

New DR Program/Rate designs for Agricultural customers

1. Overview

PG&E received direct feedback from major aggregators of agricultural customers whose customers have significant load to drop and are interested in an agricultural specific DR program. Existing demand response programs are not an optimal fit for some customers in the agricultural industry given their unique load patterns and energy usage. By creating an agricultural specific demand response program or rate that helps customers overcome these obstacles and optimize their unique resources, more customers will have the opportunity to participate in demand response and PG&E will be able to meet its goals of maintaining, growing, and optimizing DR megawatts (MWs).

The objective of this study is to collect data on new DR Program/Rate designs for agricultural customers during 2021 in order to create a draft DR program design for agricultural and irrigation customers to be filed by PG&E in its 2023-2027 DR funding application. Specifically, the study goal is to collect data that informs a new pilot program designed for agricultural customers to do the following (including but not limited to):

- Increase load reduction per agricultural participants in existing DR programs
- Increase number of agricultural participants
- Reliable load reduction: ability to deliver the amount of load reduction that is promised
- Higher customer and aggregator satisfaction than agricultural participants in existing DR programs
- Whether cost-effectiveness remains the same or better than other agricultural participants in existing DR programs

2. Collaboration

The DRET team will use a 3rd party vendor who are familiar with the agricultural industries and market to implement this DRET study.

3. Results/Status

During the first and second quarter of 2021, the study conducted a conjoint choice model survey of 159 agricultural customers. The load analysis helped quantify total peak load during the 4-9 p.m. window on top system load days, which was used to segment customers into five load quintiles, each representing one fifth of total peak load. This was, in turn, used to sample customers for the survey and as a key input to the survey itself. Essentially, respondents were asked what portion of their peak load they could drop during events and were then shown various program designs and asked which if any they would enroll in. Using the information collected in the conjoint survey, the EM&V consultant developed a draft report for this study.

4. Next Steps

The DRET team will focus on developing a final report for the study. The draft report only focused on dispatch and incentive design for the recommended program design. There are additional considerations that need to be addressed such as clarifying eligibility requirements, criteria for event triggers, customer recruitment strategy, and ideas for accurately evaluating DR event performance which has been challenging for intermittent loads such as irrigation pumps. These research questions will be addressed in the full study report along with more detailed reporting on the quantitative and qualitative researches.