

DOCKETED

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Docket No. 17-BSTD-01 2019. Lutron Comments on T24 2019 Nonresi Lighting Provisions

Additional submitted attachment is included below.

July 14, 2017

Submitted via email: docket@energy.ca.gov

Mr. Andrew McAllister
Commissioner
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

Re: Docket No. 17-BSTD-01 2019

Lutron Electronics Co., Inc. Comments on the 2019 Building Energy Efficiency Standards Pre-Rulemaking Nonresidential Lighting Measures

Dear Commissioner McAllister,

Thank you for the opportunity to review and provide comments on the pre-rulemaking nonresidential lighting provisions for the 2019 Title 24 Part 6. These comments are submitted on behalf of Lutron Electronics Co., Inc.

As you may know, Lutron was founded in 1961 and is headquartered in Coopersburg, Pennsylvania. From dimmers for the home, to lighting management systems for entire buildings, the company offers more than 17,000 energy-saving products, sold in more than 100 countries around the world. In the U.S. alone, Lutron products save an estimated 10 billion kWh of electricity, or approximately \$1 billion in utility costs per year. The company's early inventions— including the first solid-state dimmer invented by Lutron's founder, Joel Spira—are now at the Smithsonian's National Museum of American History in Washington, DC.

Please find our detailed comments below. We look forward to working with you further on this important project. Please contact Michael Jouaneh at 610-282-5350 or mjouaneh@lutron.com if you have questions or would like more information on these comments. Thanks again for your consideration.

Respectfully submitted,



Michael Jouaneh
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Lutron Electronics Co., Inc.

cc: Payam.Bozorgchami@energy.ca.gov, Thao.Chau@energy.ca.gov

The comments and suggested edits to the proposals are shown below:

Nonresidential indoor lighting controls

1. Mandatory occupant sensing full OFF controls in nonresidential restrooms

Lutron comments: Support. This provision increases energy savings and aligns with similar provisions other energy codes used in the U.S. (i.e. IECC 2015 and ASHRAE 90.1-2016).

2. Automatic time-switch controls to comply with Section 130.1(c), be commissioned as manual ON. This proposal would exempt automatic time-switch controls used in industrial, single tenant retail, malls, auditoriums, concourses, lobbies and other areas open to the general public.

Lutron comments: We strongly believe that partial-ON should be an option in addition to manual-on. Studies have shown partial-on saves more than manual-on as occupants were satisfied with partial lighting levels. So, please edit the provision to allow for either manual-on or partial-on.

Also, please rewrite the provision such that it lists the required spaces which must have partial-on or manual-on lighting instead of listing the exempted spaces which allow for automatic-on. There will always be additional spaces that should be exempted which are not on the list of exempted spaces, parking garages and open office, for instance, should be exempted. If the provision is written so that the spaces which are required to have manual-on or partial-on are listed then there is no need to list exempted spaces and thus key exempted spaces won't be missed.

3. Delete EXCEPTION 1 to Section 130.1(b).

Lutron comments: Support.

4. Require lights to be turned OFF when daylight illuminance exceeds 150 percent of design illuminance.

Lutron comments: Support. This is in line with other energy codes/standards (i.e. IECC 2015 and ASHRAE 90.1-2016).

Nonresidential daylighting controls

1. The skylight daylit zone shall include – the floor area directly under the atrium, – and the area of the top floor that is directly under the skylight – Plus 0.7 times the average ceiling height of the top floor, in each direction from the edge of the rough opening

Lutron comments: Support.

2. Areas adjacent to vertical glazing with overhangs and no vertical glazing above the overhang, where the ratio of the overhang projection to the window head height is greater than 1.0.”

Lutron comments: We support this but it should add requirements for the width of the overhang in relation to the width of the window (so the provision is not abused such that a narrow overhang is placed over a wider window).

Nonresidential outdoor lighting controls

1. Scheduling and motion sensing for outdoor lighting during normally occupied/unoccupied hours.

Lutron comments: The language is complicated and confusing. The provision should say something like: Lights automatically off during daytime hours. Lights automatically reduced by 50%-90% based on activity in the area during nighttime business hours. And lighting is automatically reduced based on activity in the area by 80% to 100% during nighttime non-business hours.

2. Maximum of 800W of lighting power to be controlled together for all periods (occupied and unoccupied hours).

Lutron comments: Support. The larger the maximum lighting power that can be controlled together the better. 800W is better than the 400W initially proposed.

Nonresidential lighting alterations

Lutron comments: Overall, we support lighting alterations requirements that include more use of lighting controls. Swapping out lamps can only save so much energy. The only way to increase savings is to add lighting controls. Turning lights off when not in use, adding photo sensors, and dimming controls are all important. Both the CEA and CASE proposals are better than existing lighting alterations language. They simplify the section and provide for more energy-saving via controls than the current language does. However, Lutron prefers the CEA proposal for the following reasons:

First, it is simpler with only one table that is referenced for all lighting alterations (luminaire replacements or modifications).

Second, we support limiting the option 3 path (i.e. the 50/35% path, 40% in the CEA proposal) to smaller projects (5,000 sf and under) that are doing one-for-one lighting alterations. This prevents larger projects from avoiding energy-saving controls by just installing more efficient luminaires.

Third, projects that can choose option 3 should have inspections to verify the original lighting load that is being replaced and the new lighting load that is being added so that no gaming can occur. Once the old lighting is gone, there is no way to verify the load so it is important to have before and after inspections.

Lastly, we urge the commission to adopt the CEA proposal with one energy-saving improvement--include the partial-off control in stairwells like in the CASE proposal.