August 7, 2014

Maziar Shirakh
Buildings and Appliances Office
California Energy Commission
Sacramento, California 95814

Subject: Pre-Rulemaking Docket Number Re: 14-BTSD-01 Proposed Lighting Efficiency Measures for Residential

Dear Maziar:

On behalf of Sierra Club and its more than 380,000 members and supporters in California, I submit the following comments on the proposed changes to the residential lighting efficiency requirement for the 2016 Title 24 Building Energy Standards presented in the June 24, 2014 CEC staff workshop.

Residential Lighting Requirements:

Overall, the Sierra Club California is supportive of the draft proposal for residential lighting presented in the above mentioned workshop. Compliance is one of the biggest obstacles in meeting energy savings and greenhouse gas emission reductions for the state. The proposal will incentivize compliance by simplifying the requirement for residential lighting.

Compared to the 2013 standards, this proposal is likely to yield far greater savings. In a report submitted by the investor-owned utilities for this workshop, it was estimated that California will save 625 kWh/year for each new home and have a cost-benefit ratio of 6 to 1.

In reviewing the proposed revisions, Sierra Club California shares many of the same recommendations as those submitted by the Natural Resources Defense Council.

We offer the following comments:

1. **Adding Screw-based luminaries that meet Appendix JA-8 requirements to the list of high efficacy light sources in Table 150.0A**: We support this addition. Currently, the standard only requires that the screw-based luminaries installed by builders prior to inspection be high efficiency-- not high efficacy-- light sources. Without requiring both efficiency and performance, the consumer is likely to replace the bulb if he or she is dissatisfied with its ability to provide a desirable lighting.
2. **Requiring that all light sources meet high efficacy requirements of Table 150.0A:** Requiring builders to provide a room by room inventory of lighting installed at the time of sale is important for compliance. It will ensure that all lighting is high efficacy. The inventory should include make, model number and wattage of all bulb-lighting installed. The inventory list should be present at time of

909 12 Street, Suite 202, Sacramento, CA 95814
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inspection and time of sale as a builder could easily replace the bulbs with cheaper less effective ones after inspection.

3. **Vacancy Requirement**: We support the proposal to require at least one vacancy sensor-controlled luminaire in bathrooms, laundry rooms, utility rooms, and garages. In these areas of the home where the inhabitant activity is infrequent, vacancy sensor-controlled lighting can prevent wasted energy when an individual forgets to turn off a light.
4. **Dimming:** We recommend that dimmer-switch lighting meet SSL-7 design criteria to ensure that the bulb is compatible with the high efficacy fixtures. Improper matching will cause flickering and other undesirable effects, which lead to consumer dissatisfaction. The consumer may then choose to replace the light with a lower efficacy alternative.
5. **JA-8 Requirements:** Hue and color quality of the light emitted by a light source is a significant factor for consumer satisfaction. We support requiring lamps to provide a red or R9 value of at least 50. It has been shown that consumers desire this color value most. We appreciate the Energy Commission setting a minimum color rendering index value. This index minimum will ensure a greater level of consumer satisfaction. However, more discussion is needed among the stakeholders and the Commission to determine where the proposed minimum should be to ensure that satisfaction and motivated to continue support.

Since the Building Energy Standards program's inception, the state has enjoyed substantial energy and monetary savings and a significant reduction in greenhouse gas emissions. Addressing consumer satisfaction and light performance in the home is sure to incentivize compliance with residential lighting standards and lead to observable energy savings and therefore even greater greenhouse gas emission reductions.

Sincerely,

Edward Moreno
Policy Advocate
Edward.moreno@sierraclub.org