

CONTRACTORS STATE LICENSE BOARD
NOTICE OF PROPOSED RULEMAKING CONCERNING
BATTERY ENERGY STORAGE SYSTEMS

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

NOTICE IS HEREBY GIVEN that the Contractors State License Board (hereafter Board or CSLB) is proposing to take the action described in the Informative Digest below, after considering all comments, objections, and recommendations regarding the proposed action.

PUBLIC HEARING

The Board has not scheduled a public hearing on this proposed action. However, the Board will hold a hearing if it receives a written request for a public hearing from any interested person, or his or her authorized representative, no later than 15 days prior to the close of the written comment period. A hearing may be requested by making such request in writing addressed to the individuals listed under “Contact Person” in this notice.

WRITTEN COMMENT PERIOD

Written comments relevant to the action proposed, including those sent by mail, facsimile, or email to the addresses listed under “Contact Person” in this Notice, must be **received by the Board at its office no later than August 2, 2023**, or must be received by the Board at the hearing, should one be scheduled.

AUTHORITY AND REFERENCE

Pursuant to the authority vested by Business and Professions Code (BPC) sections 7008 and 7059, and to implement, interpret, or make specific BPC section(s) 7058 and 7059, the Board is considering amending sections in Division 8 of Title 16 of the California Code of Regulations (CCR), as described below.

INFORMATIVE DIGEST/POLICY STATEMENT OVERVIEW

BPC section 7008 authorizes CSLB to adopt rules and regulations in accordance with the Administrative Procedure Act that are reasonably necessary to carry out the provisions of the Contractors State License Law (CSLL). Section 7058 establishes the specialty contractor license and defines “specialty contractor” as “a contractor whose operations involve the performance of construction work requiring special skill and whose principal contracting business involves the use of specialized building trades or crafts.” Section 7059 authorizes the Board to adopt rules and regulations that are

reasonably necessary to put into effect the classification of contractors in a manner consistent with established usage and procedure found in the construction business.

Consistent with that authority, by regulation, the Board has defined 43 specialty license subclassifications in section 832 of Article 3 of Division 8, Title 16 of the CCR. This proposed regulation affects two of those specialty license classifications: section 832.10, "Class C-10 – Electrical Contractor" and section 832.46, "Class C-46 – Solar Contractor."

Existing law expressly authorizes the C-10 Electrical Contractor and the C-46 Solar Contractor classifications to install photovoltaic solar energy systems (PV systems), as follows:

- 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. (CCR, tit. 16, § 832.10.)
- 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. (CCR, tit. 16, § 832.46.)

A PV system is a solar energy system that converts energy from the sun to electricity for an end user. Battery energy storage systems (BESS) are separate electrical systems that can complement PV systems. A BESS can store 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. A BESS can be installed initially as part of a PV system installation, added to an existing PV system at a future date, or installed separately to store energy from the power grid without the use of a PV system. With respect to storing energy, individual BESS capacities are measured in kilowatt-hours (kWh), which describes the maximum amount of electricity stored (in hours) when the battery is full.

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. There is no dispute section 832.10 authorizes a C-10 Electrical Contractor to install BESS (because BESS generates, transmits, transforms, and/or utilizes electrical energy, consistent with the existing scope of the C-10 classification). However, the C-46 Solar Contractor classification is limited to work on (thermal and) PV solar energy systems, and section 832.46 does not expressly include BESS.

To the contrary, section 832.46 expressly precludes the C-46 Solar Contractor from performing trades, crafts or skills outside the scope of the classification, unless required

to install a thermal or PV system. Since 2016, the Board has worked with stakeholders to define the circumstances under which a C-46 Solar Contractor may install BESS.

BPC section 7059 similarly permits a specialty contractor (such as a C-10 or C-46) to contract outside of their classification to perform work in the craft or trade of another classification if that work “is incidental and supplemental to the performance of the work in the craft for which the specialty contractor is licensed.” Section 831 of Title 16 of the CCR provides such work is “incidental and supplemental” when it is “essential to accomplish the work in which the contractor is classified.”

There are no existing CSLB regulations that define BESS for the purpose of contractor license classifications. There are no CSLB regulations that expressly 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. This proposal seeks to adopt such regulations.

This proposal would:

- Add a new definition of “battery energy storage system” to section 810, “Definitions,” of Article 1, Division 8, of Title 16.
- Add “battery energy storage systems” to the description of the C-10 Electrical Contractor classification in section 832.10, “Class C-10 - Electrical Contractor,” of Article 3, Division 8, of Title 16. The proposal also replaces “solar photovoltaic cells” in section 832.10 with the more accurate “photovoltaic solar energy systems” from current section 832.46.
- Revise the existing section 832.46, “Class C-46 - Solar Contractor,” of Article 3, Division 8, of Title 16, by adding two new paragraphs to establish, for the purposes of the C-46 classification, that:

(1) a BESS, as defined, is not required to install a PV system and shall not be considered within the scope of the C-46 Solar Contractor classification except as specified in the next subdivision; and

(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.

ANTICIPATED BENEFITS OF PROPOSAL

Defining BESS and including it within the trade descriptions of the C-10 and C-46 classifications allows CSLB to set a minimum standard for licensure for those specialty contractors who work with this technology. It allows CSLB to require license applicants to demonstrate BESS knowledge and experience and to include information about BESS in the CSLB license examinations. This ensures only those specialty contractors

who are qualified to install BESS are licensed, and it prioritizes protection of the public as California advances toward its clean energy goals.

The proposed amendments will eliminate stated confusion about whether BESS is part of a PV system or a standalone electrical device for the purposes of CSLB specialty license classification descriptions. Specifying that BESS is a standalone technology strictly appropriate for the C-10 Electrical Contractor classification – except in clearly defined circumstances when a C-46 Solar Contractor is installing BESS at the same time as a PV system – ensures the Board is appropriately limiting the field and scope of the operations of licensed contractors to those in which they are classified and qualified to engage, as required by BPC section 7059. It further preserves the distinction between the two trades and their workforces.

The proposed amendments will also eliminate stated confusion about which specialty license classification(s) can install BESS paired with PV systems. For the existing C-46 Solar Contractor workforce, the proposed amendments recognize that, although BESS are separate electrical systems, they have become a desirable supplement to PV system installations, and C-46 contractors can perform BESS installations when installing PV systems as part of their trade in specified circumstances. This preserves the practical differences between BESS and PV systems by treating certain BESS installations as out-of-classification work for C-46 contractors at a specified threshold. It will aid C-46 licensees in knowing and complying with a clear standard and aid the Board in enforcing the standard.

The proposal also benefits the public by clearly defining the BESS installations that require specialized electrical knowledge and skill. By identifying an 80-kWh threshold above which BESS installation is appropriate only for other contractors, the proposal ensures BESS is installed only by those contractors who have met the minimum qualifications, particularly the C-10 Electrical Contractor classification.

Finally, this proposal assures continuation of the businesses of C-46 Solar Contractors who are currently installing PV systems paired with BESS. CSLB recognizes 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. The population primarily affected by this proposal are the small share of contractors holding a C-46 classification and no other license classification that authorizes them to install BESS (i.e., a C-46 holding no C-10, "B", or "A" classification). According to 2020 Interconnection data, this population installed 601 BESS out of 13,073 total projects (4.6% of all projects), with an average BESS size of between 17.82 kWh, based on CSLB's review of 556 BESS, or 19.2 kWh, based on CSLB's review of the raw Interconnection data. (See June 2022 Staff Report, p. 13.) Even using a different data set, the Self-Generation Incentive Program (SGIP) data, between 2015 and 2020, this population installed 1,223 BESS out of 19,194 total projects (6.4% of all projects) with an average BESS size of between 14.04 kWh, based on CSLB's review of 556 BESS, and 17.15 kWh, based on CSLB's review of the raw SGIP data.

In other words, by any measure, C-46 contractors (holding no other license classification authorizing them to install BESS) typically install only a small share of BESS projects, and those projects are usually well under the 80-kWh threshold recommended in this proposal (June 2022 Staff Report). Whereas the UC Berkeley Report and other prior proposed regulatory changes would have precluded the C-46 Solar Contractor classification from installing BESS entirely, this proposal ensures the continuation of the businesses of C-46 Solar Contractors holding no other license classification consistent with the types of installations prevalent in the C-46 marketplace.

EVALUATION OF CONSISTENCY AND COMPATIBILITY WITH EXISTING STATE REGULATIONS

During the process of developing this regulatory proposal, CSLB has conducted a search for any similar regulations on this topic and has concluded that these proposed regulations are neither inconsistent nor incompatible with existing state regulations.

DISCLOSURES REGARDING THIS PROPOSED ACTION

FISCAL IMPACT ESTIMATES

Fiscal Impact on Public Agencies Including Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State: None. The proposed regulations do not result in a fiscal impact to the state.

The amendments are intended to clarify existing regulations by defining BESS and scope of practice for licensees and are not anticipated to result in additional costs to the state.

The regulations do not result in costs or savings in federal funding to the state.

Nondiscretionary Costs/Savings to Local Agencies: None

Cost to any Local Agency or School District for which Government Code Sections 17500 - 17630 Require Reimbursement: None

Significant Effect on Housing Costs (and, if applicable, including any estimated costs of compliance or potential benefits of a building standard): None

BUSINESS IMPACT ESTIMATES

The Board has made the initial determination the proposed regulations will not have a significant statewide adverse economic impact directly affecting businesses (including the inability of California businesses to compete with businesses in other states).

This initial determination is based on the following facts:

- The Board has determined 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 authorizes the contractor to install BESS (i.e., a C-46 that holds no C-10, “A”, or “B” classification). Businesses holding a C-10 classification will not be adversely affected as C-10 contractors may install BESS without limitation and this regulation would continue to allow such installations.
- As of August 2022, there were 481 C-46 Solar Contractors who do not hold any other license classification authorizing them to install BESS (i.e., a C-46 and no C-10, “B”, or “A” classification). Ostensible impact to the 481 licensees would be twofold, to those who are: (1) currently in the business of installing PV systems paired with a BESS; and (2) installing PV systems paired with BESS at a kWh rating higher than 80 kWh. According to the 2020 Interconnection data, this population installed 601 BESS out of 13,073 total projects (4.6% of all projects), with an average BESS size of between 17.82 kWh, based on CSLB’s review of 556 BESS, or 19.2 kWh, based on CSLB’s review of the raw Interconnection data. (See June 2022 Staff Report, p. 13.) Even using a different data set, the SGIP data, between 2015 and 2020, this population installed 1,223 BESS out of 19,194 total projects (6.4% of all projects) with an average BESS size of between 14.04 kWh, based on CSLB’s review of 556 BESS, and 17.15 kWh, based on CSLB’s review of the raw SGIP data. In sum, the 481 C-46 contractors holding no other license classification authorizing them to install BESS only install between 4.6% and 6.4% of all BESS projects, a small share of the overall number of projects. And based on the average size of installations by this population, most of the projects they perform are at kWh capacities much lower than 80 kWh, if they install BESS at all (some solar contractors may only install PV systems and not BESS). As a result, the number of licenses potentially affected is insufficient to create a statewide adverse economic impact. Indeed, the UC Berkeley Report concluded that completely “precluding or restricting C-46 (no C-10, A, or B) contractors will have a negligible effect on the current pool of contractors, because only a tiny fraction of current BESS installations has been carried out by contractors holding only a C-46 license without an A, B, or C-10 license.” (UC Berkeley Report, p. 37.)

Cost Impact on Representative Private Person or Business

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.

RESULTS OF ECONOMIC IMPACT ASSESSMENT / ANALYSIS

Impact on Jobs/Businesses

The Board has determined that this regulatory proposal will impact the creation of jobs and new businesses, the elimination of jobs and existing businesses, and the expansion of businesses in the State of California, as follows:

- It will not significantly create or eliminate jobs within the State of California. The UC Berkeley Report estimated as of June 2021, there were 6,317 non-electrical solar installers and 4,204 electrician solar installers (i.e., workers, not licensed contractor employers) in California. (UC Berkeley Report, p. 81.) The UC Berkeley Report conducted an economic analysis of the workforce impact of precluding the C-46 from installing BESS entirely to make it the exclusive domain of the C-10. UC Berkeley found that if C-46 contractors holding no other license classification authorizing them to install BESS were precluded from installing BESS entirely, it might equate to the loss of between 11 and 18 full-time jobs in the residential market statewide (UC Berkeley Report, p. 29). While no comparable analysis was conducted for the commercial market, C-46 contractors mostly install BESS at sizes commonly found in the residential market, and UC Berkeley found that their participation in the commercial market was “negligible” and reported at “0%,” according to SGIP data (UC Berkeley Report, pp. 26, 28, figure 11). This proposal does not preclude C-46 contractors from installing BESS entirely. Instead, the proposed regulation will permit C-46 contractors to continue installing BESS over and above the project sizes that they already typically install. Indeed, UC Berkeley concluded that a restriction of 5 kw and 20 kWh “would basically maintain the status quo.” (UC Berkeley Report, pp. 5, 14, 31.) The Board is proposing an 80-kWh restriction, far greater than the restriction that UC Berkeley called “the status quo.” The Board therefore concludes that any job impact will be significantly less than the minimal impact established by UC Berkeley if the Board were to completely preclude C-46 contractors from installing BESS. 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.
- It will not create new businesses or eliminate existing businesses within the State of California. This proposal impacts how a single technology within an existing marketplace – the BESS-paired PV system installations – will be characterized for the purpose of defining the scope of existing specialty contractor license classifications. 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.
- It will not adversely affect the expansion of businesses currently doing business within the State of California. BESS paired with PV systems is an emerging and expanding business already conducted by C-10 and C-46 businesses.

Benefits of Regulation

The Board has determined this regulatory proposal will have the following benefits to health and welfare of California residences, worker safety, and the state's environment.

- This regulatory proposal will positively affect the health and welfare of California residents. In California, in general, a contractor's license is required to affix an electrical device to a structure if the contract exceeds \$500 for labor and materials. The California Electrical Code requires all connections regulated by the Code to be made by qualified persons (Cal. Electrical Code, tit. 24, Part 3, art. 100). However, BESS has been undefined for the purposes of CSLB contractor license classifications. When it is unclear which license classification(s) can install which technology with an accompanying risk of electrical shock or fire, consumers are at risk. This proposal will set the minimum standards for licensure for the C-46 and C-10 specialty trades that will work with this technology. This establishes who is qualified to install BESS and in which capacities for the purpose of specialty contractor licensing, which in turn will provide public protection in the marketplace for PV systems paired with BESS.
- This regulatory proposal benefits worker safety because it ensures that only appropriately skilled workers install BESS, and safety standards are being met for licensed contractors who work with BESS and employ workers to do so. As discussed, electrical system connections required at thresholds above 80 kWh are more appropriate for C-10 contractors, and the proposed regulation ensures that only qualified contractors install BESS. Additionally, pursuant to the California Residential and Fire Codes, 80 kWh is the maximum allowable capacity for BESS that can be installed for a residential occupancy within common residential locations. (Cal. Residential Code, CCR, tit. 24, Part 2.5, § R328.5, Cal. Fire Code, CCR, tit. 24, Part 9, § 1207.11.4). Above 80 kWh, more rigorous safety standards are applied to the installation of BESS. If a C-10 license is required to equip a PV system with a BESS above 80 kWh, an installing worker may also be required to secure electrical certification that meets the requirements of California's Division of Apprenticeship Labor Standards Enforcement (see Chapter 4.5 (commencing with § 108) of Division 1 of the Labor Code) for a skilled workforce trained in electrical safety.
- The Board preliminarily believes (1) there is no evidence that the proposed regulations, if adopted, "may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment," and (2) that it may determine with certainty that there is no possibility the proposed regulations may have a significant effect on the environment. (Pub. Resources Code, § 21065; CCR, tit. 14, § 15061, subd. (b)(3).) Further information regarding CSLB's preliminary determinations is provided in the Initial Statement of Reasons.

Business Reporting Requirements

The regulatory action does not require businesses to file a report with the Board.

Effect on Small Business

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.

CONSIDERATION OF ALTERNATIVES

In accordance with Government Code section 11346.5(a)(13), the Board must determine that no reasonable alternative it considered to the regulation or that has otherwise been identified and brought to its attention would be more effective in carrying out the purpose for which the action is proposed; would be as effective and less burdensome to affected private persons than the proposal described in this Notice; or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

Any interested person may submit comments to the Board in writing relevant to the above determinations at 9821 Business Park Drive, Sacramento, CA 95827 during the written comment period, or at the hearing if one is scheduled or requested.

AVAILABILITY OF STATEMENT OF REASONS AND RULEMAKING FILE

The Board has compiled a record for this regulatory action, which includes the Initial Statement of Reasons, proposed regulatory text, and all the information on which this proposal is based. This material is contained in the rulemaking file and is available for public inspection upon request to the contact persons named in this notice.

TEXT OF PROPOSAL

Copies of the exact language of the proposed regulations, and any document incorporated by reference, and of the initial statement of reasons, and all of the information upon which the proposal is based, may be obtained upon request from the Board, at 9821 Business Park Drive, Sacramento, CA 95827.

AVAILABILITY OF CHANGED OR MODIFIED TEXT

After considering all timely and relevant comments, the Board, upon its own motion or at the request of any interested party, may thereafter adopt the proposals substantially as described below or may modify such proposals if such modifications are sufficiently related to the original text. With the exception of technical or grammatical changes, the

full text of any modified proposal, with the modifications clearly indicated, will be available for review and written comment for 15 days prior to its adoption from the person designated in this Notice as the Contact Person and will be mailed to those persons who submit written comments or oral testimony related to this proposal or who have requested notification of any changes to the proposal.

AVAILABILITY AND LOCATION OF THE FINAL STATEMENT OF REASONS AND RULEMAKING FILE

All the information upon which the proposed regulations are based is contained in the rulemaking file which is available for public inspection by contacting the person named below.

You may obtain a copy of the Final Statement of Reasons once it has been prepared by making a written request to the Contact Person named below or by accessing the website listed below.

CONTACT PERSONS

Inquiries or comments concerning the proposed rulemaking action may be addressed to:

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The backup contact person is:

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AVAILABILITY OF DOCUMENTS ON THE INTERNET

Copies of the Notice of Proposed Action, the Initial Statement of Reasons, and the text of the regulations with modifications noted, as well as the Final Statement of Reasons when completed, and modified text, if any, can be accessed through the CSLB's Laws and Regulations webpage at https://www.cslb.ca.gov/about_us/library/laws/.