

Proposal Summary



2022 California Energy Code (Title 24, Part 6)

Outdoor Sources – Nonresidential Lighting Power Allowances for Parking Lots

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Introduction

The document summarizes proposed revisions to the California Energy Code (Title 24, Part 6) that will be discussed during a utility-sponsored stakeholder meeting on September 5, 2019. The Statewide Utility Codes and Standards Enhancement (CASE) Team is seeking input and feedback. To provide your comments, email info@title24stakeholders.com by September 19, 2019.

Measure Description

This measure would update the lighting power allowances (LPAs) for areas affected by the updated light level recommendations in the latest version of the Illuminating Engineering Society (IES) recommended practice (RP) IES/ANSI RP-8-18 Addendum 1 Chapter 17 Parking Lots and Parking Garages, which is currently under review and pending publication. The Statewide CASE Team expects the recommended light levels to be lowered. The prescriptive exterior lighting LPAs would be reduced to reflect the revised recommended practices. The measure also looks to re-assess the need to distinguish between asphalt and concrete surfaces, which currently have different LPA specifications in Title 24, Part 6.

Research completed in Fall 2018 by the Virginia Tech Transportation Institute (VTTI) has found that visibility improvements in parking lots may plateau at lower light levels than those recommended in the current version of IES/ANSI RP-8-18 Chapter 17. Due to this research, and addendum to RP-8-18 is currently under review and is expected to reflect the new research findings by recommending lower light levels for parking lots. Lower light levels would improve energy savings in California since less energy would be required to provide the illumination recommended for parking lots.

VTTI's research also indicates that the difference in the light level requirements between asphalt and concrete surfaces in parking lots may be insignificant. The finding is expected to be adopted in the IES/ANSI RP-8-18 Addendum 1. This will result in lowered light level recommendations, which require less lighting power, and thereby result in additional energy savings in California. This measure may reduce complexity in the Standards, which may improve compliance.

Draft Code Language

The proposed changes to the Standards and Reference Appendices are provided below. Changes to the 2019 documents are marked with red underlining (new language) and ~~strikethroughs~~ (deletions). Expected sections or tables of the proposed code (but not specific changes at this time) are highlighted in **yellow**.



Standards

The Statewide CASE Team does not expect a change to the format of Table 140.7-A but expects LPA values to be reduced. Below is the expected update to code language. Please note that the new LPA values have not been developed, so they do not appear.

TABLE 140.7-A GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE

Type of Power Allowance	Lighting Zone 0 ³	Lighting Zone 1 ³	Lighting Zone 2 ³		Lighting Zone 3 ³		Lighting Zone 4 ³
	Asphalt/Concrete	Asphalt/Concrete	Asphalt	Concrete ²	Asphalt	Concrete ²	Asphalt/Concrete
Area Wattage Allowance (AWA)	No allowance ¹	0.018 W/ft ²	0.023 W/ft ²	0.025 W/ft ²	0.025 W/ft ²	0.03 W/ft ²	0.03 W/ft ²
Linear Wattage Allowance (LWA)		0.15 W/4f	0.17 W/4f	0.4 W/4f	0.25 W/4f	0.4 W/4f	0.35 W/4f
Initial Wattage Allowance (IWA)		180 W	250 W	250 W	350 W	350 W	400 W
<p>¹Continuous lighting is explicitly prohibited in Lighting Zone 0. A single luminaire of 15 Watts or less may be installed at an entrance to a parking area, trail head, fee payment kiosk, outhouse, or toilet facility, as required to provide safe navigation of the site infrastructure. Luminaires installed shall meet the maximum zonal lumen limits as specified in Section 130.2(b).</p> <p>²Where greater than 50% of the paved surface of a parking lot is finished with concrete. This does not extend beyond the parking lot, and does not include any other General Hardscape areas.</p> <p>³Narrow band spectrum light sources with a dominant peak wavelength greater than 580 nm – as mandated by local, state, or federal agencies to minimize the impact on local, active professional astronomy or nocturnal habitat of specific local fauna – shall be allowed a 2.0 lighting power allowance multiplier.</p>							

Reference Appendices