March 2, 2018

Ms. Taylor Jantz-Sell
ENERGY STAR
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW MC 6202A
Washington, DC 20460

Dear Ms. Jantz-Sell:

This letter comprises the comments of the Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas®), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE) in response to the United States Environmental Protection Agency's (EPA) draft ENERGY STAR® Product Specification for Luminaires Version 2.1.

The signatories of this letter, collectively referred to herein as the California Investor-Owned Utilities (CA IOUs), represent some of the largest utility companies in the Western United States, serving over 35 million customers. As energy companies, we understand the potential of the ENERGY STAR program to cut costs and reduce energy consumption while maintaining or increasing consumer utility of the products. We have a responsibility to our customers to advocate for sensible test procedures, specifications, and standards that accurately reflect the climate and conditions of our respective service areas to maximize the positive effects of these efforts.

We believe that a voluntary ENERGY STAR Luminaires Specification is an integral part of facilitating widespread energy efficiency. We encourage the. EPA to continue developing an ENERGY STAR specification that differentiates the most efficient products while delivering reliable performance, and conveying information to consumers about the product that is accurate and representative. The requirements arising from the specification are helpful for consumers seeking the most efficient products, and the utility-sponsored programs that leverage the ENERGY STAR distinction to identify and incentivize efficient products.

1) We recommend that ENERGY STAR report amplitude modulation values for various cut off frequencies in the California Title 24 JA10 format.

The Institute of Electrical and Electronics Engineers (IEEE) PAR 1789-2015 Standard, "Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers," which went through a public review process, has helped the lighting industry understand that the effect of modulating light on the human eye varies by frequency, and helps identify that there are physiological impacts of modulating light beyond the range of frequencies that are associated with direct perception of flicker. NEMA 77-2017, "Standard for Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria" proposes a method and metrics that addresses visible flicker and the stroboscopic effect, and is similar to IEEE PAR 1789 in that the impact of flicker is a function of frequency, but the metrics Pst (short term flicker) and SVM (Stroboscopic Visibility Measure) cannot be directly assessed against the IEEE PAR 1789 standard. That is, products tested for Pst and SVM cannot easily be plotted on the low risk/no risk graph to see if they meet the recommended levels of flicker.

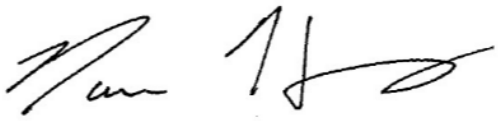
The data collected in California's Title 24, JA10 are percent flicker (percent amplitude modulation) unfiltered, and percent flicker with cut-off frequencies of 1,000, 400, 200, 90, and 40 Hz. The benefit is that one can plot these data points on the IEEE PAR 1789 recommendations for modulation percent versus frequency and have a good understanding of flicker performance in the visible flicker range below 60 Hz, the stroboscopic range at frequencies less than 1,000 Hz, and imperceptible flicker having physiological effects as documented with flicker around 120 Hz. The amplitude modulation value reported at the cut off frequencies does not just tell us the product's flicker performance at those frequencies, it tells us the performance at all frequencies below each cut off. This method yields a very significant amount of data that the industry can use to compare their products against the IEEE standard to see if there is a risk of impacts due to flicker.

It is clear that the industry has a need to move towards common and unified test procedures, metrics, and acceptable levels of flicker. In an effort to address this need, the CA IOUs recommend that ENERGY STAR report amplitude modulation values for various cut off frequencies in the JA10 format. This allows comparison between ENERGY STAR qualified lamps and lamps certified to California Title 24, JA8 requirements, which include flicker testing in accordance with JA10. Data collected in this format is more easily compared against the guidance given by IEEE PAR 1789.

In conclusion, we would like to reiterate our support to EPA for establishing this specification for luminaires. We thank EPA for the opportunity to be involved in this process and encourage EPA to carefully consider the recommendations outlined in this letter.

Sincerely,

Patrick Eilert
Manager, Codes & Standards
Pacific Gas and Electric Company



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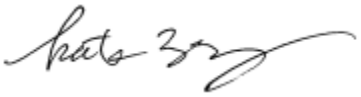

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