

SDG&E DRET Project: Dehumidification & Water Purification Demand Response Project

Overview

This project is to evaluate 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 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.

Collaboration

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

Results/Status

Due to COVID-19, all units that were initially 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 is working with its Measurement & Verification consultant to resume operation of the units so they can receive Demand Response (DR) events. Once the units are operational, multiple DR events will be sent to the units to measure their performance. SDG&E’s ET Team will also continue to monitor the data from operational units.

Next Steps

The project is being extended thru Q2 2021 to allow time for the units to become operational and to analyze the data collected. The final report is expected to be available by the end of Q2 2021. The final report will be published to the ETCC website for public review and reference.