



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
<i>Jeremy Waen, (650) 257-8026</i>	<i>Peninsula Clean Energy</i>	<i>March 16, 2020</i>

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.

Peninsula Clean Energy ("PCE") provides no comments on this topic at this time, but reserves the right to take any position on this matter in this and other proceedings and venues.

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.

PCE provides no comments on this topic at this time, but reserves the right to take any position on this matter in this and other proceedings and venues.

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.

PCE refers the California Independent System Operator Corporation ("CAISO") to the additional comments below.

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.

PCE refers the CAISO to the additional comments below.

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.

PCE refers the CAISO to the additional comments below.

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.

PCE refers the CAISO to the additional comments below.

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.

PCE thanks the CAISO for the opportunity to comment 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. This process has facilitated valuable discussion that will assist the development and deployment of technologies that provide, or support the provision of, renewable and carbon-free energy.

The array and complexity of topics discussed in the Second Revised Straw Proposal and at the March 2 and 3 meetings highlights a concern for PCE, in that there appears to be insufficient time and process to consider the merits of such proposals. The extended debate and discussion on the minimum charge requirement, state of charge parameters, and Default Energy Bid, indicate a need for further time and analysis of how these features will be adapted to newly deployed storage technologies. Analysis of questions involving storage in processes involving other technologies has tended, in PCE's view, to distract from focusing on resolving complex and critical issues involving energy storage.

Moreover, key issues involving the participation of energy storage are being discussed in several CAISO stakeholder processes at once. Given the complexity of matters involving energy storage, the CAISO should consolidate such issues in a single initiative to consider tariff and rule reform specific to energy storage. For example, during the March 3 meeting, stakeholders raised issues regarding the state of charge requirements being discussed in the ongoing Resource Adequacy ("RA") Enhancements initiative. As illustrated below, state of charge parameters will create an impact on the operating flexibility and incentives of storage resources in their participation in both the Day-Ahead and Real-Time Markets. Another initiative involving storage is the Hybrid Resources initiative, which examines the use of storage coupled with other resources such as solar generation. That initiative includes discussion regarding forecasting.¹ As described below, utilizing extended-look forecasts in the Real-Time market has been suggested as a means to improve storage's participation in the Day-Ahead Markets while providing flexibility. Stakeholders would benefit considering these issues in one space. The CAISO should consolidate the issues involving storage into a single initiative, addressing, at the very least, issues raised in the Hybrid Resources, RA Enhancements, and ESDER 4 processes. Such initiative would analyze storage in its various forms, whether stand-alone, co-located with generation, or aggregated behind-the-meter.

Illustrating that important issues involving storage have been raised in parallel stakeholder processes, PCE points to the January 27, 2019 comments² submitted in the RA Enhancements proceeding by CalCCA. Among the issues raised by CalCCA in its comments are striking a balance between ensuring storage resources have enough energy stored to support reliability while providing real-time flexibility. CalCCA described a concern of setting too early a state of charge constraint in the day that would inadvertently disallow the ability of storage to engage in multiple charge-discharge cycles through the day to assist in real-time market dispatch. Day-Ahead Market constraints on storage also could create disincentives for storage to clear in the Day-Ahead Market, leaving the CAISO to account for storage in the Real-Time Market. CalCCA offers measures to assist storage participation and efficient market outcomes, including: 1) a means to optimize storage resources' real-time schedules several hours into the future; 2) enforcing minimum

¹ See Hybrid Resources Revised Straw Proposal at 13 (Dec. 10, 2019), found at: <http://www.caiso.com/InitiativeDocuments/RevisedStrawProposal-HybridResources.pdf>.

² See CalCCA Comments, Jan. 27, 2019, at: <http://www.caiso.com/InitiativeDocuments/CalCCAComments-ResourceAdequacyEnhancements-ThirdRevisedStrawProposal.pdf>

state of charge constraints only at the beginning of a discharge event to allow the resource to provide real-time flexibility; and 3) enforcing minimum state of charge constraints on storage resources based on merit order, from lowest foregone revenue to highest.

CalCCA's comments in the RA Enhancements process and the detailed discussion by the CAISO and stakeholders of state of charge parameters and requirements in both the RA Enhancements and ESDER-4 proceedings underscores the need to consider these issues in a single proceeding, rather than on a piecemeal basis, where stakeholders and the CAISO could reach conflicting or misaligned conclusions.

In describing CalCCA's January 27, 2019 RA Enhancements comments in this process, PCE indicates its support for the positions taken by CalCCA in those comments, and urges the CAISO to consider them in both the RA Enhancements process and in this ESDER-4 process.