

DOCKETED

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Stack Labs Comments

Additional submitted attachment is included below.



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November 30, 2015

California Energy Commission
Commissioner Andrew McAllister and Staff
Appliances and Existing Buildings Office
1516 Ninth Street
Sacramento, CA 95814

Re: Docket#: 15-AAER-06, Small Diameter Directional and General Purpose LED Lamps

To Commissioner Andrew McAllister and Staff,

Thank you for the opportunity to comment on the Commission's plan to amend the Appliance Efficiency Regulations to include small directional and general purpose LED lamps. We strongly support the California Energy Commission's work to improve the energy efficiency and quality of lighting in our state.

Stack Lighting is a California-based company that has developed a state-of-the-art, commercially available, autonomous daylight harvesting and occupancy sensing indoor lighting technology that improves energy efficiency as much as 50% compared to conventional LEDs. Unlike conventional LED lamp designs, the autonomous lamps respond to changes in their environment by adjusting brightness and color temperature without user intervention. An additional core component of the technology is the ability of the lamps to wirelessly share information with each other, enabling grouping and other primary lighting control functions. This connectivity offers the user a streamlined commissioning process and opportunities for further lamp customization; leading to additional energy savings and an enhanced user experience.

As you have noted in your analysis, connected lighting is a rapid growing segment of the general service lamp market and will soon represent a significant portion of the installed base. Also noted, the standby power consumption of connected lighting can represent a significant portion of the total annual energy use of a lighting system. We feel that the 0.2W limit for simple communication standby power is attainable by the proposed January 2019 implementation date. We also see cases where added functionality in standby mode could be desired and beneficial. However, this added functionality would require additional power consumption. We are concerned that a single low standby power limit will negatively impact new products from entering the market which seek to provide functionality beyond lighting control. As an alternative, an approach similar to the Energy Star requirements for Small Network Equipment could be followed. For instance, in that standard a base power allowance of 2.0W is given for a wireless access point. Then added power allowance is given for added



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functionality such as 0.7W for Wi-Fi and 0.3W for gigabit Ethernet. A similar approach could be included in the updated Appliance Efficiency Regulations. For instance, communication via a single wireless protocol could have a base consumption of 0.2W and then a second communication network could be implemented with an added 0.2W power allotment. Unfortunately as this market is rapidly developing and changing, we do not believe it is possible to compile an appropriate list today. As such, we suggest that this topic should be revisited again to evaluate the state of the technology and the market in time to include this concept by the 2019 implementation date.

Currently no limit on standby power is proposed until 2019. This will allow for a great deal of experimentation in the market regarding the potential different uses for standby power in LED lamps. With no limit however, the market may be tempted to add features which consume substantial power, but do not provide reciprocal benefits. As such we feel that a 2.0W limit for standby power consumption could be implemented in January 2017 when these lamps become state regulated. A 0.5W limit is currently attainable for a simple connected product, but an added 1.5W would allow new products to come to market with added functionality and prove both the benefits and market acceptance of new technologies.

Thank you for your time & consideration and allowing us to comment on these important changes to the Appliance Efficiency Regulations. We believe that establishing limits on standby power are an important aspect of increasing LED lighting efficiency while at the same time allowing for advancements in new technology which can lead to added efficiencies.

Sincerely,

Kent Whiting
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