

PUBLIC COMMENT on PROPOSED BUILDING STANDARDS
For Publication in Title 24, California Code of Regulations

See instructions for completing this form on Page 2.

Commenter Contact Information

Name: Statewide Utility Codes and Standards Team Date: 10/12/2018

Representing: PG&E, SCE, SDG&E, SMUD, and LADWP

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Proposed Building Standard

Title 24 Part #: (select one) Part 11 Section #: 4.106.5 & A4.106.10

Proposing State Agency HCD

This comment is intended
for review during:
(select one)

☐ Code Advisory Committee
☒ 45-Day Comment Period
☐ 15-Day Comment Period
☐ Commission Meeting

Your recommendation based on the criteria of Health and Safety Code Section 18930(a) printed on the back of this form is: (select one)

☐ Approve ☐ Disapprove
☐ Further Study Required ☒ Approve as Amended

In support of your recommendation above, provide the rationale based on the criteria of Health and Safety Code Section 18930(a) printed on the back of this form. If you recommend anything other than approve, cite the criteria in your comment. If you oppose a proposed building standard, offer a solution or alternative for the state agency to consider. Please use separate pages if your comment does not fit in this space.

As written, there is conflict between BUG requirements in Title 24, Part 6 and Title 24, Part 11, which makes it unclear whether or not BUG requirements in Title 24, Part 11 apply to certain residential buildings. Our proposed edits eliminate the ambiguities in language and align Part 11 requirements with Part 6 requirements. Our comment is relevant to items 1, 2, and 3 in the Building Standards Nine-Point Criteria below.

Attachments?

☒ Check if you have attached additional pages. The number of pages attached is: 3

For CBSC Office Use Only Date Received: _____ Rulemaking Item #: _____

Instructions for completing this form

1. Use of this form is optional. It helps CBSC and other state proposing agencies to correctly administer your comments.
2. For matters to be considered at a public CBSC Code Advisory Committee (CAC) meeting, written comments should be received at least seven days before the scheduled meeting.
3. For matters subject to a 45-Day or 15-Day public comment period announced by a Notice of Proposed Action (NOPA), written comments **must be received** on or before the close of the comment period identified in the NOPA.
4. Separate comment forms are necessary for CAC and public comment periods.
5. Separate comment forms are necessary for each state agency proposal.
6. This form is available in fill-and-print format at the CBSC website, www.bsc.ca.gov, for you to complete and submit electronically. Or print a blank form and type or complete by hand. You may attach additional pages if necessary.
7. Submit comments to CBSC, 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833-2936, or by email to cbsc@dgs.ca.gov. Please do not fax comments.
8. Written and oral comments may also be provided at CBSC public meetings to consider the proposed building standards.

For assistance, call CBSC at (916) 263-0916 or email cbsc@dgs.ca.gov.

Building Standards Nine-Point Criteria. Health and Safety Code Section 18930(a) reads:

(a) Any building standard adopted or proposed by state agencies shall be submitted to, and approved or adopted by, the California Building Standards Commission prior to codification. Prior to submission to the commission, building standards shall be adopted in compliance with the procedures specified in Article 5 (commencing with Section 11346) of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code. Building standards adopted by state agencies and submitted to the commission for approval shall be accompanied by an analysis written by the adopting agency or state agency that proposes the building standards which shall, to the satisfaction of the commission, justify the approval thereof in terms of the following criteria:

- (1) The proposed building standards do not conflict with, overlap, or duplicate other building standards.
- (2) The proposed building standard is within the parameters established by enabling legislation and is not expressly within the exclusive jurisdiction of another agency.
- (3) The public interest requires the adoption of the building standards. The public interest includes, but is not limited to, health and safety, resource efficiency, fire safety, seismic safety, building and building system performance, and consistency with environmental, public health, and accessibility statutes and regulations.
- (4) The proposed building standard is not unreasonable, arbitrary, unfair, or capricious, in whole or in part.
- (5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.
- (6) The proposed building standard is not unnecessarily ambiguous or vague, in whole or in part.
- (7) The applicable national specifications, published standards, and model codes have been incorporated therein as provided in this part, where appropriate.
 - (A) If a national specification, published standard, or model code does not adequately address the goals of the state agency, a statement defining the inadequacy shall accompany the proposed building standard when submitted to the commission.
 - (B) If there is no national specification, published standard, or model code that is relevant to the proposed building standard, the state agency shall prepare a statement informing the commission and submit that statement with the proposed building standard.
- (8) The format of the proposed building standards is consistent with that adopted by the commission.
- (9) The proposed building standard, if it promotes fire and panic safety, as determined by the State Fire Marshal, has the written approval of the State Fire Marshal.

Comments on 2019 CALGreen 45-Day Language: Requirements for BUG Ratings

California Statewide Utility Codes and Standards Team

October 11, 2018

1. Introduction

The California Statewide Utility Codes and Standards Team (Statewide CASE Team) actively supports the State of California's efforts to update the Green Building Standards (Title 24, Part 11 or CALGreen). The Statewide CASE Team develops code change proposals that will result in feasible, enforceable, and cost-effective enhancements to the building energy efficiency standards. Three California Investor Owned Utilities – Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison – and two publicly Owned Utilities – Los Angeles Department of Water and Power, and Sacramento Municipal Utility District – sponsored this effort.

The Statewide CASE Team appreciates the opportunity to participate in the 2019 CALGreen code development process and encourage the Department of Housing and Community Development (HCD) to consider the following feedback on Backlight, Uplight, and Glare (BUG) ratings¹ for outdoor lighting that are not included in HCD's 45-Day Language for the 2019 CALGreen standards.²

2. Harmonizing BUG Applicability with Title 24, Part 6

The 2016 California Building Energy Efficiency Standards (Title 24, Part 6) include mandatory requirements for the Uplight and Glare portion of the BUG ratings. These requirements apply to nonresidential, high-rise residential, hotel/motel occupancies (Section 130.2(b)), and some outdoor lighting associated with low-rise occupancies (Sections 150.0(k)3Bii, 150.0(k)3C, and 150.0(k)3D).³ These requirements apply to both newly constructed buildings and alterations.

As part of the 2019 updates to Title 24, Part 6, the California Energy Commission removed the tables for Uplight and Glare from Section 130.2 and instead referenced the pre-existing CALGreen Section 5.106.8, which contains a table for maximum levels of BUG ratings by lighting zone. The intent was to maintain the same stringency for Uplight and Glare as the 2016 Title 24, Part 6 standards while referring to a common table in CALGreen for BUG ratings.

Chapter 5 of CALGreen, which presents mandatory requirements for all commercial buildings built in California, included BUG requirements to reduce light pollution (Section 5.106.8). The requirements in

¹ BUG ratings are based on the Illuminating Engineering Society publication, Luminaire Classification System for Outdoor Luminaires (IES TM-15-11).

² HCD Part 11 - 2018 Triennial Code Adoption Cycle) 45-Day Express Terms. September 12, 2018.
<https://www.documents.dgs.ca.gov/bsc/2018TriCycle/45-Day/HF-SDLF-PEME-GREEN/HCD%2006-18%20Pt11/HCD-06-18-ET-Pt11-45d.pdf>

³ Section 150.0(k)3D was deleted in the 2019 version of Title 24, Part 6.

Chapter 5 of CALGreen apply to nonresidential occupancies, but do not apply to high-rise residential, hotel/motel, or the low-rise residential occupancies. However, in the Building Standards Commission (BSC) 45-Day Express Terms for Section 5.106.8, BSC added a note that reads: "3. Refer to the *California Energy Code* for requirements for additions and alterations."

Not including BUG rating requirements in the HCD portion of CALGreen is aligned with a letter from HCD submitted to the Energy Commission Title 24, Part 6 docket concerning referencing the BUG ratings requirements to Chapter 5 of CALGreen.⁴ This letter had three key points about the proposed changes:

1. The BUG rating table in Section 5.106.8 is not applicable to residential structures (this includes high-rise residential and hotels/motels).
2. BUG ratings for residential buildings are in section A4.106.10 but this is in the voluntary section of CALGreen and not mandatory unless adopted by local agencies.
3. HCD recommends that high-rise residential and hotels/motels be exceptions to the requirements of Section 130.2.

Table 1 presents a summary of conflicts and sources of confusion between the BUG requirements in Title 24, Part 6 and Title 24, Part 11.

Table 1: Summary of Conflicts in BUG Requirements in Title 24, Part 6 and Title 24, Part 11

Area of Conflict	Title 24, Part 6	Title 24, Part 11
Building Occupancy	BUG ratings are <u>mandatory</u> requirement for nonresidential, high-rise residential, hotel/motel and some low-rise residential occupancies	<u>Mandatory</u> requirements for BUG ratings only apply to nonresidential occupancies. <u>Voluntary</u> BUG ratings apply only to [HR] (high-rise) residential occupancies.

We recommend that HCD adopt a mandatory requirement for BUG ratings in Section 4 of the 2019 versions of CALGreen for the following reasons:

- Minimize the possibility for confusion: Title 24, Part 6 has a mandatory requirement for BUG ratings for high-rise residential, hotels/motels, and low-rise residences in some cases. The residential portion of CALGreen does not have a mandatory requirement for a BUG rating nor does it have a note clarifying that the mandatory BUG requirements in Section 130.2(b) of the California Energy Code reference Section 5.106.8 also apply to residential buildings that are within the Scope of Chapter 4 of CALGreen.
- Minimize the possibility for confusion: The residential portion of CALGreen has a voluntary BUG rating in Section A104.8.10 that can be adopted by a jurisdiction and only applies to high-rise residential occupancies. The BUG ratings in this voluntary section for high rise residential buildings (but not hotel/motel) are identical to the mandatory BUG ratings in Section 5.106.8. It reasonably raises the question of whether BUG ratings are mandatory or voluntary until adopted by a jurisdiction.
- Code compliance is enhanced when the cognizant authorities for Chapter 4 of CALGreen (HCD), Chapter 5 of CALGreen (BSC and DSA), and Section 130.2(b) of the California Energy Code are speaking with one voice. Namely, that BUG ratings are required for new or altered luminaires greater than 6,200 initial lumens which are providing area lighting for nonresidential, high-rise residential, and hotel/motel occupancies.
- Luminaires with appropriate Backlight ratings reduce outdoor light trespass into adjacent hotel, motel and multifamily windows. Luminaires with appropriate Uplight ratings reduce the amount

⁴ <https://efiling.energy.ca.gov/GetDocument.aspx?tn=222688>

of light that is scattered into the sky, partially restoring a view of the sky and stars; and reduce light trespass into adjacent hotel, motel and multifamily windows located above the luminaire. Luminaires with appropriate Glare ratings increase visibility by putting light where it is needed and minimizing discomfort glare from overly bright light sources.

3. Proposed Changes to 2019 CALGreen (Title 24 Part 11)

The Statewide CASE Team recommends the following revisions to the 2019 CALGreen 45-Day Language. These revisions are intended to maintain the same stringency in regards to BUG requirements as apply to the 2016 Title 24, Part 6 Standards while removing potential areas for conflict. Due to the nature of the identified conflicts, the Statewide CASE Team has also submitted revisions to the Division of State Architect, the Buildings Standards Commission, and the California Energy Commission, recognizing that all four agencies must work collaboratively to address our comments. The Statewide CASE Team's recommended language insertions are in red font and underlined and recommended language deletions are ~~in red font and with strikethrough~~.

SECTION 4.106

SITE DEVELOPMENT

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4.106.5 Light pollution reduction. All outdoor luminaires of 6,200 initial lumens or greater providing lighting for high-rise residential and hotel/motel building sites shall be designed and installed to comply with the applicable requirements in Section 5.106.8. All outdoor luminaires of 6,200 initial luminaire lumens or greater providing lighting for low rise residential building sites complying with Section 150.0(k)3Bii, or Section 150.0(k)3C of the California Energy Code shall be designed and installed to comply with the applicable requirements in Section 5.106.8.

Exceptions:

1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
2. Emergency lighting.
3. Luminaires that qualify as exceptions to Section 130.2(b) of the California Energy Code.

Also consider deleting Section A4.106.10.