California ISO

Stakeholder Comments Template

Energy Storage and Distributed Energy Resources Phase 4

This template has been created for submission of stakeholder comments on the Draft Final Proposal and associated May 27 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 **June 10, 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. **Default Energy Bid for Storage Resources**

Please provide your organization's feedback on the default energy bid proposal for storage resources, as described within the draft final proposal and discussed during the May 27 stakeholder meeting.

SCE acknowledges the CAISO's recent progress in determining a default energy bid (DEB) for energy storage resources. The CAISO's proposed structure of the cell degradation cost for the discharge operating mode of the resource begs the question whether too little discharge should be compensated at the same rate as deeper or higher levels of discharge. SCE recommends that the incentive structure for degradation costs for energy storage resources can be improved as the CAISO learns and understands more about the operations of storage resources. The idea behind this suggestion is the CAISO's potential access to a wider operating range of any resource is not necessarily guaranteed with the payment of a unitary fixed fee to all units of available capacity from the resource.

For example, a fixed per unit fee may incent resource owners to limit the operating range of the storage resource that limits flexible operation of the resource in a similar manner as an end-of-hour or end-of-day state of charge target or narrow range does. SCE requests clarification from

the CAISO whether the current proposed $30/MWh value for cell degradation costs is applicable to resources that are economically discharged beyond the manufacturer's operations specifications and whether information on the specific performance range for the resource will be an input to the Master File.

Secondly, while SCE supports use of the market clearing prices from the market power mitigation run in the day-ahead market as the input prices for the storage resource's energy costs within the day-ahead market DEB calculation , SCE requests that the CAISO clarifies whether the market clearing prices from the integrated forward market or the hour ahead scheduling process are the prices that will be used in establishing the purchased energy costs for storage resource. SCE suggests using the HASP locational marginal prices in the calculation of energy costs for charging the resource in the real-time market since those prices will include any updates to natural gas prices and changes in the temperature forecast relative to the information used during the day-ahead market clearing process.

SCE supports the CAISO's willingness to allow market participants to update their default energy bid and commitment costs during the day when a gas price increase is experienced. Also, SCE supports the availability of this option to update the information used in calculating the resource's DEB. SCE acknowledges the attempts by the CAISO to balance the likelihood of how often local market power mitigation is triggered. However, SCE notes that there may be occasions when the opportunity costs component and the energy cost components of the DEB may be limiting when significant price escalation occurs when there is the coincidence of forced outages of sizable plants and high temperatures on the same day which is a low probability high-risk event. Fortunately, the negotiated DEB option remains as an aid during such infrequent events.

2. **End-of-Hour Charge Parameter(s)**

   Please provide your organization's feedback on the end-of-hour charge parameter(s) proposal, as described within the draft final proposal and discussed during the May 27 stakeholder meeting.

SCE supports the CAISO's proposal for the end-of-hour state of charge. In particular, SCE agrees that requests by Scheduling Coordinators for an end-of-hour state of charge that requires uneconomic dispatch of the storage resource should disqualify the eligibility of the resource for bid cost recovery. Also, SCE concurs that energy storage resources with ancillary services awards should not be discharged to a lower charge level than allows full delivery of the ancillary service award whether the storage resource has an energy award.

In addition, SCE concurs that Scheduling Coordinators for resources with resource adequacy obligations should not be allowed to set an end-of-hour state of charge that results in the under-delivery of the resource's must offer obligation in the market. SCE reserves comment on the unforced capacity (UCAP) methodology and the potential use of dispatch outcomes associated with self-schedules and end-of-hour state of charge parameter(s) that result in the reduced availability of the storage resource relative to its contracted value for the Resource Adequacy Enhancement initiative.

Further, SCE supports the CAISO's proposal to use an end of horizon constraint in the real-time market to align the intervals in the real-time unit commitment optimization run with the intervals in the real-time economic dispatch run since absent this constraint these individual optimization processes terminate at different times on the clock. Since the CAISO's proposal seeks to adjust the end-of-hour state of charge to account for any charging activity that occurs beyond the RTED optimization horizon relative to the latest RTUC advisory instructions for the relevant operating hour for which the real-time dispatch is being determined, SCE requests clarification whether the likelihood exists for the occurrence of uneconomic dispatch of the storage resource when the constraint is enforced such that the resource's eligibility for bid cost recovery is disqualified.

3. **Variable-Output DR**

   Please provide your organization's feedback on variable-output DR, as described within the draft final proposal and in the ELCC study discussed during the May 27 stakeholder meeting. Please explain your rationale and include examples if applicable.

SCE appreciates E3's efforts to address stakeholder feedback by incorporating 2019 bid data and temperature day-matching into the ELCC methodology study. Even with these improvements, additional refinements are still needed before further consideration.

SCE believes using actual bid data may underestimate the availability of certain programs. For example, if a resource exceeded its maximum number of events per month, then the bid would be zero for the remainder of that month. By just looking at the 2019 bid data, it would be difficult to tell whether the resource's bid was adjusted to zero because it reached a maximum cap or not. A possible alternative is to utilize program year 2019 load impact profiles from the CPUC's load impact protocol models. These models generate monthly 24-hour load impacts under a 1-in-2 and 1-in-10 weather condition. Extrapolation of the load impact profiles, instead of actual bid data, would then provide E3 the desired availability for each DR program under different weather year conditions.

E3's presentation also introduced the "first-in" and "last-in" approach to measure ELCC for each resource type but provided very little detail of the calculation. SCE requests the CAISO and E3 to provide detailed examples by resource type and explain how the CPUC's loading order is factored into scaling of each resource types to the portfolio ELCC.

Lastly, SCE re-emphasizes the point that DR as a program was designed for peak conditions. SCE agrees that E3's utilization of DR as either last resort or optimal dispatch, to delay storage discharge, demonstrates how DR potentially can evolve as the grid needs change. However, this approach puts into question how DR should be treated in the future.

4. **Additional comments**

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