

State of California

Memorandum



Date: February 19, 2020

To: Henry Liu, Pacific Gas and Electric (PGE); Cassie Cuaresma, Southern California Edison (SCE); 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 Statewide Workpaper: Enhanced Ventilation for Packaged HVAC
SWHC023-02

1. Discussion and Direction

The California Public Utilities Commission (CPUC) approves the revised statewide workpaper SWHC023-02 Enhanced Ventilation for Packaged HVAC. This workpaper is a Phase 2 submission for 2020 effective February 19, 2020. This statewide consolidated workpaper will supersede the existing statewide consolidated workpaper SWHC023-01.

2. Workpaper Summary

This workpaper is a revision to the Phase 1 statewide consolidated workpaper SWHC023-01 to include grocery building type modeled using eQUEST 3.65-7175 energy modeling software to estimate energy savings and demand reduction. In addition, the models use DEER 2020 prototypes obtained from MASControl3 serving as the base case with the 2010 climate zone (CZ2010) weather files. The model inputs, and simulation results were reviewed and are deemed reasonable.

This measure pertains to the addition of a variable frequency drive (VFD) to an existing packaged single-zone direct expansion (DX) HVAC unit with an outdoor air economizer to provide cooling when conditions permit. "Single zone" means that the system is controlled by a single thermostat and does not employ zone dampers, bypass dampers, or any other means of air volume control required for multiple spaces.

This workpaper covers the following statewide measure offerings:

SWHC023A	AC unit with Gas Heat, Add VFD
SWHC023B	AC unit with Gas Heat, Add VFD and NEMA
SWHC023C	AC unit with Gas Heat, Add VFD and PMM
SWHC023D	AC unit only, Add VFD
SWHC023E	AC unit only, Add VFD and NEMA
SWHC023F	AC unit only, Add VFD and PMM
SWHC023G	Heat Pump, Add VFD
SWHC023H	Heat Pump, Add VFD and NEMA
SWHC023I	Heat Pump, Add VFD and PMM
SWHC023J	AC unit with Gas Heat, Add VFD and ADEC
SWHC023K	AC unit with Gas Heat, Add VFD, NEMA, and ADEC
SWHC023L	AC unit with Gas Heat, Add VFD, PMM, and ADEC
SWHC023M	AC unit only, Add VFD and ADEC
SWHC023N	AC unit only, Add VFD, NEMA, and ADEC
SWHC023O	AC unit only, Add VFD, PMM, and ADEC
SWHC023P	Heat Pump, Add VFD and ADEC
SWHC023Q	Heat Pump, Add VFD, NEMA, and ADEC
SWHC023R	Heat Pump, Add VFD, PMM, and ADEC