

## DOCKETED

<b>Docket Number:</b>	17-BSTD-02
<b>Project Title:</b>	2019 Title 24, Part 6, Building Energy Efficiency Standards Rulemaking
<b>TN #:</b>	222437
<b>Document Title:</b>	Staff Supplement Nonresidential Outdoor Lighting Controls
<b>Description:</b>	Staff Supplement to CASE Report #2019-NR-LIGHT3-F by Simon Lee.
<b>Filer:</b>	Adrian Ownby
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	2/5/2018 1:33:48 PM
<b>Docketed Date:</b>	2/5/2018

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512  
www.energy.ca.gov



## ***Staff Supplement to CASE Report #2019-NR-LIGHT3-F***

---

**Date:** November 28, 2017

**Pages:** 2

**Author:** Simon Lee

**Subject:** Nonresidential Outdoor Lighting Controls, 2019-NR-LIGHT3-F

---

### DESCRIPTION OF PROPOSED REGULATORY CHANGES

CASE report #2019-NR-LIGHT3-F, titled Nonresidential Outdoor Lighting Controls, proposes to make the following changes to the Standards:

This report includes proposed changes that clarify and streamline requirements, update definitions, and broaden the existing mandatory outdoor lighting controls requirements. The proposed changes are summarized and itemized as follows.

1. Eliminating specific requirements for incandescent lighting systems.
2. Requiring that scheduling controls reduce lighting power at least 50 percent during normally unoccupied periods, which are similar to the ASHRAE requirements.
3. For luminaires mounted lower than 24 feet in parking lots, gas station canopies, gas station hardscape, and retail sales lots, bi-level motion sensing controls shall reduce lighting power of each luminaire by at least 50 percent when no motion is detected in the area after 15 minutes of time-out during scheduled occupied period. Requiring the total wattage of lighting applications be reduced by at least 75 percent when there is no activity detected after 60 minutes of time-out during scheduled unoccupied period. The maximum wattage that can be controlled together by a motion sensing control is 600 watts. The lighting system must be capable of reducing the power of each luminaire by 75 percent to 90 percent during vacancy.
4. Timed manual override with no more than 2 hour long to turn lights on at night. No more than 1800 wats can be controlled per manual override.
5. Acceptance tests will verify that control systems are reducing power during the normally occupied periods and normally unoccupied periods at night.
6. Clarifying that part night controls are an acceptable method of turning lights off during daytime hours.
7. Streamlining and removing separate control requirements for outdoor sales frontage, building facades, ornamental hardscape and outdoor dining.

Staff agrees with the proposed changes as indicated in Item #1,2,4,5,6 and 7 to Section 130.2, and have incorporated substantively similar changes into the proposed Express Terms.

Staff does not agree with proposed changes for gas station canopies, gas station hardscape, and retail sales lots in Item #3 as staff does not find strong evidence in support of the proposal. First, the occupancy model is based on some limited range of data gathered from one fuel station and one auto sale lot as indicated in the 2016 CASE Report, and the two sites were meant to represent the entire stock of gas stations and sales lots in the state of California. Second, the occupancy model is based on some assumptions and some limited range of monitored data. Without validation of simulation findings from the model, it is uncertain and inconclusive that the occupancy rates represent the entire stock of gas stations and retail sales lots in the State.

Staff also does not agree with the proposed mandatory 75 percent reduction of lighting power after 60 minutes of time-out during unoccupied period and 50 percent reduction of lighting power after 15 minutes of time-out during occupied period. Staff finds that the market is currently lacking occupant-sensing control based products that can meet the proposed requirement as summarized above. This lack of occupant-sensing control based products for meeting the proposed measure render the measure as infeasible.

#### STAFF ANALYSIS AND CONCLUSION

Staff has analyzed the submitted CASE report and reached the following conclusions for the measures included in the Express Terms:

- Require that lighting system power be reduced by at least 50 percent when unoccupied after hours.
- Require an override function can be provided for automatic scheduling controls and lights can be turned on for not more than two hours when an override is initiated. Require an acceptance test to verify the scheduled occupied and unoccupied periods of an automatic scheduling control.
- Require motion sensing controls for outdoor luminaires that are mounted 24 feet or less above grade and that not for building façade, ornamental hardscape, outdoor sales frontage, or outdoor dining lighting.
- Require motion sensing controls for outdoor wall mounted luminaires (also known as wall packs) installed for building façade, ornamental hardscape, or outdoor dining lighting.
- Provide an exemption to the mandatory motion sensing control for outdoor luminaires rated at 50 watts or less.

