

Dehumidification & Water Purification Demand Response Project

1. Overview

This project is evaluating the electric load and demand response capabilities of two (2) types of dehumidification drinking water systems. Ten (10) dehumidification units from two different vendors were installed in buildings around the SDG&E service territory. These units cool air below the dew point to produce water. The collected water is filtered, ozone is injected, then chilled or heated to use as an office “water dispenser” for drinking water.

The primary purpose of the assessment is to:

- Determine the load profile, baseline energy use, and peak demand of the units.
- Determine the available peak load reduction of the units for a demand response event. Multiple reduction strategies may be analyzed, including but not limited to turning the unit off or adjusting the water delivery temperature set points.

The secondary purpose of the assessment is to:

- Understand the added load (load growth potential) to the SDG&E territory assuming a reasonable penetration rate.
- Use the micro data to theorize what impact these products could have on the embedded energy in water distribution throughout SDG&E service territory.

2. Collaboration

The progress and results were shared with other CA IOUs during scheduled monthly DR-ET Leadership conference calls. SDG&E’s ET Team also collaborated with its facilities by placing two units for comparison study at its Energy Innovation Center (EIC) and Company office.

3. Status

Due to COVID-19, all units that initially were placed in facilities throughout the SDG&E territory have experienced a significant decline in usage due to business operations adjustments in response to the stay-at-home orders. SDG&E worked with its Measurement & Verification consultant to attempt to resume operation of the units where possible.

4. Next Steps

The project has been extended through Q2 2023 to allow time for the data collected from the units to be analyzed. The final report is expected to be available in Q2 2023. The final report will be published to the ETCC website for public review and reference.