



Stakeholder Comments Template

Energy Storage and Distributed Energy Resources Phase 4

This template has been created for submission of stakeholder comments on the Second Revised Straw Proposal and associated March 2 & 3 meeting discussions, for the Energy Storage and Distributed Energy Resources (ESDER) Phase 4 initiative. The paper, stakeholder meeting presentation, and all information related to this initiative is located on the [initiative webpage](#).

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business **March 16, 2020**.

Submitted by	Organization	Date Submitted
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Please provide your organization's general comments on the following issues and answers to specific requests.

1. Demand Response (DR) ELCC Study Preliminary Results

Please provide your organization's feedback on the Effective Load Carrying Capability (ELCC) study preliminary results for DR resources, as discussed during the March 2 (day 1) stakeholder meeting. Please explain your rationale and include examples if applicable. Please also include any additional study results that would be helpful on this topic.

PG&E appreciates the discussion at the ESDER 4 stakeholder meeting regarding the Effective Load Carrying Capability's (ELCC) application to demand response, and the initial analysis for Proxy Demand Response (PDR). PG&E will reserve comments on the initial ELCC analysis until it reflects updates such as:

1. Utilizing updated data that reflects PG&E's Base Interruptible Program, which at 330 MW comprises the bulk of PG&E's DR programs
2. Utilizing 2019 data, in addition to 2018 data for PG&E's programs.

Below are open questions PG&E would appreciate the CAISO addressing:

- How will the ex ante load impacts in compliance with Load Impact Protocols (LIPs), which are designed to reflect a resource's capacity on the monthly system peak day, interact with the ELCC, which looks at a loss of load event on

an 8760 basis? This is in response to the CAISO's suggestion that the LIPs could interact with the ELCC when it comes to the LIPs being the starting point for: a) developing the QC of a resource and b) feeding into local requirements. PG&E is interested in more details from the CAISO to understand how both methodologies may be used in conjunction.

- How accurate or useful is bootstrapping one year of data to forecast out 68 years? Weather is not the only driver for variation in load impacts, even for weather-sensitive DR. Program enrollment plays an important role too, especially when explaining the change in DR available year over year. How will the E3 model take enrollment changes into account? Technological change also has an impact on the ability and/or willingness of a customer reaction in the face of a DR call.
- Is the load data, which is an input to the ELCC, based on production data or simulated data? How does this compare with what is done in the IRP?
- As RDRR is available 24x7, does it make sense to apply an ELCC to RDRR?

As stated in previous comments, PG&E notes that DR programs were designed to meet peak load and are measured per the RA Guide based on what they can provide during the availability assessment hours. PG&E understands the CAISO's proposal will feed into the CPUC's RA proceeding, and reflects evolving grid needs of increased energy and use limited resources as a part of the grid. PG&E strongly advocates that before DR measurement methodologies are made to prevent a loss of load expectation (i.e., 8760) instead of how they can bring down the peak (IOU programs today), DR programs should be redesigned to accommodate new measurement methodologies and performance expectations.

2. Operational Processes and Must Offer Obligations for Variable-Output DR

Please provide your organization's feedback on the proposed operational processes and must offer obligations for variable-output DR, as described within the second revised straw proposal. Please explain your rationale and include examples if applicable.

PG&E strongly supports the addition of the max run time parameter. This is in line with the recommendations from the CPUC's Supply Side Working Group and reflects the underlying retail programs that participate as either PDR or RDRR in the market. This enhancement will better enable PG&E to reflect the capabilities of its resources in the market. Accordingly, PG&E urges the CAISO to adopt this update.

3. End-of-Day State of Charge

Please provide your organization's feedback on the proposed end-of-day state of charge, as described within the second revised straw proposal. Please explain your rationale and include examples if applicable.

PG&E appreciates the CAISO's responsiveness to market participants' requests for an end-of-day state of charge parameter. This functionality is critical for specific bidding strategies for the CAISO to access the flexibility of energy storage resources in its markets. PG&E understands that the CAISO's proposal to limit the state of charge range between 0% and 10% as necessary to ensure that operators have confidence that they can rely on access to capacity during the evening ramp.

Limiting the functionality of market resources is a blunt instrument to ensure access to capacity. It is possible market signals can have a similar affect by discouraging participants from choosing high state of charge levels for the end-of-day state of charge parameter. Having an arbitrary limitation on this parameter that cannot react to changing market dynamics could be counterproductive to the CAISO's goals in this initiative.

PG&E suggests the CAISO evaluate an approach that gradually increases the range for the end of day state of charge as more data become available on the volume of capacity of storage resources and amount of installed capacity that uses this functionality. In addition, the CAISO should begin by increasing the minimum range to 25% as there seem to be no appreciable reliability impact for that range based on the data the CAISO displayed, and a 25% state of charge would be required under current market rules for four-hour batteries with ancillary service capabilities to provide ancillary services in the first hour of the following day.

4. End-of-Hour State of Charge

Please provide your organization's feedback on the proposed end-of-hour state of charge, as described within the second revised straw proposal. Please explain your rationale and include examples if applicable.

PG&E appreciates the CAISO addressing the bid cost recovery implications of using the end-of-hour state of charge, including the interaction of ancillary services and energy awards.

5. Default Energy Bid for Storage Resources

Please provide your organization's feedback on the proposed default energy bid for storage resources, as described within the second revised straw proposal. Please explain your rationale and include examples if applicable.

PG&E appreciates the thoughtful approach the CAISO has taken in designing a workable default energy bid for storage resources. The combination of a simplified energy cost, setting a floor with opportunity costs, as well as using data registered in the master file for cycling costs creates a workable approach to market mitigation.

6. Minimum Charge Requirement

Please provide your organization's feedback for inclusion of the minimum charge parameter in the ESDER initiative, and feedback on presented material at the stakeholder meeting on March 3, 2020.

The minimum charge requirement has been introduced into the ESDER4 initiative at a late stage and PG&E recommends delaying consideration of this requirement both to enable implementation of other elements on the current timeline, and to allow further evaluation of the need for such a requirement.

PG&E believes that the CAISO's objective with the minimum charge requirement is related to the CAISO discussion on operationalizing storage resources currently in the Resource Adequacy Enhancements initiative. PG&E suggests that both of these topics be taken up together in the next phase of the ESDER initiative. The other parts of ESDER 4 are fairly discrete and well-developed and should not be delayed for this discussion.

7. Additional comments

Please offer any other feedback your organization would like to provide from the straw proposal and topics discussed during the web meeting.