

State of California

Memorandum



Date: July 30, 2020

To: Gary Barsley, Southern California Edison (SCE); Henry Liu, Pacific Gas and Electric (PG&E); Chan Paek, Southern California Gas (SCG); Ed Reynoso, San Diego Gas and Electric (SDG&E); Nancy Goddard, PacifiCorp

CC:

From: Peter Biermayer - Utilities Engineer, Industrial/ Agricultural Programs and Portfolio Forecasting Section, Energy Efficiency Branch, Energy Division, CPUC

Subject: Disposition Approving LED Tube Type A: **SWLG009-02**

1. Discussion and Direction

The California Public Utilities Commission (CPUC) approves the statewide workpaper for LED Tube Type A: SWLG009-02. This workpaper is a Phase 1 submission for 2021 and the workpaper will become effective on 01/01/2021 with an expiration date of 12/31/2021.

2. Workpaper Summary

This linear lighting workpaper supports measures that replace 4' T8 fluorescent lamps with linear tubular LED lamps (TLEDs) that have an efficacy of 145 lm/W or higher. This is an accelerated replacement measure only (no normal replacement options) with a baseline of fluorescent lamps with efficacies of approximately 90 lm/W. Because this is an accelerated replacement measure and a relamping measure, Title 24 is not triggered, and code baseline does not apply. Furthermore, the 100 lm/W baseline required by resolution E-4952 does not apply as this requirement is for hardwire luminaires rather than lamps. The Workpaper Review Team found operating hours and interactive effects for all impacts were taken from the most applicable and updated DEER data and that all relevant cost and energy savings calculations were accurate. Preponderance of evidence supports the assumptions of the fluorescent lamp baseline as the measure technology requires fluorescent ballasts to operate.

The workpaper is in conformance with previous direction, including E-4952 (October 2018) and the DEER Update Resolution E-5009, to update the efficacy based on analysis of current products on the market.

3. Critical Review Issues

Prior CPUC guidance suggested that LED performance was increasing by approximately 10-12 lm/W per year, but this rate of efficacy increase has slowed, though is likely to continue to improve. This will warrant an adjustment in efficacy value for program year 2022 and future program years. Actual values will require further research and evaluation of the DLC Premium standards product lists.

A new Type A TLED workpaper should be submitted by June 1, 2021 for program year 2022 with revised efficacy values based on relevant research and analysis.