

State of California

Memorandum



Date: February 28, 2020

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

CC:

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

Subject: Disposition Approving EC Motor Retrofit for Walk-In Cooler or Freezer: **SWCR004-01**

1. Discussion and Direction

The California Public Utilities Commission (CPUC) approves the statewide workpaper SWCR004-01 EC Motor Retrofit for Walk-In Cooler or Freezer Workpaper. This workpaper is in response to the resolution adopting updates to the Database for Energy Efficiency Resource (DEER). These updates include using the new DEER2020 energy simulation model which also includes a revised grocery building model. Cost data has also been updated. This workpaper will be effective on May 28, 2020.

The currently active workpapers for this measure listed below will remain effective until May 28, 2020, at which time they will expire, superseding expiration dates previously noted in the December 23, 2019 letter to Program Administrators.¹

PGECOREF109-6
SCE17RN011.0
PGE3PREF123-2
WPSDGENRRN0011-2

The effective date for SWCR004-01 allows for a 90-day notification period between workpaper approval and the workpaper effective date.

2. Workpaper Summary

¹ <https://deeresources.info/wpa/tree> under directory "Memos and Guidance"

This workpaper modifies a Phase 1 statewide consolidated activity, meaning that it is in direct response to changes adopted by the CPUC to the Database for Energy Efficiency Resources. As part of the consolidation effort, the Program Administrators (PA)s took the opportunity to update baseline motor case. **This current workpaper accounts for savings to bring existing condition motors up to the current code because the measure is the current code.** The revised baseline approach, model inputs, and simulation results were reviewed and are deemed reasonable.

Evaporator fan motors are found within refrigerated display cases and walk-in freezers/coolers. This measure pertains to the replacement of shaded pole (SHP) and permanent split capacitor (PSC) evaporator fan motors with new electronically commutated permanent magnet motors (ECMs) in walk-in freezers/coolers.

High-efficiency motors with lower energy (heat) losses reduce both electrical energy consumption of the evaporator fans and the internal cooling load required by the cases. EC motors operate efficiently over a wide range of speeds and optimize airflow while minimizing energy use and waste heat. **This work paper revision is estimated to reduce savings per motor by about 21% over the previous workpaper.**

This workpaper supports four measures SWCR004A through SWCR004D. These include the replacement of shaded pole (SHP) and permanent split capacitor (PSC) evaporator fan motors with new electronically commutated permanent magnet motors (ECMs) in walk-in freezers/coolers:

- SWCR004A: Walk-in cooler – PSC to ECM
- SWCR004B: Walk-in freezer – PSC to ECM
- SWCR004C: Walk-in cooler – SP to ECM
- SWCR004D: Walk-in Freezer – SP to ECM