California ISO

Energy Storage and Distributed Energy Resources Phase 3

This template has been created for submission of stakeholder comments on the Draft Final Proposal of ESDER 3 that was published on July 11, 2018. The Draft Final Proposal, Stakeholder Meeting presentation, and other information related to this initiative may be found on the initiative webpage at: ESDER Webpage

Upon completion of this template, please submit it to initiativecomments@caiso.com.

Revised Comments Submitted by	Organization	Date Submitted
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PG&E supports the CAISO's ESDER 3 initiative and the efforts undertaken to further develop the PDR product. PG&E strongly supports behind-the-meter (BTM) batteries using CAISO's Demand Response Provider Agreement (DRP-A) for the following reasons:

- It is compatible with the existing distribution system. DR that does not export likely does not pose impacts to the safety and reliability of the distribution system.
- It allows BTM storage to stack value. The DRP-A allows a resource to serve retail functions (i.e., mitigate demand charges) while also compensating for resource adequacy (during curtailment) and wholesale energy (for curtailment and PDR-LSR load increase).
- The DRP-A allows BTM storage resources to quickly access the market, due to collaboration between the CAISO and the CPUC. Over the past nine years from the start of FERC Order 719 to the implementation of the CPUC's Rule 24, the CPUC and CAISO have worked close with stakeholders and IOUs to implement the necessary accompanying rules, processes and systems to address the complexities of BTM DERs CAISO participation using the DRP-A. For storage to quickly access the market, the DRP-A provides the fastest pathway.
- Demand Response is evolving to better represent the capabilities of storage. For example, CAISO now allows only the device to participate in a DR event, rather than the entire premise (CAISO's Meter Generating Output methodology approved in ESDER 1), allows DR to be bi-directional as it can now increase load (CAISO's PDR-LSR product in this ESDER 3 initiative), and can be dispatched more frequently and in the real-time market (CAISO's Bidding and real-time dispatch options for DR in this ESDER 3 initiative).

1. **Bidding and real-time dispatch options for Demand Response**

Support.

2. **Removal of the single load serving entity aggregation requirement and the application of a default load adjustment**

Support.

3. **Load shift product for behind the meter storage**

Support with caveats

To reduce bias in baseline calculations in the PDR-LSR product, PG&E recommends that the CAISO institute a buffer period before and after the PDR-LSR event. PG&E recommends a two-hour period before and after the event. In the case CAISO does not implement a buffer, PG&E recommends CAISO or the CAISO's Department of Market Monitoring commit to monitoring for bias in baseline calculations.

Background: In selecting 10 non-event like days for the PDR-LSR baseline calculation, the CAISO's proposal counts a day as a non-event like day as long as no event occurred during the same 15-min or 5-min interval as the event, regardless of whether an event is dispatched immediately before the interval on the "non-event like day". For example, if a PDR-LSR event is dispatched for 2:00 – 2:15 pm, the proposed baseline averages the load during 2:00 – 2:15 pm from the last 10 weekdays where no curtailment or consumption events were dispatched for that interval.

Issue: Energy storage is inherently energy-neutral, in the sense that a discharge is possible only if the battery has previously charged, and vice versa. Therefore, the load of an interval may be affected by the load of its adjacent intervals. As a result, a bias can be introduced if adjacent intervals are not taken into account when selecting non-event like days.

Example: Consider a scenario where the typical use of the storage is at 0 MW (neither charging nor discharging) at 2:00 – 2:15 pm. Suppose the battery responded to a curtailment event at 1:30 – 2:00 pm yesterday by discharging; afterwards, it charged itself from 2:00 – 3:00 pm. That is, the load for 2:00 – 2:15 pm is no longer representative of the typical use. However, the proposed baseline would still consider yesterday as a non-event like day, since no event was called during 2:00 – 2:15 pm.

Recommendation: Any event (curtailment or consumption) should have a buffer before and after the interval. PG&E recommends the buffer be two hours before and two hours after the event interval. Using the example above, none of the 10 non-event like days can have an event from 12:00 pm – 4:15 pm.

4. **Measurement of behind the meter electric vehicle supply equipment (EVSE) load curtailment**

   Supports with caveats.

   PG&E supports the ability of EVSEs to participate in the market when they are directly metered and/or sub-metered. The meter or sub-meter should be revenue-grade and should meet CAISO and utility meter specifications. Given that sub-metering may require additional testing and certification beyond the approved CPUC Certification Testing Requirement, PG&E recommends that the utilities develop safety, accuracy, and reliability standards associated with sub-metering, for CPUC approval with opportunity for third party comment.

   Market participation of sub-metered loads introduces complexity with regards to interval data collection and validation. Today, some EVSEs contain embedded sub-meters which are used to bill customers for vehicle charging. Those meters could potentially be leveraged to meter EVSE market participation. Alternately, utility-owned meters and/or sub-meters could be installed to meter market participation, in the meter configuration shown in either Figure 9 or Figure 10 of CAISO's Draft Final Proposal. The CPUC should consider both meter ownership alternatives (i.e. third party-owned vs. utility-owned) from the perspective of total costs to ratepayers. When costs of data transfer and validation are taken into consideration, utility-owned meters (which are integrated into existing utility smart meter networks) may provide the most cost-effective solution to enabling sub-metered EVSE market participation.

   PG&E supports CAISO's verbal proposal that a EVSE's metering plan would include an attestation or self-certification that the EVSE would not move load from the EVSE to the premise in order to charge during a DR dispatch event. PG&E recommends the CAISO provide such an attestation for stakeholders to review.

5. **Additional comments**