

State of California

Memorandum



Date: March 5, 2020

To: Cassie Cuaresma, Southern California Edison (SCE); Henry Liu, Pacific Gas and Electric (PGE); Chan Paek, Southern California Gas (SCG); Ed Reynoso, San Diego Gas and Electric (SDGE)

CC:

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

Subject: Disposition Approving Demand Control for Centralized Water Heater Recirculation Pump, Multifamily & Commercial: **SWWH015-02**

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## 1. Discussion and Direction

The CPUC approves the statewide workpaper on Demand Control for Centralized Water Heater Recirculation Pump, Multifamily & Commercial, SWWH015-02. This workpaper is a Phase 2 workpaper due to it being a revision of an existing statewide workpaper that was not changed pursuant to any DEER update resolution. The submission is effective on March 5, 2020.

## 2. Workpaper Summary

This Phase 2 workpaper is an update to existing workpaper SWWH015-01 which became effective on January 1, 2020. The update includes the addition of commercial measures to the previous workpaper which was for multifamily only.

This measure pertains to an on demand domestic hot water (DHW) recirculation pump for multifamily buildings and commercial building types including: hotel, motel, nursing home, and university dormitory. The pump is integrated with flow control capabilities, such as a variable frequency drive (VFD) controller or on/off controls. This technology controls the recirculating pump to provide a flow rate necessary to maintain a recirculation loop setpoint temperature. Reducing system flow rate to meet demand will reduce pumping power, heat loss in the recirculation loop, and boiler input gas consumption.

The unit energy savings (UES) that results from a demand controlled recirculation pump installed in a centralized multifamily and/or commercial building hot water system was developed through a combination of research, engineering calculations, and building energy simulation models.

This workpaper supports measures SWWH015A through SWWH015T. These include the addition of demand controls on water heating pumps in multifamily and commercial buildings.

Measures SWWH015, A through J are multi-family residential dwellings with unit sizes from ranging from 5-50 dwellings in 5 unit increments.

Measures SWWH015, K through T are commercial dwellings ranging from 25 units to more than 250 units.