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**CEA Letter 1 of 3_Comments on 2025 BEES - Title 24 Parts 1 and
6_Express Terms_45-day Language**

CEA Comments Letter 1 of 3 - Lighting & Electrical Sections

Additional submitted attachment is included below.



May 13, 2024

California Energy Commission
Docket #24-BSTD-01
715 P Street
Sacramento, CA 95814

Re: Docket Number: 24-BSTD-01 – 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, Express Terms, 45-Day Language

CEA Comment Letter 1 of 3: Lighting & Electrical Sections

Dear CEC Commissioner McAllister and Staff,

Thank you for the opportunity to provide comments on the California Energy Commission's (CEC) 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, Express Terms, 45-Day Language (Energy Code). The California Energy Alliance (CEA) is a leading advocacy organization for California's energy stakeholders. Founded in 2016, CEA is a nonprofit, non-partisan alliance of over thirty-five business, government, academia, and NGO leaders working to bring beneficial, equitable change to energy standards, policies, and programs by developing consensus among diverse and engaged stakeholders. CEA envisions a healthy and equitable built environment that is powered by carbon-free, reliable energy sources.

CEA and its Members had the opportunity to work collaboratively with the CEC, Compliance & Enforcement stakeholders, and the California Statewide Utility Codes and Standards Enhancement (Case) Team on improving and expanding upon the 2022 Building Energy Efficiency Standards. The joint work covered measures related to multilevel lighting controls, fault detection & diagnostics, controlled environment horticulture, multifamily compartmentalization, and residential HVAC performance. Additionally, CEA is pleased to see the CEC adopt many of the recommendations from the 2025 Title 24 Lighting Language Cleanup Initiative (Docket No: 22-BSTD-01, TN# 250676) that led to eliminating and cleaning up confusing language in the lighting and lighting controls sections of the Energy Code.

We applaud the CEC for listening to stakeholders and making the necessary updates to the Energy Code to continue reducing greenhouse gas emissions by maximizing efficiency. While the above recommendations were generally accepted, CEA would like



to comment on and address areas of concern in the 2025 Energy Code Express Terms, 45-Day Language. CEA is submitting (3) separate comment letters to address distinct areas of the Energy Code (Lighting/Electrical Sections, Mechanical Sections, and Supplementary Sections/Reports).

The following comments and recommendations (CEA Comment Letter 1 of 3) relate to “Lighting/Electrical Sections” of the Energy Code (TN# 255315-2):

- 1) **CEA submitted an energy savings measure proposal to the CEC (Docket Number: 22-BSTD-01, TN# 252270) regarding the expansion of Subsection 130.1(b) requirements for nonresidential Multilevel Lighting Controls.**
 - a) Using the CEC’s measure proposal template, CEA showed that lowering the connected lighting load threshold along with removing of certain exceptions meets the cost-effectiveness criteria set forth by the CEC. The changes to Subsection 130.1(b) were workshopped with CEA stakeholders and during numerous meetings with stakeholders taking part in the Lighting Language Cleanup Initiative (Docket No: 22-BSTD-01, TN# 250676) referenced above. While many of the recommendations from the Cleanup Initiative were included in the 2025 Energy Code Express Terms, the lowering of the connected lighting load threshold from 0.5 W/sf to 0.4 W/sf was omitted.
 - b) **CEA respectfully asks the CEC to reconsider this Multilevel Lighting Controls measure proposal and include in the 2025 Energy Code Express Terms, 15-Day Language.** This energy savings measure proposal supports the CEC’s goal of reducing wasteful, uneconomical, and unnecessary uses of energy for the state.
 - c) If the CEA proposal is rejected by the CEC, we request an explanation to why this proposal is rejected.
 - i) If the CEA measure proposal is omitted, then the CEC should **delete “Exception 5 to Section 130.1(b)”** based on the increased cost-effectiveness of today’s continuous dimming LED products compared to stepped dimming LED products.
 - ii) If the CEA measure proposal is omitted, then we recommend removing the “100 square feet” language.
 - iii) If the CEA measure proposal is omitted, then we recommend making revisions to the 2025 Energy Code, 45-Day language:
 - (1) This new language appears to be incomplete at the end of the first sentence. It seems to be missing a word(s) or needs to be edited as the language says "shall provide with multilevel lighting controls"

period. Suggest adding "shall **be provided**"? Or combine with the second sentence in the requirement?

- (2) CEA recommends the CEC **review Section 160.5(b)4B** for consistency of language with Section 130.1(b).

2) Section 130.1(b) Exception 1

- a) Strike "indoor". Not needed as this whole section is for indoor lighting.
- i) Exception 1 to Section 130.1(b): ~~An indoor s~~**Space** that has only one luminaire.

3) Sections 130.1(c)5 and 6

- a) Recommend making the titles shorter to reference easier.
- i) **130.1(c)5. Occupant sensing controls**, ~~are r~~**Required** for specified offices, multipurpose rooms, classrooms, conference rooms and restrooms.
- ii) **130.1(c)6. Full or partial-OFF occupant sensing controls**, ~~are r~~**Required** for warehouse aisle ways, and warehouse open areas in warehouses, library book stack aisles, corridors and stairwells, and offices greater than 250 square feet, parking garages, ~~parking areas~~, and loading and unloading areas.
- b) Correct and/or clarify "parking areas" term used 130.1(c)6. and 130.1(c)6E.
- i) CEA is confused by the spaces "parking garages and parking areas" being called out versus the terms used in the definitions Section 100.1 which are "parking garage buildings", "parking garage areas", and "parking zone and ramps".
- (1) CEA recommends updating this terminology throughout the Energy Code to maintain consistency across sections.
- c) Editorial comment for Section 130.1(c)6E. This section says "space" instead of "zone".
- i) 130.1(c)6Eiii. The occupant sensing controls shall be capable of automatically turning the lighting fully ON only in the separately controlled ~~space~~ **zone**, and shall be automatically activated from all designed paths of egress.

4) Sections 130.1(d) and 160.5(b)4D

- a) CEA feels there is a typographical error in Exception 3 to Sections 130.1(d) and 160.5(b)4D. The 45-Day Language states less than "85" watts when the requirement threshold is "75" watts. To be consistent with the new wattage

threshold noted in the section, the exception should reference the same threshold.

- i) Exception 3 to Section 130.1(d): Where daylight responsive controls are not required for the primary sidelit daylit zones, and where the total wattage of general lighting luminaires in the secondary sidelit daylit zones is less than ~~8~~75 watts, daylight responsive controls are not required for the secondary sidelit zone.
- ii) CEA would also like to note that if the exception should be 75 watts, then the Exception should be stricken as it's already called out in the secondary daylit zone section above.
- iii) Also note that all recommendations and comments apply to Section 160.5(b)4D.

5) Sections 130.2(c)2B and 130.2(c)3B

- a) CEA recommends removing the newly added word “partially” as it creates confusion in the requirements.
 - i) 130.2(c)2B. Automatic scheduling controls shall be capable of ~~partially~~ reducing the outdoor lighting power by 50 to 90 percent, and separately capable of turning the lighting OFF, during scheduled unoccupied periods.
 - ii) 130.2(c)3B. Motion sensing controls shall be capable of ~~partially~~ reducing the outdoor lighting power of each controlled luminaire by 50 to 90 percent, and separately capable of turning the luminaire OFF, during unoccupied periods.

6) Section 130.4(a)1

- a) Reinstating Plan Review Requirements for Enhanced Title 24, Part 6 Compliance in Section 130.4(a)1 per Docket 22-BSTD-01, TN# 252276. This proposal is essential for ensuring Energy Code compliance while introducing a more collaborative approach with the Authority Having Jurisdiction (AHJ). CEA respectfully asks the CEC to reconsider the TN#252276 proposal with the following update:
 - i) Change “Certifies” to “Review”
 - (1) “~~Certifies~~ Review plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Part 6.”
 - ii) Reinstating these requirements allows the Acceptance Test Technician to be involved earlier in the design phase to help the responsible parties, such as the lead architect or engineer, with compliance by alerting them of any gaps in energy code requirements prior to construction.

7) Section 130.5(d)

- a) The strikethrough of “Note: ...Plug-in strips and other plug-in devices shall not be used to comply with the requirements of Section 130.5(d).” was moved into a space following requirements of Section 130.5(d). However, the current placement seems odd and could cause confusion to the reader.
- b) CEA agrees with keeping this language, but we recommend moving the language into a new subsection “130.5(d)5” or move into the main requirements of 130.5(d).

8) Section 150.0(k)3

- a) This requirement should be for all permanently installed outdoor lighting not just outdoor lighting that is mounted to a building. The current requirement leaves out lighting poles and other hardwired lighting. Permanently does not include solar lights or plugged in lights.
 - i) 150.0(k)3A. Outdoor permanently installed lighting ~~permanently mounted to a residential building or to other buildings on the same lot~~ shall meet the following requirements:

9) Section 150.0(k)3C

- a) The 2nd sentence in this subsection was added for the indoor lighting controls Section 150.0(k)2D, but it doesn't belong in the outdoor controls section as dimmers, for instance, are not required for outdoors. CEA recommends striking this sentence.
 - i) C. An energy management control system (EMCS) or other controls that provides the specified lighting control functionality and complies with all requirements applicable to the specified controls may be used to meet these requirements. ~~No controls shall bypass control functions of a dimmer, occupant sensor, or vacancy sensor where the dimmer or sensor has been installed to comply with Section 150.0(k)3.~~

10) Section 100.1 Definitions

- a) BESS Ready Interconnection Equipment and BESS Ready Panelboard definitions
 - i) CEA feels that excluding switchboards is not appropriate and should be included in both definitions. The definitions should be inclusive of switchboards because electrical distribution equipment includes both panelboards and switchboards. The use of each depends on the application. The National Electrical Code (NEC) Article 408 differentiates



the differences between panelboards and switchboards. Switchboards are free standing with amperage up to 6000 Amps having UL 891 as their safety standard, while panelboards are NOT free standing having UL 67 as their safety standard with amperage up to 1200 A.

- (1) BESS READY INTERCONNECTION EQUIPMENT is equipment, including but not limited to a Battery Energy Storage System (BESS) ready panelboard or switchboard, that can accommodate the connection of a distributed energy resource or a BESS capable of either automatic or manual isolation from the utility power source.
- (2) BESS READY PANELBOARD OR SWITCHBOARD is a panelboard or switchboard that can accommodate either automatic or manual switching between a utility power source to a distributed energy resource or a BESS, such as a split bus panelboard.
 - ii) CEA recommends the CEC to review the use of only panelboard throughout the Energy Code and update accordingly.
- b) Multilevel Lighting Control: Recommend clarifying the definition.
 - i) Multilevel Lighting Control ~~enables the level of lighting to be adjusted upward and downward across multiple levels~~ is a lighting control that enables the illumination to be raised or lowered in addition to ON and OFF.

CEA thanks the CEC for the opportunity to submit these comments, and we look forward to answering any questions or comments regarding our recommendations to the 2025 Energy Code Express Terms, 45-Day Language.

Sincerely,

California Energy Alliance
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