inverter fuse box contained brass/metal bolts, rather than the types of fuses required by both the manufacturer's installation manual and the National Electrical Code—an industry-wide set of safety standards regarding electric wiring and installation. During the fire, the brass/metal bolts had melted, permitting the fire to spread to other areas of the inverter and the solar panel system. Had the solar panel system been properly installed and maintained, the likelihood that such a fire would have occurred at all, or that it would have spread to the same degree, would have been significantly reduced.

[13] *Beavercreek Walmart Reopens After Solar Panel Fire* (Mar. 7, 2018), *available at* https://www.whio.com/news/local/beavercreek-walmart-reported-fire/2bbIQsfcbIwva2oPxoCVGM/.

64. The fire caused significant damage to the Walmart store and its merchandise, resulting in the store's closure for eight days. Repair costs totaled approximately $557,988, and merchandise with a retail value of approximately $194,478 was destroyed. Walmart also incurred approximately $50,000 in consultant's and attorneys' fees in connection with investigating the fire. The total amount of out-of-pocket damages incurred as a result of the fire was approximately $784,293. Tesla paid a portion of those damages, but expenses for consultant's and attorneys' fees remain outstanding.

65. On May 21, 2018, a second Walmart site—store 3843, located in Denton, Maryland—experienced a roof fire that originated in the Tesla-installed solar panel system at that site.

66. Although the cause of the fire is unknown due to Tesla's failure to provide a final root cause analysis, on information and belief, the fire involved the solar panel system's inverter and was likely attributable to one or more of various installation, inspection, and maintenance issues affecting the site.

67. The fire caused significant damage, including punctures of the membrane of the store's roof. Walmart also incurred approximately $100,000 in consultant's and attorneys' fees in connection with investigating the fire.

68. Tesla did not provide Walmart with notice of this fire until November 2018, well beyond the 24-hour period within which the applicable Agreement required Tesla to notify Walmart of any malfunction or emergency.

69. At or about 10:26 a.m. on May 29, 2018, a third Walmart site—store 2181, located in Indio, California—experienced a roof fire originating within one of the modules of the Tesla-installed system. Walmart employees discovered the fire upon observing smoke drifting

through a skylight and contacted the fire department. Local news coverage described a scene of "[t]hick black smoke billow[ing] from the roof" with the solar panels "engulfed in flames, which spread into the store," "while customers and employees were evacuated to the parking lot."[14] A firefighter who responded to the scene was treated for smoke inhalation. Just hours before the fire started, Tesla personnel had been dispatched to the store, likely because Tesla observed irregularities in the solar panel system's functioning or received an error message related to the system's inverters. These personnel were evidently unable to correct the issues that led to their site visit, further demonstrating the incompetence and gross negligence of Tesla personnel and their inability to act in conformity with Prudent Industry Practices.

Images of Indio Fire Damage

[14] Lauren Coronado, *Fire at Indio Walmart Store Blamed on Solar Panels: Solar Panel Fires Are "Uncommon," Experts Say* (May 29, 2018), *available at* https://www.kesq.com/news/fires-caused-by-solar-panels-are-uncommon-experts-say/747502440.

Inspection Team at Site of Indio Fire

Module Junction Box at Indio Site (Likely Source of Fire)

70. Investigation of the Indio fire revealed a number of installation and maintenance issues indicative of pervasive, systemic negligence and conduct that fell far below the standard of Prudent Industry Practices. As described in greater detail below, among the issues identified were module hotspots, improper grounding and wiring methods, improper connector torqueing, and erroneous as-built drawings.

71. The fire caused significant damage to the Walmart store and its merchandise. Repair costs totaled approximately $3,134,122, while merchandise with a retail value of approximately $6,048,496 was destroyed. To date, Walmart has incurred approximately $350,000 in consultant's and attorneys' fees—and expects to incur at least an additional $100,000 in consultant's and attorneys' fees—in connection with investigating the fire. The total amount of out-of-pocket damages incurred as a result of the fire is anticipated to be approximately $8,229,516.

72. While the fires at Walmart's Beavercreek, Denton, and Indio stores were particularly notable because they occurred within such a compressed period of time, they were not the first fires that occurred at Walmart stores due to Tesla's negligence. In August 2012, Tesla's solar panels caused an electrical fire on the roof of a Walmart store in Long Beach, California, resulting in the store's evacuation and causing nearly $90,000 in damages. Faulty connectors caused fires at stores in Milpitas, California, in 2016, resulting in over $500,000 in damages, and Lakeside, Colorado, in 2017. And in January 2017, Tesla's faulty installation of conduits at a Walmart-owned store caused a power outage that resulted in over $55,000 in damages for Walmart. Only years later—upon the occurrence of the multiple fires in 2018—did Walmart learn that these incidents were not one-off errors on Tesla's part but were just one symptom of a widespread pattern of negligence and unprofessionalism.

73. Because Tesla has never provided final root cause analyses for five of these six fires, it is possible that other risk factors contributing to the fires remain unknown, and Walmart lacks any basis to conclude that the risks that caused these fires are absent. To the contrary, as Walmart's subsequent analyses and investigations revealed, these fires were plainly not the result of isolated failures, such as discrete equipment malfunctions or other narrow issues that can be isolated to particular sites or addressed through one-off, site-specific remediation. The fires are symptoms of broad, systemic issues arising from Tesla's failure to abide by Prudent Industry Practices and widespread negligent or grossly negligent installation, inspection, operation, and maintenance of all of the solar panel systems, as subsequent analyses and investigations made clear.

V. Tesla De-Energizes the Solar Panels, and Two More Fires Occur

74. Aware of at least two fires that had caused significant damage due to systemic negligence in the installation and maintenance of the solar panel systems, Walmart provided

Tesla with written notice on May 31, 2018, that Tesla had materially breached the parties' Agreements by failing "to properly maintain and inspect the solar energy generation systems." Walmart noted that, "given the fact that the causes of the fires remain under investigation and in light of the inadequacy of Tesla's solar system inspection regimen, Tesla's breach has resulted in the creation of a significant safety hazard . . . , putting Walmart's customers, employees, facilities and merchandise all at risk. Indeed, Walmart emphasizes the extr[aord]inary health and safety concerns that have been created by the Tesla solar generation systems and the resultant need to act immediately." Referring to the implicated Walmart sites as the "Affected Sites," Walmart elaborated:

> Since the root causes of these fires [are] unknown, there is no way for Walmart to reasonably conclude that the solar systems at other Affected Sites [do] not pose a hazard with regard to the potential for additional roof fires, especially since Tesla's current inspection procedures appear to have been inadequate to prevent the roof fires at Indio and Beavercreek. Walmart will not jeopardize the health and safety of its employees and customers by assuming the safety of the Tesla systems at the Affected Sites.

Walmart also demanded that Tesla take several "mitigation measures" "until Tesla has demonstrated to Walmart's satisfaction [that] the solar system at each Affected Site no longer represents a potential fire hazard." Among those mitigation measures was immediate de-energization of all solar panel systems and suspension of all solar operations at each of the Affected Sites. Walmart also demanded that Tesla investigate and analyze the two roof fires of which Walmart was aware and that it develop a comprehensive inspection and remediation plan. Walmart's May 31, 2018 notice of breach is attached as Exhibit 245.

75. On June 1, 2018, Tesla responded to Walmart's letter, denying that it had breached any of the Agreements but "agree[ing] it would be *prudent* to de-energize, inspect and

remediate (as may be needed as Tesla and Walmart mutually agree) all of the" sites referenced in Walmart's letter. (Emphasis added.) Tesla's June 1, 2018 letter is attached as Exhibit 246.

76. Tesla subsequently de-energized the solar panel systems at all of the Affected Sites, but it has undertaken no meaningful steps to cure the material breaches described in Walmart's notice of breach. For instance, for over a year, Tesla refused to provide final root cause analyses for any of the fires that occurred at Walmart stores. Tesla finally provided a purported final root cause analysis for the Beavercreek site on August 8, 2019, but the other final root cause analyses remain outstanding. All of the information received by Walmart to date indicates that there are widespread, systemic issues rendering the solar panel systems deficient and dangerous and that Tesla is unable or unwilling to inspect, maintain, and operate the systems in a safe manner consistent with industry standards. Given Tesla's failure to cure its breaches, Walmart submitted a notice of continued breach to Tesla on September 11, 2018, asking Tesla to provide its complete analysis of the Beavercreek and Indio fires and to explain the remediation and repair efforts that it had undertaken at any sites. Walmart's September 11, 2018 notice of continued breach is attached as Exhibit 247.

77. Indeed, de-energization has proven insufficient even to prevent fires caused by Tesla's negligence at de-energized sites. On November 29, 2018, Walmart discovered yet another solar-related fire, this time at Walmart store 1903 in Yuba City, California, originating in a solar panel system that had been de-energized in June 2018 (and had not been thereafter re-energized). The discovery of this fire brought the total number of fires at Walmart stores to seven.

78. A Walmart contractor (not Tesla) called the Yuba City fire to Walmart's attention after observing signs of a recent fire on the store's roof. The contractor took photos showing that

wires were still sparking at the time of discovery, indicating that the fire had occurred recently. Photographs also revealed that arcing had affected numerous wires at the Yuba City site over an extended period of time, degrading the wires' insulation and resulting in the incineration of a substantial section of the store's roof. The extent of the damage to the wires indicated that the fire was sufficiently severe that it could have burned the entire store to the ground. Because of Tesla's failure to provide a final root cause analysis, Walmart has no assurance that the next store to experience a Tesla-caused fire will be so fortunate.

Images of Yuba City Roof, Evidencing Fire and Arcing

79. Walmart communicated its findings regarding the Yuba City fire to Tesla, which, despite its duty to monitor and maintain the systems in a safe operating condition, was either unaware of the fire until notified by Walmart or hid its knowledge of the fire from Walmart.

80. Equally or more troubling, on information and belief, Tesla received notification of, and did not disclose to Walmart, a ground fault alert that occurred at the Yuba City site between June 5, 2018, and September 11, 2018—a significant red flag that should have alerted Tesla to the presence of dangerous conditions at the site. Tesla either failed entirely to respond to that alert or sent personnel to the site who were insufficiently trained (or otherwise negligently failed) to identify and remediate the issues that caused the ground fault and likely caused or

contributed to the fire. Tesla did not inform Walmart of the ground fault at any time before November 29, 2018, when Walmart learned of the fire from another contractor.

81. Consistent with its failure to monitor and maintain the site, Tesla failed to inspect the site properly after the fire. For example, instead of closing a combiner box door at the end of the inspection, a Tesla technician left it wide open, exposing it to the elements and resulting in further risks to the Walmart site.

82. Tesla's actions and/or omissions with respect to the Yuba City store fell well below accepted industry standards and are reflective of Tesla's widespread negligence or gross negligence in the operation and maintenance of the solar panel systems.

83. The fire at Walmart's Yuba City store has resulted in substantial damages, including property damages and consultant's and attorneys' fees. Repair costs totaled approximately $50,000 and, to date, Walmart has incurred approximately $75,000 in consultant's and attorneys' fees in connection with investigating the fire.

VI. Walmart's Investigations Reveal that Tesla Was Grossly Negligent

84. Following the initial fires, Walmart began reviewing the conditions at the sites where the fires had occurred, as well as other sites. Walmart and its consultants quickly identified a troubling pattern of deficiencies, negligence, and failure to satisfy Prudent Industry Practices. Indeed, the conditions observed at the Indio location—including melted glass, charred debris, and cracked modules—were among the worst observed by Walmart's consultants over the course of their entire careers. Just as concerning, this review confirmed that Tesla's inspection protocol was sub-industry standard and was poorly suited to addressing or remediating the problems that had endangered Walmart employees and customers. The conclusion of these investigations was that Tesla had repeatedly failed to exercise due care, failed to follow standard Prudent Industry Practices, and failed to follow manufacturing

requirements, as mandated by the Agreements, at all of the sites at which its solar panels were installed. Due to the poor condition of the solar panels and Tesla's demonstrated inability to maintain them, their continued operation posed—and to this day poses—an imminent risk of damage or injury to individuals at Walmart sites and to Walmart property.

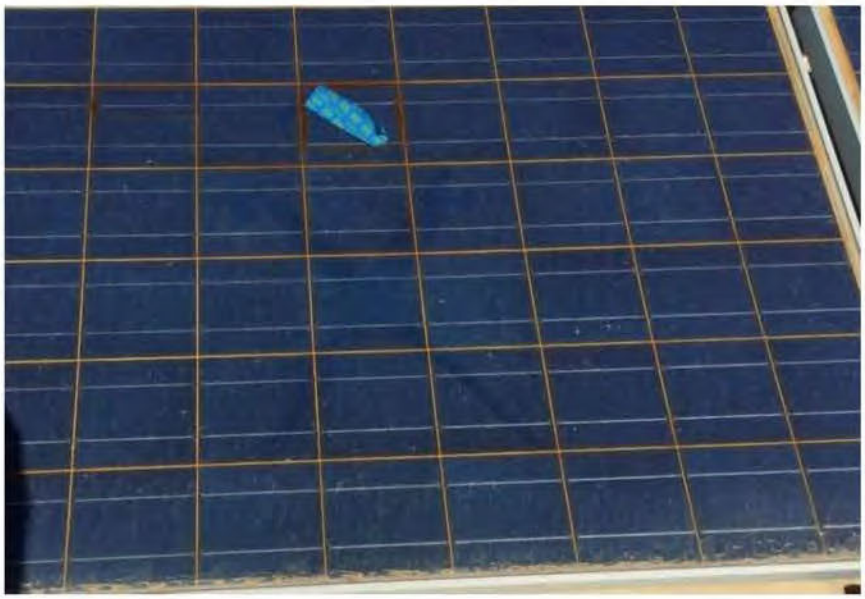
85. The evidence uncovered by Walmart revealed that the solar panel systems had been installed rapidly and that basic quality-control checks had not been undertaken. On information and belief, approximately 80 to 100 installations had occurred within a one-year period, far exceeding a responsible or safe number of installations over that time span. The excessively rapid installation process resulted in a number of quality control oversights that almost certainly would have been corrected had installation and maintenance procedures been followed more rigorously or undertaken more carefully.

86. The evidence from Walmart's inspections also revealed that Tesla had failed properly to hire, train, and supervise its contractors and subcontractors to ensure that they exercised due care—including use of proper methods and tools—in installing solar panel systems.

87. Many of the Tesla solar panels inspected by Walmart were suffering from hotspots, resulting in cracking of the back sheets on solar modules and compromising electrical insulation. This condition compounded the danger and substantially heightened the risk of fire: the hotspots reflected an excessive build-up of heat in the solar modules, which in turn wore down the insulation that was designed to keep electrical currents flowing within their proper paths and to separate electric conductors from their surrounding materials. These conditions can readily lead to electrical fires capable of spreading across an entire rooftop.

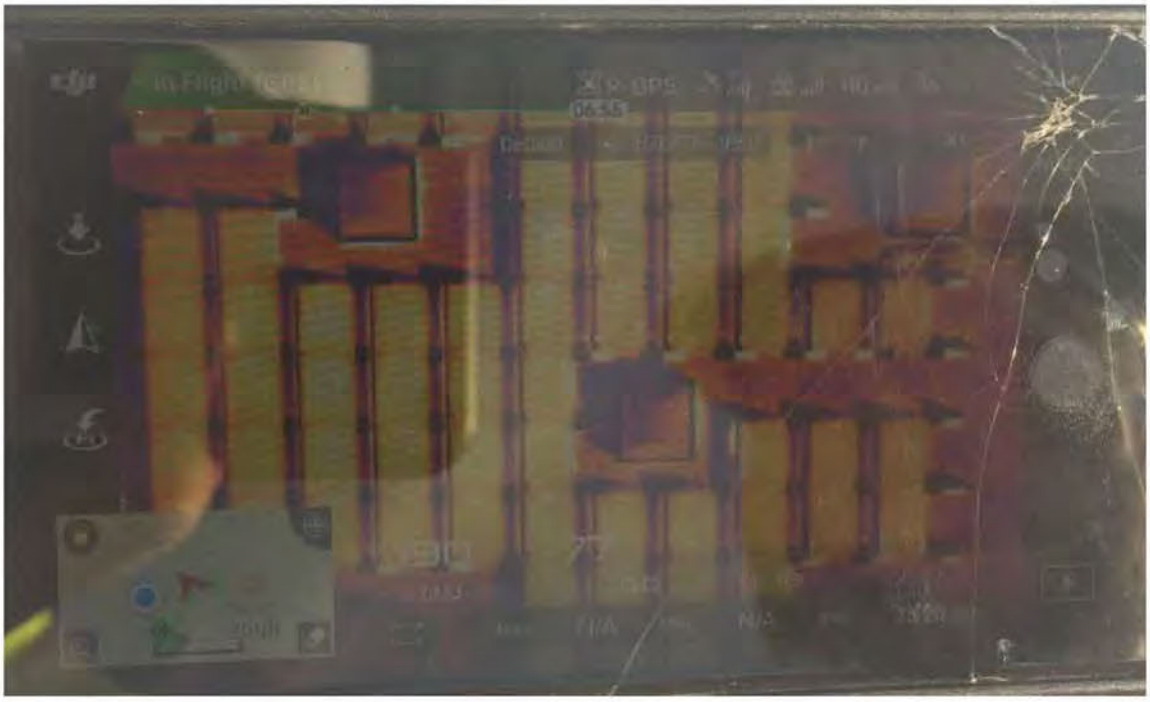
88. Making matters worse, Tesla had flagged or identified hotspots by placing pieces of tape over the affected areas. Because this tape prevented sunlight from reaching the solar panel, it exacerbated the problem by further concentrating heat in certain areas of the solar module—an extremely basic error that a competent inspection team would never have committed.

Images of Tape Used (Improperly) to Flag Hotspots on Walmart Roofs

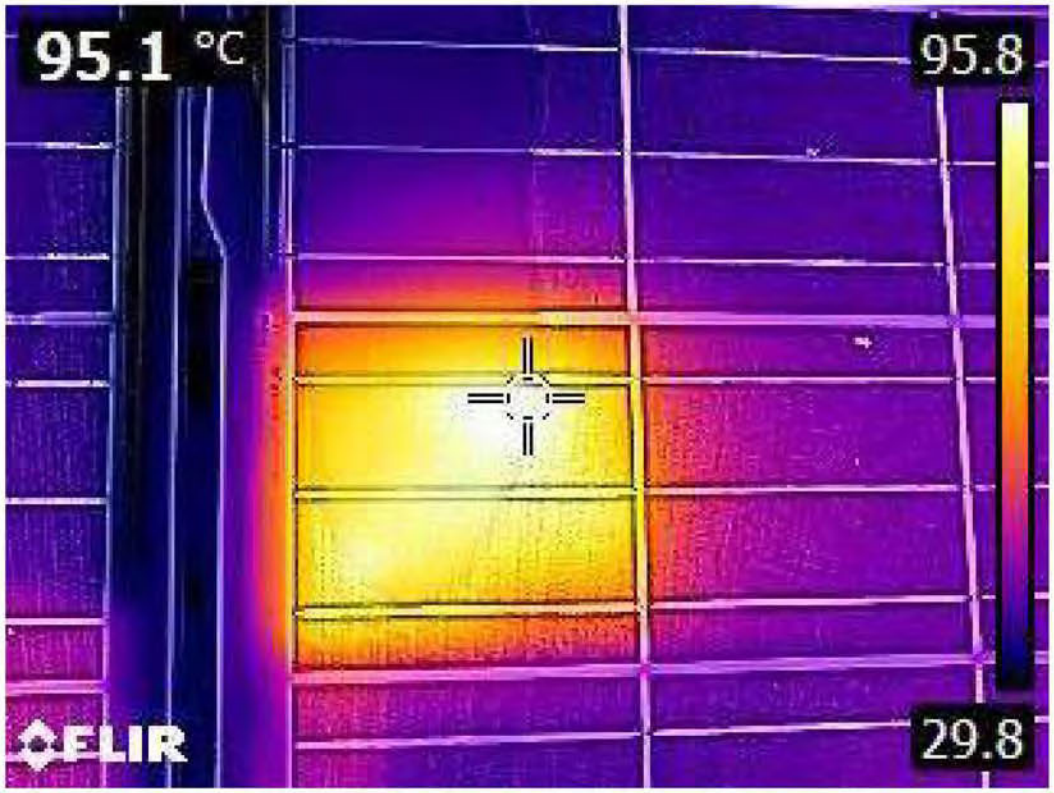


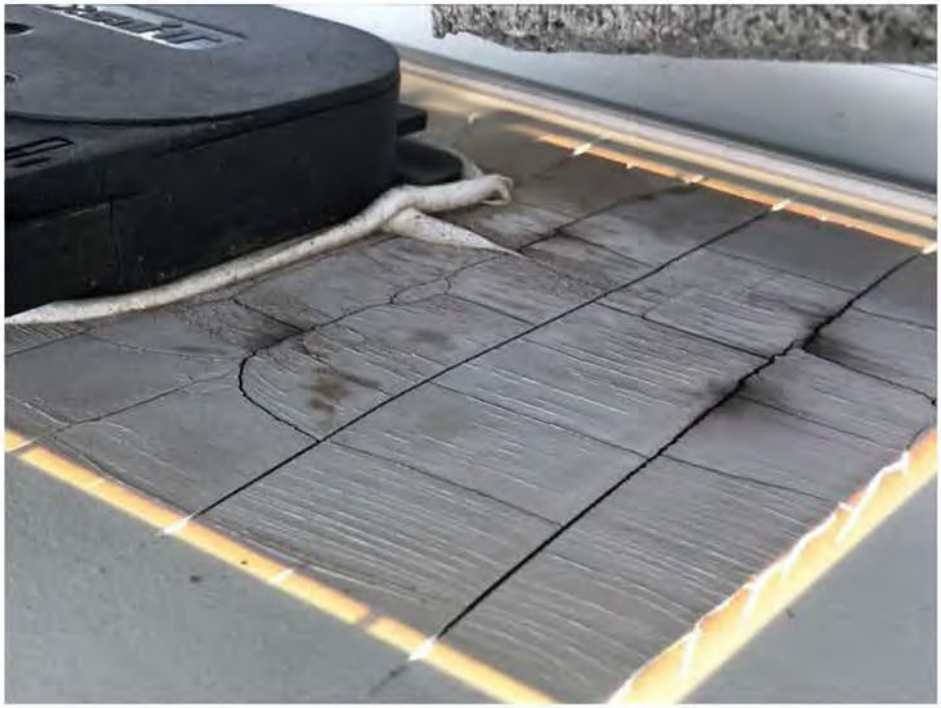
89. Tesla's inspectors also had not implemented proper means of locating and remediating hotspots. They had not adopted uniform standards or directives for identifying hotspots and had not developed criteria to identify when heat differentials between different parts of a module (or different modules) qualified as a hotspot. To locate hotspots, Tesla's inspectors sometimes relied on drones, which generated images of the roofs that lacked sufficient resolution to identify hotspots; as a result, the inspectors missed hotspots that Walmart's consultants found using more reliable methods. On other occasions, Tesla inspectors performed cursory infrared scans from a corner of the roof, but this process did not indicate and would not necessarily have indicated all hotspots across an entire photovoltaic system. Using a thermal gun, a Walmart consultant identified four to six hotspots that Tesla employees had overlooked on just one section of a Walmart roof; one of these hotspots had reached a temperature of over 200 degrees Fahrenheit, as compared to surrounding cells that remained at temperatures of only about 85 degrees Fahrenheit. (The standard temperature differential used to identify a hotspot is a difference of about 60 to 70 degrees Fahrenheit between a solar cell and its surrounding cells. Notably, the solar panels contain plastic components, which begin to degrade at about 160 degrees Fahrenheit.) The hotspots observed during these inspections reflected some of the worst conditions that Walmart's consultants had seen on solar panels over the course of their careers. Some hotspots had resulted in the browning or yellowing of the solar modules and were visible to the naked eye—or should have been, had Tesla's inspectors taken the time to look for them. The conditions were particularly appalling given that hotspots do not develop over the course of one or two days, but rather form over extended periods of time. The prevalence of hotspots on the Tesla systems reflected a long-term pattern of negligence that had gone ignored for years and had not been addressed by proper maintenance procedures.

Image of Drone Scan Showing Inadequate Resolution



Images of Hotspots on Solar Modules and Associated Module Cracking





90. The poor condition of Tesla's solar modules revealed likely explanations for the hotspots that were plaguing Walmart's roofs. Those modules suffered from numerous defects

that are precursors to hotspots, including the yellowing of encapsulant (the adhesive material used to connect components of a solar panel module) and the presence of micro-cracks in the solar modules. Both of those conditions reflect degradation of the solar modules in a manner that might affect bypass diodes and thus contribute to significant heat increases in segments of the solar panel systems.

91. The inspections also disclosed evidence that Tesla had negligently installed and maintained connectors, especially field-made connectors, across the inspected sites. For example, some connectors had been "cross-matched," meaning that incompatible connectors had been used with one another. When connectors are not matched properly, electric current flowing between the connectors is more likely to encounter resistance—and resistance generates heat, which generates fires. In addition, the Tesla teams consistently failed to torque (or tighten) field-made connectors—another basic requirement of the duty of care, Prudent Industry Practices, and manufacturer specifications. To ensure proper torqueing, inspectors should have used a special tool known as an MC4 torque tool. However, some inspectors were using a plastic MC4 tool, which is insufficient to ensure proper torque. Indeed, a Tesla inspector admitted that Tesla was using a plumbing tool (rather than an electrical tool) to tighten connectors, and the standards that this inspector used to determine when a connector was properly torqued did not meet industry threshold requirements. The lack of torqueing leads to moisture and water intrusion. Once these or other substances enter the space where electricity is intended to flow, they may cause the electricity to deviate from its intended path—and, as excessive current is channeled through certain routes, overheating and, eventually, fire are more likely to occur.

Image of Improperly Threaded Connector
(Threads at Bottom of Image Should Not Be Visible)

92. Poor wire management practices were also evident at multiple Walmart sites. In some cases, sharp points—from, among other items, rough concrete or metal edges—were cutting into or abrading wires. In other cases, temperature changes resulted in the expansion and contraction of wires over time, moving the wires and resulting in their abrasion or exposure. In still other cases, conduits were overstuffed, containing too many wires to be safely used. And wire insulation failures resulted in the exposure of current-carrying electrical conductors to the elements, creating a substantial safety and fire hazard. By degrading the insulation of the solar panels' wiring, these factors increased the risk that an electric current would deviate from its intended path and cause a fire that would spread to surrounding panels. Many of these issues could have been—but were not—addressed through industry standard maintenance procedures, including resealing or reinsulating exposed wires.

Image of Wires Exposed to Sharp Edges

Images of Abraded Wires

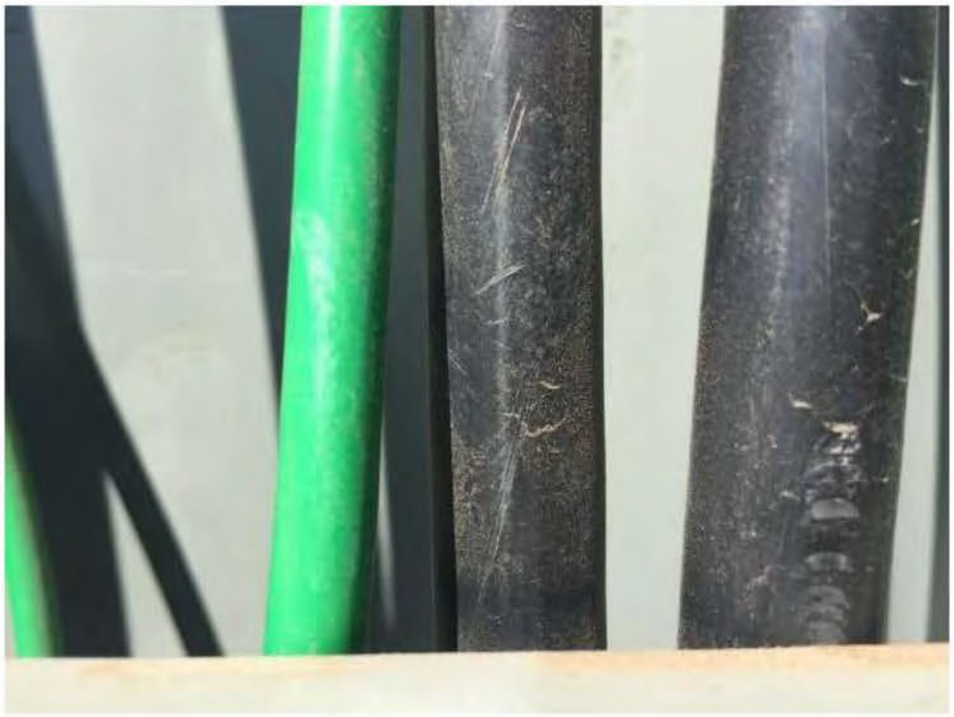


Image of Improper Module Grounding
(Washer Should be Between Lug and Module Frame)

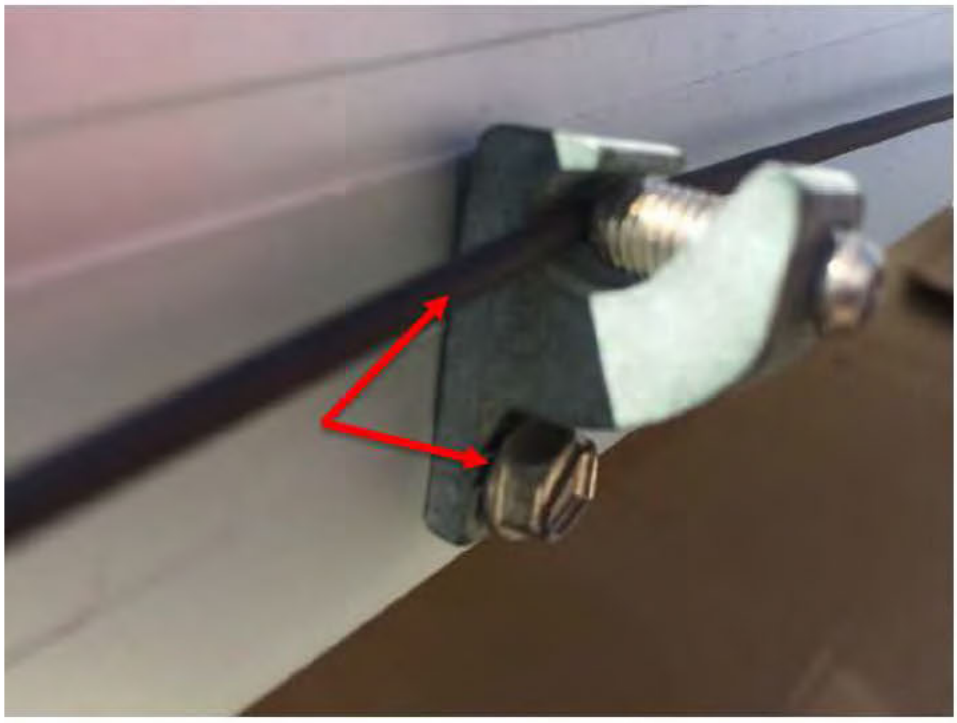


Image of Wire Improperly in Contact with Roof

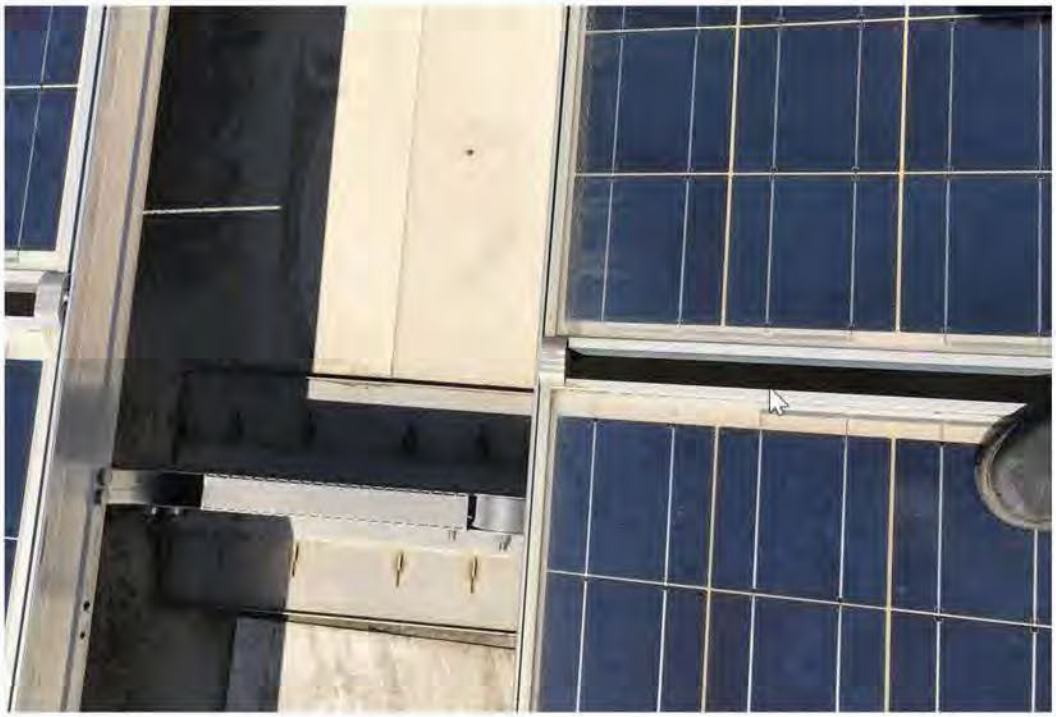
93. Walmart's inspections also disclosed evidence of improper grounding at multiple sites. In the context of electrical systems, "grounding" is critical because it provides a reference (or equilibrium) point that ensures the safe production of electric energy. Electricity generally flows from areas with a high amount of potential energy (typically referred to as a "positive terminal") to areas with a lower amount of potential energy (typically referred to as a "negative terminal")—just as gravity causes water to flow from higher to lower places. "Ground" refers to an electrical reference point for a circuit; proper grounding ensures that electric currents do not jump to or interact with metallic items or other conductors that reside near an electric charge. Improper grounding can cause an electric system to trip (i.e., to stop conducting electricity) or to arc (i.e., to experience the flow of electricity through an unintended path); arcing, in turn, may cause insulation to fail and result in fires.

94. With respect to solar photovoltaic systems installed at Walmart stores, proper grounding means that materials conducting electric charges must connect to a grounding electrode outside of the Walmart store. Upon reviewing Tesla's inspections of Walmart stores, however, it became clear that multiple conductors were not properly grounded according to standard principles of electrical systems as outlined in the National Electrical Code. This fact, in conjunction with Tesla's poor wire management practices, demonstrated that Tesla had run afoul of basic industry conventions in the installation, operation, and maintenance of its solar panel systems—and had done so in a way that exposed Walmart stores, customers, and employees to fires.

95. Tesla's maintenance efforts at Walmart sites fell dramatically short of addressing the problems that Walmart's inspections had uncovered. For instance, industry practice is to conduct insulation resistance testing (also known as Megger testing) at least once per year to ensure that insulation has not degraded to a dangerous degree. But Tesla had never conducted insulation resistance testing on certain conductors, plainly violating these standards.

96. Tesla inspection personnel frequently missed or improperly identified obvious and visible risks with the solar panel systems and were often negligent in performing inspections. Most glaringly, Tesla inspection personnel violated elementary safety standards by negligently stepping on modules (potentially contributing to micro-cracks), using the wrong equipment for basic tasks, and—in one instance—leaving a combiner box enclosure open and exposed to the elements after an inspection. Tesla also relied on drone fly-overs and other shortcuts when inspecting sites, rather than sending qualified and properly trained solar inspectors to physically inspect solar panel systems with appropriate equipment—the established industry method for conducting thorough inspections.

Image of Tesla Inspector Stepping on Solar Modules
(Inspector's Foot Visible in Bottom Right of Image)



97. Tesla's failure to document the conditions at numerous sites made the inspection process much more difficult than it should have been. When an engineering team designs a solar panel system or outlines the processes for installing it, the team maps out a blueprint. During the installation process, deviations from that blueprint inevitably occur. As a result, when construction concludes, the National Electrical Code indicates that the installation team must prepare what are known as "as-built" drawings, which are supposed to accurately reflect the locations and characteristics of the solar panel system and its components, exactly as they were installed at the site in question. Accurate as-built drawings are critical to proper inspection, maintenance, and operation, in no small part because technicians, firefighters, and other individuals interacting with the solar panels must be able to rely on the drawings to locate specific equipment, safety switches, and other components. However, discrepancies existed

between the solar panel systems installed at various sites and the so-called "as-built" drawings that were supposed to accurately depict and reflect those solar panel systems.

98. Tesla's poor record-keeping and documentation efforts extended beyond the purported "as-built" drawings. Tesla's records were unusable to non-Tesla employees who tried to review them—and even to Tesla's employees themselves: one of Tesla's own field support managers admitted that he could not understand Tesla's reports. Despite multiple requests for records regarding installation dates and subcontractors who worked on the solar photovoltaic systems, Tesla failed to provide the requested records. These documents would have proven critical to Walmart's assessment of proper remediation methods, but Walmart and its consultants have yet to see them. If these records existed, they would undoubtedly have confirmed the widespread deficiencies in Tesla's performance that Walmart's inspections already revealed.

99. The mountain of disturbing evidence collected during the inspections of solar panel sites made clear that system-wide risks affected Tesla's solar panel systems, all of which helped to explain why the solar panels were causing fires on Walmart's roofs. The installation problems with Tesla's solar panels spanned multiple locations, demonstrating that systemic Tesla malfeasance was the cause of the solar panel systems' problems. Moreover, on information and belief, Tesla itself handled all operational and maintenance work in-house, demonstrating that the widespread failures were, once again, attributable to Tesla.

100. The inspections made clear that: (1) installation, operation, maintenance, and inspection issues had caused the solar panel fires; (2) these issues resulted from grossly negligent conduct on Tesla's part that did not accord with Prudent Industry Practices; (3) Tesla failed to live up to standards of reasonable care and to industry standards with respect to solar panel installation, operation, maintenance, and inspection practices; and (4) the fires could have been

prevented had Tesla abided by its obligations under the contracts. Tesla has never provided Walmart with any information indicating an alternative cause for any of the fires that occurred at Walmart's stores.

101. The inspections also made crystal clear that the fires had not been caused by one-off problems at specified Walmart sites. They resulted from system-wide deficiencies related to the installation, operation, maintenance, and inspection procedures that Tesla had employed, and the fires could have been prevented had Tesla acted consistent with the standard of care and adopted the industry-standard procedures that it had contractually agreed to employ.

102. No later than early 2019, by the time Walmart's consultants had completed an initial round of inspections, they concluded that Walmart stores with Tesla solar panels were unsafe for shoppers and employees. The consultants themselves would not have wanted to step foot inside the stores or allowed their families to do so if the sites were energized. In light of the extensive problems with Tesla's solar panel systems and its negligent maintenance and inspection procedures, re-energizing the solar panel systems at any Walmart locations would have posed—and, to this day, continues to pose—an imminent risk of harm to Walmart, its customers, its employees, and its property.

VII. Tesla's Inspections Confirm Walmart's Conclusions

103. The results of Tesla's own inspections, conducted by its own personnel, confirm Walmart's findings.

104. Despite the severity of the safety threat posed by Tesla's solar panels and the widespread nature of the deficiencies, Tesla has not reacted with the urgency that one would expect from a company that had installed solar panels that were catching on fire. Far from it: Tesla's cavalier responses have only confirmed Walmart's worries that its contractual

counterparty is incapable of providing maintenance and inspection services sufficient to ensure the safety of Walmart's customers, employees, and property.

105. Despite Walmart's repeated requests over a 14-month period, Tesla refused to provide a single final root cause analysis until August 8, 2019, when it produced a purported final root cause analysis for the Beavercreek site. Tesla has yet to produce final root cause analyses for any of the other sites that experienced fires.

106. Tesla's conduct in investigating the Walmart sites and developing a remediation protocol has done nothing to allay Walmart's concerns. In fact, it has enhanced those concerns. Tesla's initial remediation protocol, offered in response to Walmart's May 31, 2018, request for such a protocol, fell far below industry standards and was unacceptable to address the problems that had caused fires at Walmart locations. One of Tesla's own employees admitted that Tesla's inspection protocol was inadequate, and Tesla team members conceded that they were neither trained in nor capable of performing the inspections. In one instance, they were unable to locate a basic component of a solar panel system. Nonetheless, Tesla ignored these deficiencies, plowing ahead with a series of cursory and improper inspections. Among other flaws, these inspections suffered due to the absence of accurate as-built drawings, which made it nearly impossible to identify the precise locations that required inspection or that might be prone to problems.

107. When Walmart demanded that Tesla revise its inspection procedures, the new protocols continued to suffer from deficiencies. For instance, Tesla used infrared imaging to identify hotspots. But, using a handheld device, a Walmart consultant identified hotspots on the roof of a Walmart site and compared the hotspots that he had identified to those identified by the Tesla subcontractor. The subcontractor had missed a number of hotspots.

108. As Tesla began preparing inspection reports for Walmart locations, the reports confirmed the presence of widespread, systemic flaws in the solar panel systems. To date, Tesla has inspected and provided Walmart with inspection reports for 29 sites; those reports have identified a total of at least 157 action items requiring repairs or replacement of solar panel system components—48 of which Tesla characterized as reaching "level 2" or "level 3" severity, reflecting conditions that Tesla believed rendered the affected sites unsafe or potentially unsafe. Those figures understate the severity of the problems that Tesla's own inspectors have uncovered, because numerous deficiencies that Tesla classified as "level 1" raise serious safety concerns, and other issues were wrongly or erroneously omitted from Tesla's lists of action items. For example, many of the reports did not include photos of damaged or defective modules, making it impossible to evaluate the severity of any problems. The reports were also difficult to evaluate given the references to extremely indeterminate action items (e.g., "DC Power Supply failure in Solectria inverter") and vagueness in explaining how remediation plans were (or would be) implemented. These problems were compounded by inconsistencies in the methods and techniques used to inspect different sites—once again making it nearly impossible for Walmart to determine whether Tesla was fixing any of the problems that had contributed to the fires.

109. Recognizing that Tesla's inspection reports omit or understate the deficiencies of the solar panel systems, those reports reveal, at a minimum, that:

- at least 28 of the 29 inspected sites presented issues with wire management, ranging from the presence of hanging or unorderly wires, wires that were exposed to sharp edges, the presence of unnecessary jumpers, problems

relating to conduits, and instances in which wires with degraded insulation were found lying directly in puddles of water;

- all 29 of the inspected sites had incorrect as-built or site drawings that misidentified the locations of various solar panel system components and misidentified the type and number of sub-parts within those components;
- at least 25 of the 29 inspected sites had solar panel modules (which came from several different manufacturers) that were broken, damaged, or presented hot spots, causing Tesla's own technicians to recommend replacing those modules;
- more than half of the 29 inspected sites had issues with connectors—due to overheating, mismatching of connectors, use of non-MC4 connectors in violation of manufacturer specifications, improperly sized connectors, improper crimps and damaged connector pins, overheated connections, rust, or generally poor installation work;
- all 29 of the inspected sites had missing or incorrect slipsheets, placards, or labels for certain components; and
- almost two-thirds of the 29 inspected sites presented issues with improper system grounding.

110. Based on these findings, the reports reveal numerous safety hazards reflecting systemic breaches of the Agreements—all of which were caused initially by Tesla's faulty installation practices or were allowed to occur over time by Tesla through faulty operation, maintenance, and inspection processes.

111. Tesla has also proven that, consistent with its failure to maintain the systems adequately over a multi-year period, it is incapable of addressing and remediating the problems identified in its inspection reports. On information and belief, Tesla did not perform all of the corrective measures that it claimed to have performed in those inspection reports, including replacement of all field-made connectors at certain sites. In addition, even after Tesla's purported inspection and repair efforts, many connectors remained under-torqued, and some could be unscrewed with one's bare hands. Tesla's inspections, much like its installation and maintenance practices generally, were conducted carelessly and superficially and were inadequate to ensure site safety; similarly, its inspection reports—much like its record-keeping generally—contain inaccuracies that render the reports wholly unreliable.

112. Tesla's recalcitrance extends beyond its unwillingness to adopt appropriate safety procedures and maintenance protocols. Despite months of back-and-forth with Walmart, Tesla has yet to pay one cent of the out-of-pocket damages and consulting/inspection fees that Walmart incurred as a result of the fires at Denton, Indio, and Yuba City, as well as consultant and attorneys' fees related to the Beavercreek fire. Tesla has been on notice of Walmart's claims since January 2019 at the latest and, as to the Beavercreek, Denton, and Yuba City fires, has never disputed Walmart's documentation of its damages. Nonetheless, Tesla did not compensate Walmart for any losses from Beavercreek until August 7, 2019—one day before the cure period was set to expire—and has not compensated Walmart for any losses related to the fires at the other three sites. Nor has Walmart received any indication that Tesla named Walmart as an additional insured on Tesla's insurance policy, further jeopardizing Walmart's ability to obtain payment.

113. Moreover, in the course of discussions between Walmart and Tesla, it also became clear that Tesla had assigned each of the Agreements to third parties without providing notice to Walmart of any of the assignments, as was required under the Agreements. *See* Appendix AA. Although Walmart has asked for information about the Tesla investors who purportedly have interests in the Agreements through these assignments (as well as for other information about the structure of the assignments), Tesla has declined to provide it. Tesla's invalid assignments have impeded Tesla's compliance with the terms of the contract. For example, at times Tesla has justified its refusal to take certain steps by claiming that it needs to gain the consent of its assignees—a needless and illegitimate roadblock that was caused entirely by Tesla's invalid assignments.

VIII. Walmart (Re-)Notifies Tesla of Its Breaches

114. By July 2019, over a year after Walmart learned of the fires that were erupting on the roofs of its stores, it was startlingly clear that Tesla had no intention of correcting its past mistakes or doing what is needed to ensure safe conditions for Walmart shoppers and employees. On July 9, 2019, pursuant to the rights granted to Walmart under the Agreements, Walmart notified Tesla for a second time of its numerous material breaches of the Agreements, providing a detailed explanation of the facts that had led Walmart to conclude that these breaches had occurred and remained uncorrected. Walmart's notice of breach is attached as Exhibit 248.

115. Walmart gave Tesla one final 30-day period to cure its breaches (to the extent cure was possible). Walmart requested that Tesla:

- provide root cause analyses to Walmart for each of the Beavercreek, Denton, Indio, and Yuba City fires;

- demonstrate to Walmart's satisfaction that, notwithstanding years of negligent inspection, maintenance, and operation, Tesla was capable of providing those services in a prudent, non-negligent manner going forward—including a demonstration to Walmart's satisfaction that Tesla had fundamentally overhauled, expanded, and upgraded its internal resources for providing these services (through proper hiring, training, and supervision of a sufficient number of qualified solar professionals) or that Tesla was prepared to contract with a qualified third-party provider of those services at Tesla's expense;
- formally adopt a substantially enhanced inspection protocol satisfactory to Walmart, which would take into account the conclusions of the root cause analyses for the Beavercreek, Denton, Indio, and Yuba City fires;
- provide written certification to Walmart that (i) none of the root causes of the Beavercreek, Denton, Indio, and/or Yuba City fires were present at any of the Walmart stores with Tesla solar panels, (ii) a thorough inspection of all potential sources of human error and equipment defects following the agreed enhanced inspection protocol had been conducted for all Walmart stores with Tesla solar panels; and (iii) all of the stores had been fully remediated and did not pose a risk of a future fire;
- pay Walmart the Performance Guarantee Payments owed to Walmart under the Agreements since de-energization; and
- fully compensate Walmart for its out-of-pocket damages, including consultant and attorneys' fees, resulting from each of the Beavercreek, Denton, Indio, and Yuba City fires.

116. On July 29, 2019, Tesla responded to Walmart's notice of breach with a series of unsubstantiated allegations. Tesla's response to Walmart's notice of breach is attached as Exhibit 249.

117. Describing the Beavercreek, Denton, Indio, and Yuba City fires as "regrettable," Tesla expressly noted that it was "not disput[ing] that some of the[] issues" identified in Walmart's notice of breach "did exist, to varying degrees, at some Walmart rooftop sites." Tesla also admitted that its site inspections to date "have identified areas for improvement and opportunities for error correction," and it conceded that "more testing can and may be done" to identify the causes of the fires at Walmart stores. Despite Tesla's assertion that it was "willing to satisfy most of the requirements that Walmart has given," Tesla's explanation of how it intended to do so fell far short of curing its breaches. In particular, although Walmart requested that Tesla adopt an enhanced inspection protocol that accounted for the findings of any root cause analysis at the Beavercreek, Denton, Indio, and Yuba City sites, Tesla insisted that its current inspection protocol was adequate—even though it has never provided Walmart with the root cause analyses for the Denton, Indio, and Yuba City sites that must inform development of that protocol. Similarly, in the absence of any formal commitment or concrete steps, Tesla's boilerplate assertions that it intends to improve its operational and maintenance program going forward is unsatisfactory to Walmart, which has heard the same assertions from Tesla many times before but has never seen them successfully implemented.

118. Walmart responded to Tesla's letter on August 9, 2019, correcting its factual inaccuracies and confirming that Tesla had made no meaningful progress (and had evinced no intent) to cure its breaches. Walmart's response is attached as Exhibit 250.

119. Tesla submitted an additional response on August 11, 2019, which still failed to dispute the substance of Walmart's findings with respect to Tesla's negligence. Tesla's August 11, 2019 correspondence is attached as Exhibit 251.

120. Walmart replied on August 14, 2019, correcting some of the remaining inaccuracies in Tesla's understanding of key events. Walmart's August 14, 2019 correspondence is attached as Exhibit 252.

121. The 30-day cure period expired on August 8, 2019. As of that date, Tesla had not made any reasonable steps toward curing its breaches, ensuring that Walmart stores remained safe from fires, assuring Walmart that it could adequately maintain the solar panel systems going forward, or formally adopting an enhanced inspection and maintenance protocol. As a courtesy, Walmart agreed to extend the cure period until the close of business on August 15, 2019, but Tesla still had not taken any reasonable steps toward curing its breaches as of that date.

122. Given Tesla's extensive delays and the egregiousness of its past breaches, Walmart now brings suit for recovery of the damages caused by those breaches and for a declaration of its rights against Tesla.

COUNTS 1–244
AGAINST TESLA
(Breach of Contract)

123. Walmart repeats and realleges the allegations contained in paragraphs 1 through 122 above.

124. Walmart (f/k/a Wal-Mart Stores) and Tesla (f/k/a SolarCity) are parties to each of the Agreements, which are valid and enforceable contracts setting forth the rights and responsibilities of Walmart and Tesla.

125. Walmart has performed all of its obligations under the Agreements.

126. [redacted]

127. Tesla's failure to detect hotspots, correct panel defects, engage in proper installation and maintenance techniques, adopt proper wire management practices, and otherwise abide by safety precautions necessary to prevent fires at and ensure the safety of Walmart stores, among other misconduct, breached the Agreements in numerous ways.

a. Tesla failed to pay the out-of-pocket costs and the consulting fees that are due to Walmart for damage caused by the fires at the Indio, Denton, and Yuba City locations and failed to pay the consulting fees that are due to Walmart for damage caused by the fire at the Beavercreek location. *See* Appendix CC.

b. Tesla failed to abide by Prudent Industry Practices in operating and maintaining the solar panel systems, resulting in preventable fires that occurred at no fewer than seven Walmart locations. *See* Appendix O.

c. Tesla failed to install and maintain the solar panel systems in accordance with standards of due care. *See id.*

d. Tesla failed to ensure that the solar panel systems were capable of operating in accordance with required specifications and the manufacturer's warranties. *See* Appendix J.

e. Tesla failed to maintain the systems in accordance with Prudent Industry Practices, manufacturer requirements, manufacturer warranty guidelines, and applicable laws. *See id.*

f. Tesla failed to perform all maintenance and routine or emergency repairs that were required under the Agreements. *See* Appendix K.

g. Tesla failed to maintain, inspect, service, repair, overhaul, and test the solar panel systems based on maintenance manuals furnished with the systems, mandatory or otherwise required service bulletins issued by or through the manufacturer and/or the manufacturer of any part of the systems, and all applicable directives used by local electric utilities or comparable regulatory agencies. *See id.*

h. Tesla failed to undertake and complete all maintenance procedures required by the Agreements in accordance with the manufacturer's recommended procedures, and by properly trained, licensed, and certified maintenance sources and maintenance personnel, so as to maintain the systems and their components in as good operating condition as when delivered to Walmart, ordinary wear and tear excepted. *See id.*

i. Tesla failed to use and operate the systems in compliance with statutes, laws, ordinances, regulations, standards, directives, certificates, licenses, registration permits, or authorizations issued by a relevant governmental

authority or local electric utility, and in a manner that did not modify or impair any existing warranties on the systems or their parts. *See* Appendix M.

j. Tesla failed to take all necessary and reasonable safety precautions with respect to installation work and system operations to ensure compliance with laws and Prudent Industry Practices pertaining to the health and safety of persons and real and personal property. *See* Appendix N.

k. Tesla failed to notify Walmart of at least one fire within 24 hours of the fire's occurrence, as required by the applicable Agreement. *See* Appendix C.

l. Tesla failed to provide Walmart with the notice required under the Agreements in advance of assigning the Agreements to third parties. *See* Appendix AA.

128. As a direct and proximate result of Tesla's breaches, Walmart has suffered significant damages and other harm, including but not limited to the out-of-pocket damages, consulting and attorneys' fees, and Performance Guarantee Payments that are owed to it, and is therefore entitled to relief.

COUNTS 245–488
AGAINST TESLA
(Declaratory Judgment)

129. Walmart repeats and realleges the allegations contained in paragraphs 1 through 128 above.

130. A bona fide, justiciable controversy exists between the parties as to their respective rights under the Agreements. In particular, there is a bona fide, justiciable, present,

definite, substantial, and sufficiently matured controversy as to whether Tesla has breached its contractual obligations and whether its default creates an imminent risk of damage or injury to any person or property or risks a violation of applicable law, such that Walmart can demand removal of all or a portion of the solar panel systems under § 11.1(c) of the Agreements.

131. This controversy is ripe for judicial determination so that the parties can determine their respective rights under § 11.1(c) of the Agreements.

COUNTS 489–492
AGAINST TESLA
(Negligence)

132. Walmart repeats and realleges the allegations contained in paragraphs 1 through 131 above.

133. Tesla owed Walmart a duty of care as a result of Tesla's provision of professional services to Walmart through the design, construction, installation, testing, maintenance, and operation of solar panel systems at Walmart stores (and, in some cases, as a result of Tesla's status as lessor of the solar panel systems to Walmart). Tesla's safe and satisfactory provision of these services is a matter of significant public interest.

134. Tesla breached its duty of care by failing to design, construct, install, test, maintain, and operate its solar panel systems in a non-negligent manner at the Walmart stores in Beavercreek, Denton, Indio, and Yuba City.

a. With respect to the Beavercreek store, Tesla's negligent installation and maintenance resulted in improper sealing of the inverter housing, which permitted water intrusion into the invertor and likely contributed to the fire's ignition. Tesla's negligent installation and maintenance also

resulted in the use of brass/metal bolts in the inverter fuse box; those bolts melted during the fire, permitting the fire to spread.

b. With respect to the Denton store, Tesla's negligent installation, inspection, and maintenance led to problems with the solar panel system's inverter, again contributing to the fire that occurred on the store's roof.

c. With respect to the Indio store, Tesla personnel were dispatched to the store just hours before the fire occurred but negligently failed to detect and correct any problems with the solar panel system. Tesla's negligent installation, inspection, and maintenance procedures resulted in module hotspots, improper grounding, poor wire management, improper connector torqueing, and erroneous as-built drawings, all of which contributed to the fire's ignition or spreading (and made it more difficult to put out the fire once detected).

d. With respect to the Yuba City store, Tesla's negligent installation, inspection, and maintenance procedures resulted in arcing and damage to wires at the store, creating dangerous conditions that could easily have caused Walmart's entire store to burn to the ground.

135. As a direct and proximate result of Tesla's negligence, Walmart has suffered significant damages and other harm, including but not limited to the out-of-pocket damages and consulting and attorneys' fees that it incurred as a result of the fires at its Denton, Indio, and Yuba City sites, as well as consultants' fees incurred as a result of the Beavercreek fire.

PRAYER FOR RELIEF

WHEREFORE, Walmart respectfully requests that this Court enter a judgment:

A. Declaring that Tesla has breached all of the Agreements;

B. Enjoining Tesla to require it to remove the solar panel systems from all Walmart locations;

C. Awarding Walmart damages in an amount reflecting the outstanding value of out-of-pocket costs and consulting fees in connection with all the fires caused by Tesla's solar panel systems, including the fires at its Beavercreek, Indio, Denton, and Yuba City locations, as well as damages reflecting the value of any contractual payments owed to Walmart under the Agreements;

D. Awarding Walmart such other damages to which it is entitled, in an amount to be determined at trial;

E. Awarding Walmart all costs and disbursements, including reasonable attorneys' fees;

F. Awarding pre-judgment and post-judgment interest to the maximum extent provided by law; and

G. Granting such other and further relief as the Court may deem just and proper.

Dated: New York, New York
August 20, 2019

Respectfully submitted,

DAVIS POLK & WARDWELL LLP

By: */s/ James P. Rouhandeh*
James P. Rouhandeh

James P. Rouhandeh
Paul S. Mishkin
450 Lexington Avenue
New York, New York 10017
(212) 450-4000
rouhandeh@davispolk.com
paul.mishkin@davispolk.com

Attorneys for Plaintiff

RELEVANT CONTRACT PROVISIONS[1]

APPENDIX A: [redacted]

	Exhibit No.	[redacted]
1	1–162 231–244	[redacted]
2	163–230	[redacted]

[1] Unless otherwise noted, the contract provisions listed in these appendices are excerpted from the Solar Power & Services Agreements ("SPSAs"), Solar Power Lease & License Agreements ("SPLLAs"), and Solar Power & Energy Storage Services Agreements ("SPESSAs") between Walmart Inc. (f/k/a Wal-Mart Stores Inc.) and Tesla Energy Operations, Inc. (f/k/a SolarCity Corporation), which are referred to as the "Agreements" in the Complaint and are attached as **Exhibits 1–242**. For each Walmart site at which Tesla installed solar panels, the parties entered into: (i) a core agreement (either an SPSA, SPLLA, or SPESSA) and (ii) a varying number of supplemental agreements and amendments, not all of which are referenced in these appendices. Where an agreement other than the core agreement is referenced, the title of that agreement is denoted in the caption at the top of the appendix. The text of the relevant contract provisions is copied verbatim in these appendices, including any typographical or grammatical errors (without the use of "[sic]").

APPENDIX B:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–159 210–242 244	[redacted]
4	142–150 160–162	[redacted]

APPENDIX B (continued):

[redacted]

	Exhibit No.	[redacted]
5	163–209	[redacted]

APPENDIX C:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–159 163–242 244	[redacted]

APPENDIX C (continued):

[redacted]

	Exhibit No.	[redacted]
4	142–150 160–162	[redacted]

APPENDIX D:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]

APPENDIX D (continued):

[redacted]

	Exhibit No.	[redacted]
3	56–109	[redacted]
4	110–141 151–159 210–230 244	[redacted]
5	142–144	[redacted]
6	145	[redacted]

APPENDIX D (continued):

[redacted]

	Exhibit No.	[redacted]
7	146–150 160–162	[redacted]
8	163–209 231–242	[redacted]

APPENDIX E:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–159 210–242 244	[redacted]
4	142–145	[redacted]
5	146–150 160–162	[redacted]
6	163–209	[redacted]

APPENDIX F:

[redacted]

	Exhibit No.	[redacted]
1	56–109	[redacted]
2	110–139 151–158 210–230 244	[redacted]
3	140–141	[redacted]
4	159	[redacted]
5	163–209	[redacted]
6	231–242	[redacted]
7	1–55 142–150 160–162 243	No Applicable Provision.

APPENDIX G:

[redacted]

	Exhibit No.	[redacted]
1	56–109	[redacted]
2	110–141 244	[redacted]
3	151–158 210–221 231–242	[redacted]

APPENDIX G (continued):

[redacted]

	Exhibit No.	[redacted]
4	159	[redacted]
5	163–209	[redacted]
6	222–230	[redacted]

APPENDIX G (continued):

[redacted]

	Exhibit No.	[redacted]
7	1–55 142–150 160–162 243	No Applicable Provision. [redacted]

APPENDIX H:

[redacted]

	Exhibit No.	Text of Agreement
1	1A–10A 243A	[redacted]
2	11A–25A 28A 31A 36A	[redacted]

APPENDIX H (continued):

[redacted]

	Exhibit No.	Text of Agreement
3	26A–27A 29A–30A 32A–35A	[redacted]
4	142A–145A	[redacted]

APPENDIX H (continued):

[redacted]

	Exhibit No.	Text of Agreement
5	146A–148A	[redacted]
6	149A–150A	[redacted]

APPENDIX H (continued):

[redacted]

	Exhibit No.	Text of Agreement
7	160A–162A	[redacted]
8	37–141 151–159 163–242 244	Not Applicable. [redacted]

APPENDIX I:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–159 163–221 231–242 244	[redacted]
4	142–145	[redacted]

APPENDIX I (continued):

[redacted]

	Exhibit No.	[redacted]
5	146–150 160–162	[redacted]
6	222–230	[redacted]

APPENDIX J:

[redacted]

	Exhibit No.	[redacted]
1	1–36 142–145 243	[redacted]
2	37–55	[redacted]
3	56–109	[redacted]
4	110–141 151–159 210–230 244	[redacted]

APPENDIX J (continued):

[redacted]

	Exhibit No.	[redacted]
5	146–150 160–162	[redacted]
6	163–209	[redacted]
7	231–242	[redacted]

APPENDIX K:

[redacted]

	Exhibit No.	[redacted]
1	1–36 142–145 243	[redacted]
2	37–109	[redacted]

APPENDIX K (continued):

[redacted]

	Exhibit No.	[redacted]
3	110–141 151–158 160–162 244	[redacted]
4	146–150	[redacted]

APPENDIX K (continued):

[redacted]

	Exhibit No.	[redacted]
5	159 163–230	[redacted]
6	231–242	[redacted]

APPENDIX L:

[redacted]

	Exhibit No.	[redacted]
1	1–36 146–150 243	[redacted]
2	37–145 151–162 210–242 244	[redacted]
3	163–209	[redacted]

APPENDIX M:

[redacted]

	Exhibit No.	[redacted]
1	1–36 142–150 154–158 160–162 243	[redacted]
2	37–141 151–153 159 163–230 244	[redacted]
3	231–242	[redacted]

APPENDIX N:

[redacted]

	Exhibit No.	[redacted]
1	1–36 142–145 243	[redacted]
2	37–141 151–159 163–242 244	[redacted]
3	146–150	[redacted]
4	160–162	[redacted]

APPENDIX O:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–242 244	[redacted]
4	142–150	[redacted]

APPENDIX P:

[redacted]

	Exhibit No.	[redacted]
1	1A–25A 28A 31A 36A 243A	[redacted]
2	1A–25A 28A 31A 36A	[redacted]
3	1A–25A 28A 31A 36A	[redacted]
4	1A–25A 28A 31A 36A	[redacted]
5	26A–27A 29A–30A 32A–35A 37–242 244	No applicable provisions.

APPENDIX Q:

[redacted]

	Exhibit No.	[redacted]
1	1A–25A 28A 31A 36A 243A	[redacted]
2	26–27 29–30 32–35 37–242 244	No applicable provisions.

APPENDIX R:

[redacted]

	Exhibit No.	[redacted]
1	1–10 243	[redacted]
2	11–36	[redacted]
3	37–109	[redacted]

APPENDIX R (continued):

[redacted]

	Exhibit No.	[redacted]
4	110–141 151–159 204–242 244	[redacted]
5	142–150 160–162	[redacted]
6	163–203	[redacted]

APPENDIX S:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–109 110–141 151–159 210–242 244	[redacted]
4	142–150 160–162	[redacted]

APPENDIX S (continued):

[redacted]

	Exhibit No.	[redacted]
5	163–209	[redacted]

APPENDIX T:

[redacted]

	Exhibit No.	[redacted]
1	1–55 142–150 160–162 243	[redacted]
2	56–141 151–159 163–242 244	[redacted]

APPENDIX U:

[redacted]

	Exhibit No.	[redacted]
1	1–55 142–150 160–162 243	[redacted]
2	56–141 151–159 163–221 231–242 244	[redacted]
3	222–230	[redacted]

APPENDIX V:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–159 163–242 244	[redacted]
4	142–150 160–162	[redacted]

APPENDIX W:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–141 151–159 163–242 244	[redacted]
4	142–150 160–162	[redacted]

APPENDIX X:

[redacted]

	Exhibit No.	[redacted]
1	1–244	[redacted]

APPENDIX Y:
[redacted]

	Exhibit No.	[redacted]
1	1–230 243–244	[redacted]
2	231–242	[redacted]

APPENDIX Z:

[redacted]

	Exhibit No.	[redacted]
1	1–55 243	[redacted]
2	56–242 244	[redacted]

APPENDIX AA:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]

APPENDIX AA (continued):

[redacted]

	Exhibit No.	[redacted]
3	56–109	[redacted]
4	110–141 244	[redacted]

APPENDIX AA (continued):

[redacted]

	Exhibit No.	[redacted]
5	142–145	[redacted]
6	146–150 160–162	[redacted]

APPENDIX AA (continued):

[redacted]

	Exhibit No.	[redacted]
7	151–159 210–230	[redacted]

APPENDIX AA (continued):

[redacted]

	Exhibit No.	[redacted]
8	163–209	[redacted]

APPENDIX AA (continued):

[redacted]

	Exhibit No.	[redacted]
9	231–242	[redacted]

APPENDIX BB:

[redacted]

	Exhibit No.	[redacted]
1	1–36 142–145 243	[redacted]
2	37–109	[redacted]
3	110–141 151–159 163–242 244	[redacted]
4	146–150 160–162	[redacted]

APPENDIX CC:

[redacted]

	Exhibit No.	[redacted]
1	1–36 243	[redacted]
2	37–55	[redacted]
3	56–109	[redacted]
4	110–141 151–159 210–242 244	[redacted]

APPENDIX CC (continued):
[redacted]

	Exhibit No.	[redacted]
5	163–209	[redacted]
6	142–145	[redacted]
7	146–150 160–162	[redacted]

APPENDIX DD:

[redacted]

	Exhibit No.	[redacted]
1	1–244	[redacted]

From: Irlesis Rodriguez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:36:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Irlesis Rodriguez
[redacted]

From: Israel Andrade
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:06:31 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Israel Andrade
[redacted]

From: Israel Mosqueda
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 10:14:23 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Israel Mosqueda
[redacted]

From: Issac Azua
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:47:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Issac Azua
[redacted]

From: Ivan Aguilar
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 11:01:06 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ivan Aguilar
[redacted]

From: idavis916@yahoo.com
To: Godines, Diana@CSLB
Subject: California Code Regulations
Date: Friday, July 28, 2023 7:35:57 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

Diana Godines,

Good evening, I'm writing this email with my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46. Please pass my attached letter along to all Board Members.

Sincerely,
Iyasha Davis

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Iyasha Davis

From: Jack Johnson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:51:43 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jack Johnson
[redacted]

From: Jackie Waltman
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 11:17:10 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jackie Waltman
[redacted]

From: Jacob Anderson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 5:45:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jacob Anderson
[redacted]

From: Jacob Peery
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 5:31:49 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jacob Peery
[redacted]

From: Jacob Ray
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 1:55:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jacob Ray
[redacted]

From: Jacob Theologidy
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:49:08 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jacob Theologidy
[redacted]

From: Jacob Troncoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:55:57 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jacob Troncoza
[redacted]

From: Jaime Quintana
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:07:21 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jaime Quintana
[redacted]

From: Jake Piland
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 5:28:48 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jake Piland
[redacted]

From: James Boothe
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 1:59:58 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James Boothe
[redacted]

From: James Brown
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:50:21 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James Brown
[redacted]

From: James Grant
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 2:57:22 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James Grant
[redacted]

From: Jim Willson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 3:39:40 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

On behalf of the Los Angeles County Chapter which represents over 400 licensed electrical contractors throughout Los Angeles and Ventura Counties who perform electrical, solar and battery energy storage work in our area; and employ over 6,000 state licensed electricians and electrical apprentices, I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those

installations, but also maintains the integrity of the C-10 license.

While I'd like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

James M. Willson
Executive Director
LA/NECA

Regards,
Jim Willson
[redacted]

From: James nichols
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:50:31 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James nichols
[redacted]

From: James o"Brien
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 11:39:21 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James o'Brien
[redacted]

From: James Rowe
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Sunday, July 23, 2023 5:33:25 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James Rowe
[redacted]

From: James Stanchfield
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:55:28 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James Stanchfield
[redacted]

From: James Stanchfield
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:46:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
James Stanchfield
[redacted]

From: Janet Meyers
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 6:28:39 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Janet Meyers
[redacted]

From: Jared Lintner
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:12:02 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jared Lintner
[redacted]

From: Jared Mumm
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:34:42 AM

Dear Ms. Diana Godines,

To the Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jared Mumm
[redacted]

From: Jasen Smith
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:12:10 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jasen Smith
[redacted]

From: Jason Destito
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:53:55 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason Destito
[redacted]

From: Jason Gumataotao
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 1:02:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason Gumataotao
[redacted]

From: Jason Johnson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:15:25 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason Johnson
[redacted]

From: Jason Leyden
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:00:53 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason Leyden
[redacted]

From: Jason McCord
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 5:11:55 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason McCord
[redacted]

From: Jason Menes
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 5:04:50 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason Menes
[redacted]

From: Jason Peterson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 4:48:21 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jason Peterson
[redacted]

From: Javier Casillas
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 4:08:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Javier Casillas
[redacted]

From: Jay seager
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 1:31:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jay seager
[redacted]

From: Jeff Barry
To: Godines, Diana@CSLB
Subject: BESS System
Date: Friday, July 28, 2023 11:08:55 AM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.pdf

---

Sent from Yahoo Mail for iPhone

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Jeffrey Barry

From: Jeff Neubauer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:29:00 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeff Neubauer
[redacted]

From: Jeff Wastell
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:17:54 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeff Wastell
[redacted]

From: Jeffrey Bode
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:46:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeffrey Bode
[redacted]

From: Jeffrey Breazile
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:32:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeffrey Breazile
[redacted]

From: Jeffrey Zavadil
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 6:18:23 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeffrey Zavadil
[redacted]

From: Jeremy Abrams
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:44:17 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeremy Abrams
[redacted]

From: Jeremy Bigman
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:22:24 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jeremy Bigman
[redacted]

From: Jerri Champlin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:16:23 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jerri Champlin
[redacted]

From: JERRY MARTIN
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 12:38:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
JERRY MARTIN
[redacted]

From: Jesse Crisp
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:34:46 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jesse Crisp
[redacted]

From: Jesse Isaacson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:16:19 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jesse Isaacson
[redacted]

From: Jesse Villaescusa
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:44:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jesse Villaescusa
[redacted]

From: Jesus Renteria
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:05:01 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jesus Renteria
[redacted]

From: Jim Bridgmon
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:06:25 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jim Bridgmon
[redacted]

From: Joaquin Argueta
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:07:33 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joaquin Argueta
[redacted]

From:	Jody Cather
To:	Godines, Diana@CSLB
Subject:	Title 16, Sections 810, 832.10, and 832.46
Date:	Thursday, July 27, 2023 4:52:42 PM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS

installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Jody Cather

From: Joe Fitzgerald
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 8:21:34 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joe Fitzgerald
[redacted]

From: Joel Newcomb
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:37:59 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joel Newcomb
[redacted]

From: Joel Pickett
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 10:31:19 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joel Pickett
[redacted]

From: John Bartz
To: Godines, Diana@CSLB
Subject: CSLB Letter Campaign
Date: Wednesday, July 26, 2023 5:04:52 PM
Attachments: CSLB Letter Campaign .pdf

Thank you,

John Bartz

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board's interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

JOHN BARTZ

From: John Boryszewski
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:52:08 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Boryszewski
[redacted]

From: John DeCleene
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 9:35:51 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John DeCleene
[redacted]

From: John Doherty
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:04:18 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Doherty
[redacted]

From: John Draper
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 1:39:04 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Draper
[redacted]

From: John fedora
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:40:56 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John fedora
[redacted]

From: John Gannon
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:41:02 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Gannon
[redacted]

From: John Gregorich
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:35:07 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Gregorich
[redacted]

From: John Harriel
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:00:29 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Harriel
[redacted]

From: John Holloway
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:11:57 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Holloway
[redacted]

From: John Hughes
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:41:46 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Hughes
[redacted]

From: John McEntagart
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:02:00 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John McEntagart
[redacted]

From: John Menicucci
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 9:25:22 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Menicucci
[redacted]

From: John Strohecker
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:57:07 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Strohecker
[redacted]

From: John Tinsley
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:52:31 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Tinsley
[redacted]

From: John Usilton
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:08:57 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Usilton
[redacted]

From: John Young
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 12:11:24 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
John Young
[redacted]

From: Johnathon Martin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:05:44 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Johnathon Martin
[redacted]

From: Jojo Ortiz
To: Godines, Diana@CSLB
Subject: 1245
Date: Tuesday, August 1, 2023 5:17:45 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Sent from my iPhone

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Neil Norris

From: Jon Dotson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:24:53 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jon Dotson
[redacted]

From: Jonathan Almaraz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 1:46:47 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jonathan Almaraz
[redacted]

From: Jorge Suarez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 10:15:59 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jorge Suarez
[redacted]

From: Jose Almanza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:54:40 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jose Almanza
[redacted]

From: Jose Diaz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:34:04 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Jose Diaz
[redacted]

From: Joseph Fitzer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:09:07 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joseph Fitzer
[redacted]

From: Joseph Page
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 9:43:12 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joseph Page
[redacted]

From: Joseph Rausch
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:47:56 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joseph Rausch
[redacted]

From: Joseph Tremaine
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 25, 2023 2:27:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joseph Tremaine
[redacted]

From: Joseph Wollin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 3:08:32 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joseph Wollin
[redacted]

From: Josh Doheny
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 5:19:09 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Josh Doheny
[redacted]

From:	Josh Halliburton
To:	Godines, Diana@CSLB
Subject:	Support for CSLB regulations
Date:	Tuesday, August 1, 2023 6:59:11 AM
Attachments:	Letter.pdf

Thank you, Josh Halliburton

Sent from my iPhone

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board's interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

From: Josh Stitzer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:00:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Josh Stitzer
[redacted]

From: Joshua Bedell
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 10:01:07 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Joshua Bedell
[redacted]

From: Juan Guzman-Garcia
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:23:41 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Juan Guzman-Garcia
[redacted]

From: Juan Madrigal
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:39:41 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Juan Madrigal
[redacted]

From:	Juan Montoya
To:	Godines, Diana@CSLB
Subject:	Support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.
Date:	Friday, July 28, 2023 7:41:48 PM
Attachments:	Support for CSLB Regulations for BESS C-46 Contractors 3docx.pdf

Sent from my iPhone

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board's interest in selecting a threshold that would eliminate

disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Juan Montoya

From: Juan palacios
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 6:59:47 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Juan palacios
[redacted]

From: Juan Perez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 11:29:26 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Juan Perez
[redacted]

From: Judyth Hermosillo
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:23:36 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Judyth Hermosillo
[redacted]

From: Julia Hild
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 10:44:42 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Julia Hild
[redacted]

From: Julian Vinatieri
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 8:24:05 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Julian Vinatieri
[redacted]

From: Justin Kosinski
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 2:36:29 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Justin Kosinski
[redacted]

From: karen prescott
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:17:32 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
karen prescott
[redacted]

From: Kasitalea Talakai
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 4:50:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kasitalea Talakai
[redacted]

From: Katherine Flores
To: Godines, Diana@CSLB
Subject: Support of bill
Date: Thursday, July 27, 2023 10:22:33 AM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS

installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Katherine Flores

From: Kathy Laren
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 1:41:12 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kathy Laren
[redacted]

From: Katie Altamirano
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 14, 2023 8:34:13 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Katie Altamirano
[redacted]

From: kayela jones
To: Godines, Diana@CSLB
Subject: Hello
Date: Friday, July 28, 2023 7:21:53 PM
Attachments: 589C909E-CD70-4430-AC7E-A1F79778B84D.png
6492F389-74F8-4E05-9788-905752E3FD09.png

Please see attached thank you for your time

proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

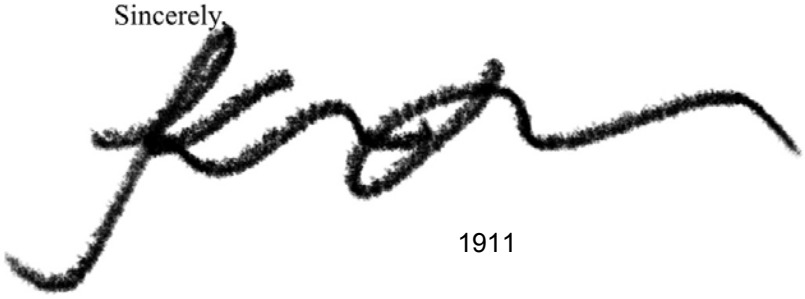
The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board's interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,



proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board's interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

From: Kebra Stewart
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 5:01:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kebra Stewart
[redacted]

From: Kellie Perfetto
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 12:43:19 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kellie Perfetto
[redacted]

From: Kevin Bridegam
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:53:24 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Bridegam
[redacted]

From: Kevin Carsey
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 2:45:44 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Carsey
[redacted]

From: Kevin Churchill
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:55:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Churchill
[redacted]

From: Kevin Cunningham
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 24, 2023 9:16:47 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Cunningham
[redacted]

From: Kevin Huang
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:35:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Huang
[redacted]

From: Kevin Keane
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Saturday, July 29, 2023 11:04:54 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Keane
[redacted]

From: Kevin Krummes
To: Godines, Diana@CSLB
Subject: Support for CSLB Regs
Date: Friday, July 28, 2023 1:00:42 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

From: Kevin McSherry
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:27:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin McSherry
[redacted]

From: Kevin Portch
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:17:47 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Portch
[redacted]

From: Kevin Via
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:05:06 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kevin Via
[redacted]

From: Kirt Hackett
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:34:09 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kirt Hackett
[redacted]

From: Kody Steil
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:03:23 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kody Steil
[redacted]

From: Kyle Hirayama
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:13:14 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Kyle Hirayama
[redacted]

From: Larry Strohm
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:45:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Larry Strohm
[redacted]

From: lloyd davis
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 8:08:19 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
lloyd davis
[redacted]

From: LLOYD EADS
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:06:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
LLOYD EADS
[redacted]

From: Lonny Glennan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:20:37 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Lonny Glennan
[redacted]

From: Loretta Salinas
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:59:46 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Loretta Salinas
[redacted]

From: Luis Arida
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:34:36 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Luis Arida
[redacted]

From: Lynn Halliburton
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 2:33:24 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Lynn Halliburton
[redacted]

From: Manuel Garcia
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:40:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Manuel Garcia
[redacted]

From: Manuel Madrigal
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:19:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Manuel Madrigal
[redacted]

From: Manuel Ramos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:46:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Manuel Ramos
[redacted]

From: Marc Greenfield
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:22:41 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Marc Greenfield
[redacted]

From: Marc Ruhmann
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:59:15 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Marc Ruhmann
[redacted]

From: Marco arredondo
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:33:09 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Marco arredondo
[redacted]

From: Marcos Ramos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:21:53 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Marcos Ramos
[redacted]

From: Marina Fitzgerald
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 6:36:01 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Marina Fitzgerald
[redacted]

From: Mario Barragan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 10:34:33 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mario Barragan
[redacted]

From: Mark Battistoni
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:30:26 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Battistoni
[redacted]

From: Mark Bellinger
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:55:00 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Bellinger
[redacted]

From: Mark Buck
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 12:52:11 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Buck
[redacted]

From: Mark Dewey
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 5:57:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Dewey
[redacted]

From: Mark Dilley
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 12:15:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Dilley
[redacted]

From: Mark Rojas
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:54:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Rojas
[redacted]

From: Mark Simonin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 7:51:56 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Simonin
[redacted]

From: Mark Van Aken
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:07:01 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mark Van Aken
[redacted]

From: Matthew Cooper
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 10:26:25 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Matthew Cooper
[redacted]

From: Matthew Englert
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 7:30:28 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Matthew Englert
[redacted]

From: Matthew Martinez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 8:18:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Matthew Martinez
[redacted]

From: Matthew Odyssey
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 8:27:33 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Matthew Odyssey
[redacted]

From: Matthew Rogador
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 2:34:59 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Matthew Rogador
[redacted]

From: Max Doss
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 2:28:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Max Doss
[redacted]

From: Max Seagal
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:07:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Max Seagal
[redacted]

From: MEGAN
To: Godines, Diana@CSLB
Date: Friday, July 28, 2023 7:58:03 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
MEGAN HARROLD

From: Melissa Echeverria
To: Godines, Diana@CSLB
Subject: PROTECT ELECTRICAL CONTRACTOR JURISDICTION IN CALIFORNIA!
Date: Friday, July 28, 2023 8:54:24 AM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Melissa Echeverriadiana.godines@cslb.ca.gov

From: Michael Aldridge
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:05:17 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Aldridge
[redacted]

From: Michael Brown
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:47:29 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Brown
[redacted]

From: Michael Carroll
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 2:53:50 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Carroll
[redacted]

From: Michael Costigan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:51:45 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Costigan
[redacted]

From: Michael Donlon
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:58:19 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Donlon
[redacted]

From: Michael Gruber
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:18:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Gruber
[redacted]

From: Michael Johnson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 6:35:49 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Johnson
[redacted]

From: Michael Keane
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:17:13 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Keane
[redacted]

From: Michael Kopp
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:59:55 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Kopp
[redacted]

From: Michael Kufchak
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 8:22:33 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Kufchak
[redacted]

From: Michael Marcelino
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:04:46 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Marcelino
[redacted]

From: Michael Olmos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:11:16 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Olmos
[redacted]

From: Michael Omahoney
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:07:08 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Omahoney
[redacted]

From: Michael Smith
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 2:13:37 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Smith
[redacted]

From: Michael steel
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 10:32:51 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael steel
[redacted]

From: Michael Stein
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:59:26 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Stein
[redacted]

From: Michael Wolfe
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 7:00:43 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Michael Wolfe
[redacted]

From: Miguel Mexicano
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:59:00 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Miguel Mexicano
[redacted]

From: [redacted]
To: Godines, Diana@CSLB
Subject: Battery Proposal
Date: Monday, July 31, 2023 4:48:12 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.pdf

---

Sent from my T-Mobile 5G Device

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Miguel Ortiz

From: Mike Crome
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:56:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mike Crome
[redacted]

From: Mike Julian
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:04:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mike Julian
[redacted]

From: Michael Tilden
To: Godines, Diana@CSLB
Subject: To Whom it May Concern
Date: Wednesday, July 26, 2023 5:24:07 PM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16,
Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage
industry in California. They provide clear guidelines needed to ensure the safe and proper installation of
battery energy storage systems (BESS). These amendments will provide a long-needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current
confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard
to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and
ensure that these critical systems are handled only by qualified individuals who have the appropriate
training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage
systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation,
which creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification

of the appropriately qualified
electrical contractors who are required by law to use state certified general electricians. This not only
ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.
While I would like to see greater safety protections for the smaller systems as well, this decision has been
pending for many years. For the safety of all Californians, we need to put this issue to rest.

Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Mike Tilden
IBEW Local 1245

Sent from Yahoo Mail on Android

From: Mitchell Klein
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:52:04 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Mitchell Klein
[redacted]

From: Murray Temple
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 10:52:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Murray Temple
[redacted]

From: Nathan Bywater
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:05:54 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Nathan Bywater
[redacted]

From: Neal Lauzon
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 9:31:59 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Neal Lauzon
[redacted]

NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION

Contra Costa Chapter · 1024 Court Street · Martinez, California 94553-1733
TEL: (925) 372-3222

July 20, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: **Proposed Regulatory Amendments to CCR, tit. 16, § 810, 832.10, and 832.46 - Support**

Dear Members of the Contractors State License Board,

On behalf of Contra Costa Chapter, NECA, which represents over more than thirty California licensed contractors who perform electrical, solar and battery energy storage work in our area; and employ over 300 state licensed electricians and electrical apprentices, I am writing to express our support, for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. We strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810 establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, we agree that there needs to be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but we appreciate the Board's interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 electrical license.

While we would like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, we urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

CONTRA COSTA CHAPTER, NECA

Michael Geller
Manager

MG/ss

cc: E. Bernacchi

East Central California Chapter NECA

Address: 1420 Shaw Ave, Suite 102/506 Clovis, CA 93611
Contact: (559)579-2805

7/24/2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Sent Via Email: Diana.godines@cslb.ca.gov

RE: **Proposed Regulatory Amendments to CCR, tit. 16, § 810, 832.10, and 832.46 - Support**

Dear Members of the Contractors State License Board,

On behalf of East Central California Chapter, NECA which represents over 25 California licensed contractors who perform electrical, solar and battery energy storage work in our area; and employ over 900 state licensed electricians and electrical apprentices, I am writing to express our support, for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. We strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, we agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but we appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 electrical license.

While we would like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, we urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Sarah Orgill
Chapter Executive
East Central California, NECA

National Electrical Contractors Association
POWERFUL TRADITION. ELECTRIFYING FUTURE.

Redwood Empire Chapter
7 Fourth Street, Suite 37
Petaluma, CA 94952
707-765-1050
Fax 707-347-4333

July 24, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Sent Via Email: Diana.godines@cslb.ca.gov

RE: Proposed Regulatory Amendments to CCR, tit. 16, § 810, 832.10, and 832.46 - Support

Dear Members of the Contractors State License Board,

On behalf of the Redwood Empire Chapter, National Electrical Contractors' Association, which represents 32 California licensed contractors who perform electrical, solar and battery energy storage work in our area; and employ over 375 state licensed electricians and electrical apprentices, I am writing to express our support, for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. We strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

Considering the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, we agree that there needs to be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the

greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but we appreciate the Board's interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 electrical license.

While we would like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, we urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

A. M. Thomsen

Executive Director

NECA
NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
SAN DIEGO CHAPTER

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827

RE: **Proposed Regulatory Amendments to CCR, tit. 16, § 810, 832.10, and 832.46 - Support**

Dear Members of the Contractors State License Board,

On behalf of NECA San Diego Chapter which represents over 100 California licensed contractors who perform electrical, solar and battery energy storage work in our area; and employ over 3,300 state licensed electricians and electrical apprentices, I am writing to express our support, for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46.

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, we agree that there needs to be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but we appreciate the Board's interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 electrical license.

While we would like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, we urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Sincerely,

Andrew Berg
Executive Director

National Electrical Contractors Association
San Mateo Chapter

July 20, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Sent Via Email: Diana.godines@cslb.ca.gov

RE: **Proposed Regulatory Amendments to CCR, tit. 16, § 810, 832.10, and 832.46 - Support**

Dear Members of the Contractors State License Board,

On behalf of The San Mateo Chapter, National Electrical Contractors Association which represents over 100 California licensed contractors who perform electrical, solar and battery energy storage work in our area; and employ over 1,000 state licensed electricians and electrical apprentices, I am writing to express our support, for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. We strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, we agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but we appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 electrical license.

While we would like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, we urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

William F. Kuhr
Executive Director

950 John Daly Blvd., Ste. 280 • Daly City, CA 94015
Phone: 650.755.5104
Email: wfk@smneca.org

July 20, 2023

Diana Godines
Contractors State License Board
9821 Business Park Drive
Sacramento, CA 95827
Sent Via Email: Diana.godines@cslb.ca.gov

RE: Proposed Regulatory Amendments to CCR, tit. 16, § 810, 832.10, and 832.46 - Support

Dear Members of the Contractors State License Board,

On behalf of Southern Sierras Chapter, NECA, which represents over one hundred and forty (140) California licensed contractors who perform electrical, solar and battery energy storage work in our area; and employ over 1,300 state licensed electricians and electrical apprentices, I am writing to express our support, for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. We strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders. The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, we agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but we appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 electrical license.

While we would like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, we urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time. Thank you for your time and attention.

Kindest regards,

Tavia Brunner, Executive Vice President
Southern Sierras Chapter, NECA

Southern Sierras Chapter
P. O. Box 12149 • San Bernardino, CA 92423
Tele: (909) 792-0387 Cell: (909) 735-1805 e-mail: Tavia@ssneca.org

From: Neil Norris
To: Godines, Diana@CSLB
Subject: Support for CSLB Regulations for BESS C-46 Contractors
Date: Tuesday, August 1, 2023 9:38:13 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.pdf

---

Sent from my iPhone

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Neil Norris

From: Nichele Bryant
To: Godines, Diana@CSLB
Subject: Strong Support
Date: Wednesday, July 26, 2023 3:59:22 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors copy.docx

---

Sent from my iPhone

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Nichele Bissett

From: Nicholas Beck
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:06:19 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Nicholas Beck
[redacted]

From: Nicholas Jackson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:46:01 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Nicholas Jackson
[redacted]

From: Nicholas Prelgovisk
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Saturday, July 22, 2023 6:50:49 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Nicholas Prelgovisk
[redacted]

From: Nick Luczak
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:07:33 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Nick Luczak
[redacted]

From: Nick Beck
To: Godines, Diana@CSLB
Date: Friday, July 28, 2023 7:46:36 PM
Attachments: Members of the California Contractors License Board.docx

---

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation,

creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also

maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Nicolas Beck

From: Noe Arana
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:41:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Noe Arana
[redacted]

From: Omar Padilla
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:25:01 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Omar Padilla
[redacted]

From: Oscar Rivero
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 11:24:42 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Oscar Rivero
[redacted]

From: Oscar velazquez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:35:19 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Oscar velazquez
[redacted]

From: OSHA ASHWORTH
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:09:25 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
OSHA ASHWORTH
[redacted]

From: PAMELA THURBER
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 2:09:52 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
PAMELA THURBER
[redacted]

From: Patricio Ortiz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:33:38 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Patricio Ortiz
[redacted]

From: Patrick Holloway
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:04:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Patrick Holloway
[redacted]

From: Paul Gutierrez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 25, 2023 7:17:45 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Gutierrez
[redacted]

From: Paul Hilgendorf
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 4:11:42 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Hilgendorf
[redacted]

From: Paul Laoretti
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:07:22 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Laoretti
[redacted]

From: Paul Larmour
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 4:33:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Larmour
[redacted]

From: Paul Martin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 5:38:09 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Martin
[redacted]

From: Paul Nickolan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:55:49 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Nickolan
[redacted]

From: Paul Russell
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:30:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Paul Russell
[redacted]

From: Perla Marquez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:51:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Perla Marquez
[redacted]

From: Philip Ferrone
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 4:16:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Philip Ferrone
[redacted]

From: PHILLIP MARTIN
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 5:23:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
PHILLIP MARTIN
[redacted]

From: Preston Haerr
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 7:07:43 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Preston Haerr
[redacted]

From: Priscila Ruvalcaba
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 2:05:13 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Priscila Ruvalcaba
[redacted]

From: Rachel Hoobing
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 24, 2023 2:33:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rachel Hoobing
[redacted]

From: Rachel Shoemake
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 7:08:03 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rachel Shoemake
[redacted]

From: Ralph Woods
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 4:37:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ralph Woods
[redacted]

From: Ramon Martinez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 9:09:09 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ramon Martinez
[redacted]

From: Mona Gmail
To: Godines, Diana@CSLB
Date: Wednesday, July 26, 2023 4:02:23 PM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS

installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Ramona Garcia

From: Randal Olmos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 3:54:45 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Randal Olmos
[redacted]

From: Raul Espinoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 10:23:51 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Raul Espinoza
[redacted]

From: Raul Marin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 8:05:36 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Raul Marin
[redacted]

From: Raymond Schmidt
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:11:21 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Raymond Schmidt
[redacted]

From: Raymond Winstead
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:27:32 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Raymond Winstead
[redacted]

From: Reginaldo ramirez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 11:59:13 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Reginaldo ramirez
[redacted]

From: Regis Lehrman
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 5:53:57 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Regis Lehrman
[redacted]

From: Reinhold Nestved
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:56:12 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Reinhold Nestved
[redacted]

From:	Rene
To:	Godines, Diana@CSLB
Subject:	Support for Regulation on installation of Battery Energy Storage System
Date:	Friday, July 28, 2023 9:19:34 AM
Attachments:	Support for CSLB Regulations for BESS C-46 Contractors 07.28.23.docx

Diana Godines,

Regulations and Legislation Specialist
Contractors State License Board
9821 Business Park Drive, Sacramento, CA 95827

Ms. Godines,

Please accept the attached letter in support of the CSLB proposed regulations on installation of Battery Energy Storage systems by licensed contractors.

Respectfully,

Rene Cruz Martinez

Sacramento

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential means to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion on components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

Frankly, I would like to see greater safety protections for the smaller systems as well. But this action has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed BESS create hazards for the property owners that buy them, and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments. Respectfully

Rene Cruz Martinez
[redacted]

From: Rene Ortega
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 7:23:40 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rene Ortega
[redacted]

From: RICARDO MARTINEZ
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 10:06:39 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
RICARDO MARTINEZ
[redacted]

From: Ricardo Morales
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 7:02:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ricardo Morales
[redacted]

From: Richard Healy
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:28:48 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Richard Healy
[redacted]

From: Richard Solak
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 5:06:29 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Richard Solak
[redacted]

From: Richard Welter
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 6:49:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Richard Welter
[redacted]

From: Rick Cruzen
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 9:36:28 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rick Cruzen
[redacted]

From: Rick Jarvis
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 12:02:25 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rick Jarvis
[redacted]

From: Rick Thompson
To: Godines, Diana@CSLB
Subject: CSLB Regulations
Date: Friday, July 28, 2023 10:51:44 AM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.pdf

---

Ms. Godines,

Please accept the attached letter in support of the CSLB proposed regulations on installation of Battery Energy Storage systems by licensed contractors.

Kind regards,
Rick Thompson
Sacramento Resident

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46. I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Rick Thompson
Sacramento Resident

From: Rigoberto Garcia
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 5:32:58 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rigoberto Garcia
[redacted]

From: Rob Barsi
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 24, 2023 10:37:22 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rob Barsi
[redacted]

From: Robert Campos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 1:19:36 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Campos
[redacted]

From: Robert Corona
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 6:15:41 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Corona
[redacted]

From: Robert Davenport
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 3:22:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Davenport
[redacted]

From: Robert Hayes
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:12:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Hayes
[redacted]

From: Robert Henson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:04:13 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Henson
[redacted]

From: Robert Kirby
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 8:11:58 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Kirby
[redacted]

From: Robert Meadows
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:16:51 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Meadows
[redacted]

From: Robert Meszaros
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:45:55 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Meszaros
[redacted]

From: Robert Sanchez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 5:23:34 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Robert Sanchez
[redacted]

From: Roberto Torrez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 2:43:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Roberto Torrez
[redacted]

From: Rocio Gianelli
To: Godines, Diana@CSLB
Subject: Support for regulation on installation of battery energy storage system
Date: Friday, July 28, 2023 7:28:50 PM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS

installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Rocio Gianelli
[redacted]

From: Rocky Baldonado
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 12:16:47 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rocky Baldonado
[redacted]

From: Rod Hammer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 7:35:30 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rod Hammer
[redacted]

From: Rodolfo Rangel
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 4:59:15 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Rodolfo Rangel
[redacted]

From:	Rodrigo Flores
To:	Godines, Diana@CSLB
Subject:	California Code Regulations, Title 16, Sections 810, 832.10, and 832.46
Date:	Wednesday, July 26, 2023 8:05:20 PM
Attachments:	Support for CSLB Regulations for BESS C-46 Contractors.docx

Please see attached document.
Thank you,
Rodrigo Flores

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Rodrigo R Flores

From: Ron Harding
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 14, 2023 7:44:52 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ron Harding
[redacted]

From: Ronald Zych
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 6:57:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ronald Zych
[redacted]

From: Ronny Jungk
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 6:04:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ronny Jungk
[redacted]

From: RUBEN JORGE
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:40:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
RUBEN JORGE
[redacted]

From: Ruben Mendoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 8:25:23 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ruben Mendoza
[redacted]

From: Russell Bartz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 10:00:15 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Russell Bartz
[redacted]

From: Russell Yeung
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:24:18 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Russell Yeung
[redacted]

From: Ryan Huiner
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:08:21 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ryan Huiner
[redacted]

From: Ryan Ruiz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 7:16:35 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ryan Ruiz
[redacted]

From: Ryan Zazueta
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 9:33:43 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ryan Zazueta
[redacted]

From: Sam Martinez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 3:23:01 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Sam Martinez
[redacted]

From: Sam Passanisi
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:31:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Sam Passanisi
[redacted]

From: Sarah Orgill
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 10:43:20 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Sarah Orgill
[redacted]

From: Scot Van Buskirk
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 4:29:48 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Scot Van Buskirk
[redacted]

From: Scott Andelin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Saturday, July 29, 2023 4:26:42 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Scott Andelin
[redacted]

From: Scott Arnold
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:19:44 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Scott Arnold
[redacted]

From: Scott Kingsmill
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 5:11:15 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Scott Kingsmill
[redacted]

From: Scott Steil
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:30:10 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Scott Steil
[redacted]

From: Scott Wein
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Monday, July 17, 2023 4:24:39 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Scott Wein
[redacted]

From: Sean Cobos
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 8:43:05 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Sean Cobos
[redacted]

From: Sergio Diaz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 9:03:14 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Sergio Diaz
[redacted]

From: Sergio Medina
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:24:17 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Sergio Medina
[redacted]

From: Shawn Fragione
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:28:46 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Shawn Fragione
[redacted]

From: Shawn Wortinger
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 21, 2023 7:38:17 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Shawn Wortinger
[redacted]

From: Shomari Davis
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 10:01:59 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Shomari Davis
[redacted]

From: Stan Stosel
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:19:32 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Stan Stosel
[redacted]

From: Stephan Davis
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 10:03:04 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Stephan Davis
[redacted]

From: Stephen Loux
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 10:30:22 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold is on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Stephen Loux
[redacted]

From: Stephen Palmer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:55:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Stephen Palmer
[redacted]

From: Stephen Wright
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 2:34:31 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Stephen Wright
[redacted]

From: Steve Earhart
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:55:47 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Steve Earhart
[redacted]

From: Steve Hart
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 3:42:27 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Steve Hart
[redacted]

From: Steve Nordahl
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 2:09:35 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Steve Nordahl
[redacted]

From: Steve Ross
To: Godines, Diana@CSLB
Subject: Battery Energy Storage Systems
Date: Wednesday, July 26, 2023 4:51:55 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Good afternoon Ms. Godines,

Please see the attached letter.

Respectfully,

Steve Ross

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

From: Steve Teer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 7:10:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Steve Teer
[redacted]

From: Steven Booker
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 8:33:20 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Steven Booker
[redacted]

From: Steven Sapien
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 12:36:03 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Steven Sapien
[redacted]

From: Taylor Apetz
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 2:10:32 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Taylor Apetz
[redacted]

From: Teresa Hinojosa
To: Godines, Diana@CSLB
Subject: CSLB
Date: Friday, July 28, 2023 2:06:53 PM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS

installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Teresa Aguilar

From: Terry Baldwin
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 25, 2023 4:00:29 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Terry Baldwin
[redacted]

From:	Thomas Bell
To:	Godines, Diana@CSLB
Subject:	Support for Proposed BESS Licensing Regulations
Date:	Wednesday, July 19, 2023 6:21:46 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Thomas Bell
[redacted]

From: Thomas Drexhage
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 3:39:54 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Thomas Drexhage
[redacted]

From: Thomas Scherer
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 1:41:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Thomas Scherer
[redacted]

From: Thurston Johnson
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 9:25:49 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Thurston Johnson
[redacted]

From: Tim Lovio
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 3:04:47 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tim Lovio
[redacted]

From: Tim N
To: Godines, Diana@CSLB
Subject: In support of CSLB rules over BESS work
Date: Wednesday, July 26, 2023 5:39:11 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors Tim.docx

Please find attached my letter in support of this ruling.

Thank you,

Tim Neal
916-230-8418
timnsac2@gmail.com

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Tim Neal
Proud member of IBEW1245

From: TJ Schneider
To: Godines, Diana@CSLB
Subject: Title 16
Date: Tuesday, August 1, 2023 2:58:35 PM
Attachments: Support for CSLB Regulations for BESS C-46 Contractors.docx

---

Please see attached letter in support of California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

Thank you

Timothy J. Schneider

Sent from Mail for Windows

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Timothy J. Schneider

From: Todd Tyler
To: Godines, Diana@CSLB
Date: Monday, July 31, 2023 6:27:41 PM
Attachments: 20230731164556.pdf

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered "incidental and supplemental." The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board's interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Todd Tyler Electrician

From: Tom Ayers
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 1:29:48 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tom Ayers
[redacted]

From: Tommy Faavae
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 11:54:02 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tommy Faavae
[redacted]

From: Tommy Zielomski
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 8:22:33 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tommy Zielomski
[redacted]

From: Travis Hansen
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 7:28:18 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Travis Hansen
[redacted]

From: Travis McMillan
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 6:39:12 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Travis McMillan
[redacted]

From: Travis Schrag
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:12:10 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Travis Schrag
[redacted]

From: Travis Walker
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 10:07:43 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Travis Walker
[redacted]

From: Trenton Straeck
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:04:17 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Trenton Straeck
[redacted]

From: Trevor Kraft
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:04:16 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Trevor Kraft
[redacted]

From: Tristin FitzGerald
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 6:35:29 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tristin FitzGerald
[redacted]

From: Trudi Teller
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 9:59:54 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Trudi Teller
[redacted]

From: Tyler Daly
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Saturday, July 22, 2023 6:51:52 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tyler Daly
[redacted]

From: Tyler Stefancich
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 11:00:47 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Tyler Stefancich
[redacted]

From: Ulises Mendoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 12:41:04 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Ulises Mendoza
[redacted]

From: Valarie
To: Godines, Diana@CSLB
Subject: URGENT ACTION: CSLB
Date: Thursday, July 27, 2023 4:18:46 AM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending for many years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment.

Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,
Valarie Moralez

From: Venessa ingalls
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Friday, July 28, 2023 3:11:58 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Venessa ingalls
[redacted]

From: Veronica Martinez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 27, 2023 12:18:28 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Veronica Martinez
[redacted]

From: Victor Espinoza
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 8:47:15 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Victor Espinoza
[redacted]

From:	Victor Barajas
To:	Godines, Diana@CSLB
Subject:	Amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.
Date:	Friday, July 28, 2023 2:21:10 PM

Members of the California Contractors License Board:

I am writing to express my support for the proposed amendments to California Code Regulations, Title 16, Sections 810, 832.10, and 832.46.

I strongly believe these changes are in the public interest and will greatly improve the energy storage industry in California. They provide clear guidelines needed to ensure the safe and proper installation of battery energy storage systems (BESS). These amendments will provide long a needed and essential measure to regulate the industry and protect consumers, workers and first responders, especially due to the notable increase in installation of these systems in California.

The revision to Sec. 810 establishes a clear and useful definition of a BESS, which will remove current confusion regarding which components of an electrical system are governed by the proposed licensing requirements.

The amendment to Sec. 832.10 clarifies the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems. This change will deliver clear delineation of tasks and ensure that these critical systems are handled only by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Sec. 832.46, will allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, creates a greater opportunity for errors in installation of BESS systems. But I agree there must be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. I agree with the Board’s interest in selecting a threshold that would eliminatedisruptions in the residential installation industry and understand

that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I would like to see greater safety protections for the smaller systems as well, this decision has been pending formany years. For the safety of all Californians, we need to put this issue to rest. Improperly installed systems create hazards for the property owners and the utility workers/electricians called out to investigate resultant outages or nonfunctioning equipment. Firefighters responding to fires will be at risk. Therefore, I urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Sincerely,

Víctor Barajas
IBEW 1245
[redacted]

Sent from my iPhone

From: Walter Martinez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 26, 2023 1:12:52 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Walter Martinez
[redacted]

From: Will Bryant
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 11:37:14 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Will Bryant
[redacted]

From: William Berger
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 13, 2023 7:30:05 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
William Berger
[redacted]

From: William Burke
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Thursday, July 20, 2023 9:37:11 AM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
William Burke
[redacted]

From: William Mincey
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 12, 2023 4:49:55 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
William Mincey
[redacted]

From: Xavier mendez
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Tuesday, July 18, 2023 2:55:53 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Xavier mendez
[redacted]

From: Zach Moore
To: Godines, Diana@CSLB
Subject: Support for Proposed BESS Licensing Regulations
Date: Wednesday, July 19, 2023 10:44:57 PM

Dear Ms. Diana Godines,

Dear Members of the Contractors State License Board,

I am writing to express my qualified support for the proposed amendments to CCR, tit. 16, § 810, 832.10, and 832.46. I strongly believe that, overall, these changes are in the public interest and betterment of the energy storage industry and providing clear guidelines that ensure safe and proper installation of battery energy storage systems (BESS).

In light of the escalating demand for renewable energy solutions, these modifications serve as a long needed and essential measure to regulate the industry and protect consumers, workers and first responders.

The revision to Section 810, establishes a clear and useful definition of a BESS, which will remove all confusion regarding what components of an electrical system are governed by the proposed licensing requirements.

The amendment to Section 832.10, clarifying the role and responsibilities of an electrical contractor in regard to BESS and photovoltaic solar energy systems, provides clear delineation of tasks and ensures that these critical systems are handled by qualified individuals who have the appropriate training, experience and expertise. This clarification will result in the highest level of consumer protection.

The changes proposed in Section 832.46, which would allow solar contractors to integrate battery energy storage systems that are "incidental and supplemental" to a new photovoltaic solar energy system installation, leave a potential gap in public safety. That said, I agree that there needs to be a limit in the size of BESS installations that are considered “incidental and supplemental.” The greater the storage capacity of a BESS, the greater the risk of fire or explosion and the more difficult it is to extinguish such fires. For that reason, the California Fire Code imposes escalating and more complex safety regulations for larger BESS installations. The 80-KWh threshold may be on the high side for safety considerations, but I appreciate the Board’s interest in selecting a threshold that would essentially eliminate disruptions in the residential installation industry and understand that compromises are sometimes necessary in the development of government regulations. The proposed regulations ensure that larger or more complex BESS installations remain under the proper classification of the appropriately qualified electrical contractors who are required by law to use state certified general electricians. This not only ensures the safety and quality of those installations, but also maintains the integrity of the C-10 license.

While I’d like to see greater safety protections for the smaller systems as well, this decision has been up in the air for many years. It is beyond time to put this issue to rest. Therefore, I

urge the Board to adopt these regulations and look forward to seeing these positive changes implemented at the earliest possible time.

Thank you for your attention and consideration of these comments.

Regards,
Zach Moore
[redacted]