

## *2016 Title 24 Code Change Advocacy*

# Request for Input: Outdoor Lighting Controls

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April 2014

## **Introduction**

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The California Investor Owned Utilities (IOUs) are actively supporting the California Energy Commission in updating the California Building Energy Efficiency Standards (Title 24). Their joint intent is to achieve significant energy savings through the development of reasonable, responsible, and cost-effective code change proposals for the 2016 code update and beyond. Through Codes and Standards Enhancement (CASE) Reports, the IOUs will provide the Energy Commission with the technical and cost-effectiveness information required to make informed judgments on proposed standards for promising energy efficiency design practices and technologies. This Request for Input provides an opportunity for stakeholders to help inform the development of these code change proposals. The IOUs encourage participation in this step of the process through the submission of data— both primary sources and references to existing data, e.g., reports, spreadsheets, etc. Further opportunities to provide feedback regarding these code change proposals will follow this Request for Input.

### **How to submit responses:**

Please submit responses to the questions presented below by Friday, May 9<sup>th</sup>, 2014 to: [info@title24stakeholders.com](mailto:info@title24stakeholders.com).

## **Summary of Potential Code Change Proposal**

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This measure covers exterior lighting controls modifications for nonresidential buildings. The measure descriptions for each specific sub-measure are provided below.

### **Removal of occupancy lighting controls exception for sales lots and sales canopies**

Title 24 2013 included new lighting controls requirements for exterior fixtures. The most significant of these requirements calls for occupancy sensing capability and a corresponding reduction in wattage and output during vacant periods. The code language created exceptions for a number of different applications, including sales lots and sales canopies. This code change proposal will consider removing the exceptions for these applications. The proposed code change will not impact the exception for sales frontage, as defined in the code.

### **Revision of lighting controls exception threshold for exterior fixtures**

Title 24 2013 created exceptions to the occupancy sensing/bi-level requirement for pole mounted fixtures less than 75 watts and non-pole mounted fixtures less than 30 watts. This code change proposal will evaluate if market and technology developments justify reducing these thresholds.

## Questions for Interested Parties

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The IOU Codes and Standards Team (CASE Team) is requesting feedback on the specific questions listed below regarding outdoor lighting controls. Answers to these questions will inform the energy savings estimates, cost-effectiveness analysis, environmental impacts, and market impacts that will be presented in the CASE Report.

### Tell us about yourself:

Please check all that apply to your current job description:

Design/Build Contractor       Auto Dealer       Gas Station Owner/Operator

Electrical contractor or electrician       Lighting specifier/designer       Lighting Distributor

Lighting source manufacturer       Luminaire manufacturer       Building inspector

Other (please describe) \_\_\_\_\_

What fraction of your business is serving the California lighting market? \_\_\_\_\_

### Request for Information Questions

1. Please provide data on the conditions of sales lots or sales canopies in California. Including, but not limited to:
  - a. square footage of space,
  - b. occupancy trends,
  - c. hours of operation, (including ratio of part-night to all-night operation of gas stations), and
  - d. preferred lighting technologies currently being installed.
2. Please provide data on the number of gas station sales canopies and auto sales lots in California.
3. Please provide data on the projected annual growth of new gas station canopies and auto sales lots in California.
4. Please provide data or relevant studies that have addressed the energy use or energy savings associated with lighting controls systems at sales lots or sales canopies. Please also include information on sites that have occupancy controls currently installed that may be interested in participating in a monitoring study.
5. Please provide data on outdoor occupancy sensors. Including, but not limited to: equipment cost, technical compatibility, reliability, sensitivity, and functional range.
6. What is the incremental cost to include occupancy sensing lighting controls to exterior LED canopy and area fixtures that can reduce fixture wattage by 40%-80%? Please consider both fixture integrated and non-integrated control configurations. Please provide a breakdown of materials and installation costs.
7. What is the lowest illuminance level, in foot candles, that would be appropriate in a sales lot or sales canopy during unoccupied times?

8. Are there any specific functional impacts that occupancy controlled lighting will have on sales lots or canopies?
9. What are the potential advantages that would result from occupancy sensor controls in canopies or sales lot from a safety or security standpoint?
10. What fraction of outdoor sales canopies are less than 24 feet high?
11. What fraction of gas station canopies over the pumps are less than 24 feet high?
12. By 2017 what do you think will be the relative mix (in percent) of lighting technologies used in sales or gas station canopies? \_\_\_\_\_ Metal Halide, \_\_\_\_\_ LED, \_\_\_\_\_ Induction, \_\_\_\_\_ Other (Please describe what is the other technology: \_\_\_\_\_).
13. What fraction of outdoor sales lot lighting is mounted less than 24 feet high?
14. By 2017 what do you think will be the relative mix (in percent) of lighting technologies used in outdoor sales lots? \_\_\_\_\_ Metal Halide, \_\_\_\_\_ LED, \_\_\_\_\_ Induction, \_\_\_\_\_ Other (Please describe what is the other technology: \_\_\_\_\_).
15. What is the most common application type for pole mounted fixtures less than 75 watts?
16. What is the most common application type for non-pole mounted fixtures less than 30 watts?
17. What is the incremental cost to include occupancy sensing lighting controls to exterior pole mounted LED fixtures, less than 75 watts, that can reduce the wattage by 40%-80%? Please provide a breakdown of materials and installation costs.
18. What is the incremental cost to include occupancy sensing lighting controls to exterior non-pole mounted LED fixtures, less than 30 watts, that can reduce the wattage by 40%-80%? Please provide a breakdown of materials and installation costs.
19. Are there any design issues that would limit the functionality of lighting control systems that could reduce wattage by 40%-80% for exterior pole mounted fixtures less than 75 watts or exterior non-pole mounted fixture less than 30 watts? Please provide detailed information on lighting technology, wattage range and technical limitations.