Comments of Pacific Gas and Electric Company
Commitment Cost Enhancements Phase 3 Workshop – Demand Response and Storage

Submitted by	Company	Date Submitted
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PG&E provides the following feedback that CAISO has requested subsequent to its June 15, 2016 workshop on commitment cost enhancements for demand response and storage resources.

In CCE3, CAISO has proposed to remove the default Use-Limited status of PDR and storage resources, and transition the optimization of these resources from Use Plans to commitment costs with opportunity cost adders. PG&E continues to prefer maintaining default Use-Limited Status for these resources given their innate use limitations. However, PG&E would also like to better understand how CAISO plans to apply potential mitigation rules to commitment costs for use-limit resources, once their status has been approved. For Demand Response resources in particular, operating within the parameters of the program design is crucial to prevent customer attrition from the program and ensure it is available when most needed by the market. PG&E would like further discussion on the optimization of limited PDR calls, particularly whether the proposed opportunity cost model will sufficiently represent these resources, and whether the negotiated opportunity cost option may be appropriate for different types of use limited resources.

I. *Proposed agenda for next meeting:*
   1. Use-limitation data plan template (ULPDT)
   2. Proxy cost methodology for commitment costs
   3. CCE3 methodology for opportunity costs
   4. Use-limited reached outage cards

   The agenda items appear appropriate. However, PG&E points out that issue related to availability of DR resources are being considered in the Resource Adequacy Rulemaking (R. 14-10-010) at the CPUC. Furthermore, there may be good reason to assess commitment costs for DR in a broader Distributed Energy Resource (DER) context in the ESDER initiative at the CAISO.

   During the discussion of Agenda item #1, PG&E would like CAISO to clarify whether PDR resources not registered as Use-Limited would still have access to the ULPDT, or if that tool is only accessible to PDR resources that are registered as Use-Limited.

During the discussion of Agenda item #3, or as a separate agenda item, PG&E would appreciate a detailed walk-through of the non-gas fired resource cost estimate calculations that CAISO proposes to use for PDR in the opportunity cost model. We also encourage CAISO to outline a plan for sharing these cost estimates and model results with Scheduling Coordinators so they can have visibility into the opportunity cost modeling process. This recommendation applies not just to PDR, but any Use Limited Resource that the CAISO is modeling for opportunity costs.

II. *To better facilitate discussions on agenda item #1 and #3, please indicate if PDR resources have limitations other than events per month, events per year, run-hours per month, run-hours per year, and run-hours per event.*

As a point of clarification, we interpret "run-hours per event" to also include run hours per day. Similarly, there can also be an event per day limitation. Overall, limitations for Demand Response programs are set by tariff and/or contractual terms. These limitations can be further constrained by other factors, such as the time of day, week-day or weekend, or the season. Furthermore, technology-specific limitations exist that may either preclude or significantly limit participation.

III. *To better facilitate discussions on agenda item #1, please indicate what documentation can be provided to the ISO which would verify/validate the limitations of the PDR resource for the four types of supply side demand response (DR) (DRAM or pro forma contract DR, Third party direction participation, Utility DR Programs, and Utility aggregator-managed programs).*

<u>DRAM</u> - Limitations are contractual.

<u>Third-Party (Rule 24)</u> - Limitations are contractual within the guidelines of the Rule 24 tariff.

<u>Utility Programs</u> - Limitations are tariff based except for AMP which is administered by third-party aggregators.

<u>AMP</u> - Limitations are contractual.

IV. *To better facilitate discussion of agenda items #1 and #3, please indicate if storage resources operating as PDR resources in the ISO markets have any other limitations in the PDR programs than traditional DR resources.*

While the CAISO is exploring use limitations for the NGR model as part of ESDER, Phase 2, these limitations could very well apply to PDR resources relying on storage devices. On a basic level, the State of Charge (SOC) would drive the overall limitation of the device at a specific period in time. Furthermore, use limitations should be considered. As with any battery, there will be tradeoffs between offering greater flexibility and the economic constraints of degrading the resource's useful life and manufacturer warranties. Based on PG&E's experience with the 2014 Energy Storage RFO and conversations with storage manufacturers, many energy storage warranties specify annual discharge limitations in order to preserve the life of the battery for the full span of the warranty. As with the NGR model use limitations can include daily throughput and cycle limitations among others. Please note these limitations may not be unlocked with an opportunity cost adder without harming the resource's useful life.