

*Comment Received From: Charles Knuffke
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Wattstopper Legrand comments on 2025 Title 24 45 day draft language

Additional submitted attachment is included below.

May 13, 2024

California Energy Commission
Commissioner Andrew McAllister
1516 Ninth Street
Sacramento, CA 95814-5512

RE: [Docket No. 24-BSTD-01](#) – 45 Day Language Comments for 2025 Title 24, Part 6

Legrand, especially its California based Wattstopper lighting control brand, appreciates this opportunity to submit comments on the lighting portion of the 45 Day Language draft for the 2025 Title 24, Part 6 Standard. We gratefully acknowledge the significant work put forward by all proposal teams, commission staff, commission consultants and other contributors to improve the energy efficiency and applicability of the Title 24 lighting and lighting control related sections.

We would like to first reiterate the general statement we offered in our letter of response to previous Express Terms draft, which is to applaud the overall improvement in readability that has occurred in much of the lighting and lighting control code sections. It appears that the CEC took to heart many of the recommendations published in the CLTC's "[2025 Title 24 Lighting Language Cleanup Initiative](#)" which sought to clarify and simplify the code language. We are extremely pleased to see that many of the recommendations we and others voiced in the past have found their way into the draft 2025 Title 24 Code language.

For the bulk of our comments, we've arranged them in accordance with the Energy Code's section numbering scheme.

Section 100.0(a)1 – Scope

We noticed that type "L" Occupancy Groups are now covered by Title 24 Part 6 (and that Laboratory and Laboratory Suites are now defined in Section 100.1) but did not see any exceptions for this building type in the lighting control portion of the code. Since it might be dangerous for the occupants in these structures to have their lighting turned off suddenly, we believe the CEC should consider adding an exemption to "Section 130.1(c) Shut-OFF Controls" based on language used in ASHRAE 90.1's Exceptions to 9.4.1.1(h)3. ASHRAE states that automatic shut off of lighting is not required for "General Lighting and task lighting in spaces where automatic shutoff would endanger the safety or security of the room of building occupants."

Section 100.1 – Definitions

Multilevel Lighting Control enables the level of lighting to be adjusted upward and downward. This seems too simple a definition, as even a single pole wall switch would meet this requirement. Would suggest the definition instead be "**Multilevel Lighting Control – a dimmer that enables**

the intensity of lighting to be continuously adjusted up to full on and down to full off, or levels dictated by the energy code.”

Section 110.12 – Demand Response

Regarding the proposed changes in the 2025 Code, would offer the following comments:

110.12(c)2 – Demand responsive controls

For buildings where demand response controls are required, demand responsive controls shall control the general lighting in the spaces required to meet Section 130.1(b) or 160.5(b)4B and may control additional lighting.

We understand that the code should contain the specific requirements, but worry that by removing the text “**and may control additional lighting.**” it could be taken to mean that additional lighting cannot be controlled by the Demand Responsive system. Suggest leaving that phrase in the code since it was there previously.

110.12(c) – Demand Responsive Controlled Receptacles

Demand Responsive Controlled Receptacles. In spaces required to have controlled receptacles per Section 130.5(d) or 160.6(d) and where demand-responsive lighting controls are installed, the controlled receptacles shall be capable of automatically turning off all connected loads in response to a demand response signal.

Extremely pleased to see that the requirement for DR Controlled Receptacles has been modified such that it only applies to spaces with DR Lighting Controls, and the additional extra line in the Express Terms has now been deleted.

Section 120.1(d)5A – Occupied – Standby Zone Controls

The summary language in this section “Spaces meeting these criteria include, but no limited to:” is unfortunately confusing, because there are more spaces than these that are included. Also however, “Breakrooms” are included in the list, but are not an area that is required to have Occupant Sensors per Section 130.1©5 and 6 (which should actually be 130.1©5 or 6. Believe this section needs to be edited further for clarity.

Section 130.1(a) – Manual Controls

There’s much to be applauded in this section – especially the deletion of the laundry list of spaces in Exemption 1 to Section 130.1(a)2 by simply rewording that section and putting decision making power in the hands of the project designers when it comes to any space on the project. Thank you, it’s very much appreciated.

One paragraph is confusing however and should be edited.

Exception to Section 130.1(a)2: The controls for the egress lighting are not accessible to unauthorized personnel.

Egress lighting is often controlled with other lighting in a space when normal power is available and would be controllable by anyone using that space. If this is the case, we would suggest editing to read:

Exception to Section 130.1(a)2: When normal power has failed, egress lighting should not be controllable by unauthorized personnel.

Section 130.1(b) – Multilevel lighting controls

“The general lighting of any space with a size of 100 square feet or larger and with a connected lighting load greater than 0.5 watts per square foot shall be provided provide with multilevel lighting controls.”

Grammatical error, words “be provided” or “be included” should be added and “provide” eliminated in the sentence.

Section 130.1(c)3 – Shut-Off Controls

Appreciate that in the subsection, there is now an exemption for areas which use occupancy sensors in addition to an automatic time-switch control. This is a design practice that we regularly see – adding occupancy sensors so that after hours lights are automatically on when someone is in the area – and appreciate it being called out as an allowable exemption in the Energy Code.

Section 130.1(c)5 – Shut-Off Controls

Would ask that the CEC use the opportunity to clear up something that has confused many people. Asking for clarity regarding the sentence:

“In areas required by Section 130.1(b) to have multi-level lighting controls, the occupant sensing controls shall function either as a:”

Does the above sentence, and the conditions below that sentence, apply to ANY space that uses occupancy sensing controls, or just the five spaces in the first line of 130.1(c)5: **“Occupant sensing controls are required for specified offices, multipurpose rooms, classrooms, conference rooms and restrooms.”**

If it just applies to four of the listed five spaces (restrooms being now excluded), please consider rewording this sentence to read:

“In areas required by Section 130.1(b) to have multi-level lighting controls, the specified offices, multipurpose rooms, classrooms, and conference rooms with occupant sensing controls shall function either as a:”

If it just applies to any space with occupancy controls (except restrooms), would reword this sentence to read:

“In areas required by Section 130.1(b) to have multi-level lighting controls, any space except restrooms using the-occupant sensing controls shall function either as a:”

Based on above, it may also be helpful to edit the second conditional sentence to be clear as to whether it applies to just those four specific spaces or all spaces using occupancy sensors.

Section 130.1(c)6C

Full or partial-OFF occupant sensing controls are required for warehouse aisle ways, warehouse open areas, library book stack aisles, corridors, and stairwells, and offices greater than 250 square feet, parking garages, parking garage areas, and loading and unloading areas.

Grammatical errors – eliminate the word “and” twice, add a comma between corridors and stairwells, and add word garage since “parking garage areas” are defined.

Section 130.1(c)6C

In corridors and stairwells, lighting shall be controlled by occupant sensing controls that separately reduce the lighting power in each space by at least 50 percent when the space is unoccupied.

We still believe that the above sentence should specify “general lighting” instead of just “lighting”, as was called out for consideration in a previous year’s draft code. Lighting that is used to light an individual room number or doorway should not be included in the 50% calculation requirements when there are other general lighting fixtures for the hallway.

Section 130.1(c)6E

In parking garages, parking areas and loading and unloading areas, general lighting shall be controlled by occupant sensing controls that meet the requirements below instead of complying with Section 130.1(c)1:

“Parking areas” are not listed in the definitions. Should the phrase “parking garage areas” be used instead? This should also be considered for 130.1(d)E - should both parking garage and parking garage areas be called out together?

Section 130.1(c)8 – Hotel/motel guest rooms

Appreciate that the language in this section has stayed the same, and that Captive Card Key controls are still allowed. This optional control method helps with challenging conditions in hotel rooms – particularly when people are covered by their blankets.

Section 130.1(d) – Daylight Responsive Controls

We certainly applaud the changes in this section’s language regarding the wattage triggers for primary, secondary, and skylit daylight zones. Calling each zone out individually with its trigger wattage is far more understandable than the previous language in the 2022 Energy Code.

While we are concerned with the language in 130.1(d)2C which seeks to “break” general lighting luminaires longer than 8 feet into segments of 8 feet or less, the 45 day language is better than what was proposed before. We do believe examples of this division of longer fixtures should be included in the Compliance Manual to make it clear how designers should apply this requirement.

Section 130.1(d)2Biii & Ci-iv– Daylight Responsive Controls

Section 130.1(d)2Biii appears to have the dangling word “;and.” at the end of the paragraph. Also should this and 130.1(d)2Ci-iv all be individual sentences, or sentences with the word “, and” at the end of all paragraphs except the last?

Section 130.1(d)2F – Daylight Responsive Controls Override

Want to add that we believe the additional paragraph allowing daylighting systems to be temporarily overridden by the user makes an enormous amount of sense. While there was

language before in the Compliance Manual, bringing it to the language of the code itself is hugely beneficial and we believe that in the long run this will prevent users from disabling their daylight controls after they've been installed.

There are several suggestions we would make about this overall section. First is that the word in the first sentence should be **decreasing** instead of **decrease**. Next, in the sentence fragment **"Manual controls shall be permitted to temporarily increase electric lighting light levels..."**, that "shall be permitted" should be changed to "may be permitted" which I believe matches the CEC's intention – there are sites and designers that may not wish to allow employees to override the light level, and so the permissive "may" is a better term to use than the mandatory "shall".

Additionally, the last portion of the final line **"...reset electric lighting controls back to the Section 130.1(d)3 defaults after electric lighting have been turned off or reduced by a manual control, occupancy sensor or timeclock."**, we do not think the "reduced by a manual control" should be called out, as it might be confusing. If someone reduces their light level slightly, they may be confused as to why the photocell has taken back control and driven the light levels lower. However there would be little confusion when the lighting has been turned off, and control has been returned to the daylighting controller when a person or device calls for the lights to come back on.

It's also a little unusual that the exemptions to the entire 130.1(d) section are listed at the end of the section, instead of right after the beginning of the section as done in 130.1(c).

Lastly, do not see why Exemption 3 to Section 130.1(d) is needed. If a secondary sidelit zone is less than 85W, it already meets the exemption for secondary sidelit zones of 75W regardless of the wattage in the primary sidelit zone, so believe this paragraph should be deleted.

Section 130.1(f) – Control Interactions

We wanted to say we are very appreciative that this entire section has been removed, as the only item in it that provided additional information – whether daylighting controls can be overridden temporarily – is now in the daylighting section of the code.

Remaining Energy Code Sections

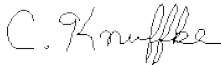
Rather than call out each section individually, we wanted to just mention a few remaining key thoughts:

- We have trouble understanding why PAFs can only apply to General Lighting (per 140.6(a)2). In the case of Demand Response, for instance, we believe it would be valuable to offer a multiplier for other types of lighting should they be set up to participate in Demand Response. Consider Display and Decorative Lighting in a large retail establishment. We especially do not understand why the Demand Response PAF Type of Area column now states "If DR controls are required of Section 110.12(c), this PAF is not available for any lighting in the project." Why would the CEC not want to incentivize projects that have areas of general lighting less than .5W/sqft, or general lighting in rooms less than 100 sqft, to include the general lighting in these spaces in their DR program?
- Also concerning the PAF table, why call out specifically that it must be **one sensor** controlling areas no larger than 125 square feet, or **one sensor** controlling areas from 126-250 square feet. It may be that multiple sensors are embedded in the fixtures in

- these areas, so why wouldn't that be allowed to take advantage of these PAFs if they're controlling the appropriate areas?
- An apology regarding our letter on the Express Terms draft. We did not fully comprehend the way this new version of the code was planning on handling lighting that would have fallen under the Tailored Method previously. We believed it to have been entirely eliminated, but on review see that lighting that would have possibly used the Tailored Method is now included as new rows in the Area Method table. We appreciate that the CEC is offering designers a straightforward way to deal with display lighting at different mounting heights (and the like) and will make sure that we point this out when we start our presentations on the changes in the code next year.
 - We're very appreciative that Table 140.7-B now includes information letting readers know when a Specific Application may be used as additional allowance for applicable illuminated hardscape area on the site.
 - We're still of the opinion that High-rise Multifamily dwellings do not need to have their own code sections.

If there is any discussion point in this letter where the CEC finds our concerns or suggestions unclear, we hope that you'll consider contacting us for clarifications. We've certainly enjoyed the opportunities we've had in the past to discuss the Energy Code language by phone, email, and in person, and hope to continue that positive relationship for many years to come.

Respectfully Submitted,



Charles Knuffke
Wattstopper Systems VP & Evangelist
BUILDING CONTROL SYSTEMS

Legrand, North and Central America
cell: 415.515.6004
email: charles.knuffke@legrand.us
www.legrand.us

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