

2016 Title 24 Code Change Advocacy

Request for Input:

Indoor Lighting LPD Adjustments

2016 Title 24 Code Change Advocacy

April 2014

Introduction

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 codes 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. Information received will help inform the IOU's code change proposals and the CASE Reports. 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, 2014 to:
info@title24stakeholders.com.

Summary of Potential Code Change Proposal

This measure covers lighting power density (LPD) modifications for nonresidential buildings.

Indoor Lighting LPD Adjustments

The Lighting Power Densities (LPD) in Title 24 Section 140.6 are subject to change as new technologies (in particular, light source technologies that increase lamp efficacy) become available to the market. As a result, the LPD values continue to be revised downward over time in response to these technological advancements.

ASHRAE 90.1-2013 has recently adopted LPD values for several building spaces that are similar to Title 24 LPD values. While 90.1 and Title 24 aren't always directly comparable, there is widespread compatibility of the allowances in the two documents. The California Energy Commission is required to establish energy codes that are at least as stringent as the national energy code, however, ASHRAE 90.1-2013 is more stringent than Title 24 2013 in some cases.

This measure intends to make LPD adjustments to a selection of space categories and whole building values to reflect the values that have been established by ASHRAE 90.1 in their

consensus-built document. The spaces currently identified as candidates for revision, and the ASHRAE 90.1-2013 LPDs are¹:

Title 24 2013 Table 140.6-C		ASHRAE 90.1-2013 Table 9.6.1	
Primary Function Area	LPA	Common Space Type	LPA
Auditorium Area	1.5	Audience Seating Area in an Auditorium	0.63
Auto Repair Area	0.9	Vehicular Maintenance Area	0.67
Dining Area	1.1	Dining Area (in a bar/lounge or leisure dining)	1.07
Electrical, Mechanical, Telephone Rooms	0.7	Electrical/Mechanical Room	0.42
Exhibit, Museum Areas	2	Museum (general exhibition area)	1.05
Financial Transaction Area	1.2	Banking Activity Area	1.01
Hotel Function Area	1.5	Conference/Meeting/Multipurpose Room	1.23
Kitchen, Food Preparation Areas	1.6	Food Preparation Area	1.21
Laundry Area	0.9	Laundry/Washing Area	0.6
Library Area – Reading Areas	1.2	Library (reading area)	1.06
Lobby Area – Main Entry Lobby	1.5	Lobby (in a hotel)	1.06
Lobby Area – Hotel Lobby	1.1	Lobby (all other lobbies)	0.9
Locker/Dressing Room	0.8	Locker Room	0.75
Lounge Area	1.1	Lounge/Breakroom (in a healthcare facility)	0.92
Malls and Atria	1.2	Retail Facilities (mall concourse)	1.1
Transportation Function Area	1.2	Transportation Facility (terminal ticket counter)	0.8
Waiting Area	1.1	Seating Area, General	0.54

Buildings that include a large portion of these candidate space types may also be subject to LPD adjustments based on the component spaces.

Questions for Interested Parties

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

¹ In some space types the allowed LPD may vary by application and space geometry.

1. Based on the list of space types provided above, are there other opportunities to adjust LPD values in keeping with the approach to match the levels of ASHRAE 90.1-2013 in Title 24? Please provide specific information on any suggested areas of investigation.
2. What lighting sources will need to be used to meet the LPDs?
3. We believe that the reduction in LPD is not anticipated to impact costs appreciably. Do you agree or disagree? If you disagree, please describe how and provide specific supporting information.
4. Are there any impacts that these requirements will have on normal space use or function? Please explain.
5. Are there specific design impacts that the requirements will have on the design, construction, or commissioning/acceptance process? Please explain.
6. Are there specific room types that should be excluded from these changes? Why?
7. Would this requirement produce any undue burden on lighting designers, electricians, plan checkers, inspectors, manufacturers, or others? Please provide specifics on the group and the burden that this measure may impose.