

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

Mailing Number & Street: email: info@title24stakeholders.com

Address: City: _____ State: _____ Zip Code: _____

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Proposed Building Standard

Title 24 Part #: (select one) Part 11 Section #: 5.106.8

Proposing State Agency DSA

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, Section 5.106.8 contains ambiguities surrounding whether or not the requirements apply to additions and alterations, and is misaligned with other requirements in Title 24, Part 6. Our recommended language update clarifies the requirements for additions and alterations, and aligns with language in Title 24, Part 6. 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 12, 2018

1. Introduction

The California Statewide Utility Codes and Standards Team (Statewide CASE Team) actively supports the State of California's efforts to update California's Green Building Standards (Title 24, Part 11 or CALGreen) to include new requirements or to upgrade existing requirements. 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 Division of State Architect (DSA) to consider the following feedback on Backlight, Uplight, and Glare (BUG) ratings¹ for outdoor lighting that are part of DSA's proposed 45-Day Express terms 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 Uplight and Glare that 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 newly constructed buildings and alterations. 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 Light pollution reduction). The requirements in Chapter 5 of CALGreen only apply to newly constructed buildings, as indicated with an "[N]" preceding Section 5.106.8, which has high likelihood of causing confusion concerning whether the BUG ratings also apply to additions and alterations. This confusion is only partially addressed by the note in the 45-Day Express Terms which refers to the *California Energy Code* for requirements associated with additions and alterations. This is confusing because the "[N]" at the beginning of this section indicates that the entire section is for new construction

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

² <https://www.documents.dgs.ca.gov/bsc/2018TriCycle/45-Day/HF-SDLF-PEME-GREEN/DSASS%2007-18%20Pt11/DSA-SS%2007-18-IET-Pt11-45d.pdf>

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

only. Greater clarity would be achieved by indicating that the requirement applies to all situations and then identify which retrofit situations are exempted.

The primary retrofit exception in Section 130.2(b) in Title 24, Part 6, is for alterations where *"Spacing between existing poles is greater than six times the mounting height of the existing luminaires."* In comparison, parking lot lighting pole spacing is typically between 3 and 6 times the mounting height. Thus, the exception to the BUG retrofit requirement is rarely applied and the primary rule is that the BUG rating is required for qualifying replacement luminaires. Therefore, leaving the "[N]" at the beginning of CALGreen Section 5.106.8 highlights the exception rather than rule for applicability of the BUG rating for altered luminaires greater than 6,200 lumens.

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 for 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.

Updates to 2019 Title 24, Part 6 should be accompanied by corresponding changes to Title 24, Part 11 to maintain the stringency of the 2016 requirements. 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
Type of Construction	Applies to new construction and alterations	Only applies to new construction
Luminaire Output	Applies > 6,200 initial lumens	No threshold
Exceptions	7 exceptions	4 exceptions

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 Department of Housing and Community Development, 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 double underlined and recommended language deletions are ~~in red font and with double strikethrough~~.

SECTION 5.106

SITE DEVELOPMENT

...

5.106.8 Light pollution reduction. ~~[N] Outdoor lighting systems shall be designed and installed to~~ All outdoor luminaires of 6,200 initial luminaire lumens or greater shall comply with the following:

1. The minimum requirements in the *California Energy Code* for Lighting Zones 40-4 as defined in Chapter 10, ~~Section 10-114~~ of the *California Administrative Code*; and
2. Backlight, ~~Uplight and Glare~~ (BUG) ratings as defined in IES TM-15-11 (shown in TABLE A-1 in chapter 8);

3. Uplight and Glare ratings as defined in *California Energy Code* (shown in TABLES 130.2-A and 130.2-B in chapter 8) and

3. Allowable BUG ratings not exceeding those shown in Table 5.106.8 ~~EN~~, or

Exceptions: ~~EN~~

1. Luminaires that qualify...
2. Emergency...
3. Building façade meeting the requirements...
4. Custom lighting features as allowed by the local enforcing...

5. Luminaires that qualify as exceptions to Section 130.2(b) of the *California Energy Code*.

Notes:

1. ~~EN~~ See also *California Building Code*, Chapter 12, Section 1205.6 7 for college campus lighting requirements for parking facilities and walkways.

2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table A-1, *California Energy Code* Tables 130.2-A and 130.2-B.

~~3. Refer to the *California Energy Code* for requirements for additions and alterations.~~

TABLE 5.106.8.1 ~~EN~~

MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS^{1,2}