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.**

Nu	Organization	Date Submitted
Nuo Tang Lizette Garcia-Rodriquez	SDG&E	June 10, 2020

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.

   SDG&E generally supports the CAISO's proposal for the default energy bid (DEB) for storage resources. More practical experience and resources in the market may be needed in order to develop a fully fungible and functional DEB that will reasonably approximate energy storage costs for most resource types. As such, SDG&E requests the CAISO to revisit the DEB formulation and consider additional components as more experience is gained.

   Additionally, SDG&E requests the CAISO to consider what the opportunity cost component would be for the charging portion of the DEB. The examples provided by the CAISO are tailored for discharging the resource. However, there may be opportunity costs if the resource were able to charge at a lower price at a later time of the day as well.

   DEB is an important tool that helps mitigate market power, but energy storage resources are still very limited from an overall capacity standpoint and compete with conventional generation resources as a dispatchable energy resource. Therefore, energy storage resources won't be able to exert much market power for quite some time. The current proposal to mitigate market power is reasonable for the discharging portion. However,

SDG&E questions whether the formula is appropriate for the charging portion. Is it possible for a storage device with 0MWh state of charge to provide a bid curve to charge with a positive price, i.e. $50/MWh, and exert market power that would cause it to be mitigated to a lower price based on the formula? Unlike a traditional generator, in which the price of the output would be mitigated, the storage device's charging would also be mitigated. A storage device's charging bid may induce another resource to output energy and deliver more energy. That combination of creating demand to match with supply may require market power mitigation for both resources. Under traditional generator mitigation, that works to reduce the bid price for output. With storage resources being able to charge, it seems reasonable to increase a negative bid price. However, it does not seem logical to reduce a positive bid price to charge. Doing so would effectively lower the charging bid which would seem to exacerbate the market power issue.

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.

SDG&E supports the end of hour state of charge ("SOC") parameters and believes it would allow energy storage devices to better transition to match the beginning SOC for the following day. SDG&E is concerned with the interaction of resource adequacy requirements. Under the CAISO's resource adequacy enhancements initiative, the framework of what types of "outages" count towards the new Unforced Capacity Valuation Methodology ("UCAP") has not been defined. One possible scenario the CAISO has considered is to calculate the UCAP based on all 24 hours of the day. If that is the case, then it would seem that the end of hour SOC could not be utilized by energy storage devices at all in order to limit any effect on the UCAP amount. As such, SDG&E does not believe this option could be utilized as the majority of energy storage resources in the near future would be RA resources. Therefore, SDG&E believes the CAISO should ensure that energy storage resources that are committed as resource adequacy resources also can utilize this option. If the RA enhancements initiative does not resolve this issue, then the CAISO should include this in a future phase of ESDER.

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.

SDG&E has long suggested that the CAISO should consider demand response resources similar to that of variable energy resources for purposes of market optimization. This is primarily because the CAISO's systems prevent a demand response resource from submitting outages which would partially derate the demand response resource's maximum output. As such, the alternative solution is to treat such resources similar to other variable energy resources. SDG&E appreciates the CAISO's willingness to further develop this option.

However, SDG&E is strongly disappointed by the requirement to have the CPUC adopt an ELCC methodology for demand response in order to move forward with the variable output option. SDG&E believes the CAISO should offer this bidding option because it can help

resources manage their availability to the CAISO, which it is currently unable to do because the CAISO's outage management system prohibits it.

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.