



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.

Submitted by	Organization	Date Submitted
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Submissions are requested by close of business **March 16, 2020**.

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.

No Comments.

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.

No Comments.

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.

Boston Energy has been supportive from the beginning of the ISO's proposal to allow storage resources to reflect desired state of charge on an hourly basis in real-time. While Boston Energy doesn't oppose the ISO's considering an end of day SOC parameter we have more questions than answers at this point. Our main question is given the limitations the ISO is proposing, will the parameter be effective at addressing resource owner needs?

Additionally, Boston Energy feels the proposal lacks sufficient detail on key items. What is the interplay between the end of day parameter and the hourly parameter and what priority will this constraint be given in the DA and RT market solution? Also, the proposal lacks any discussion on how the end of day constraint will impact the procure of ancillary services. Last, but certainly not least, what is the impact of this constraint on the market solution time and again is this added complexity with the proposed limitations worth it?

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.

Boston Energy continues to support the ISO's proposal allowing storage resources to reflect an end-of-day state-of-charge parameter in the day-ahead market. This optional parameter will allow operators to manage the use of its resource through market bidding, rather than self-schedule or non-efficient administrative constraints such as the ISO's minimum charge requirement proposal.

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.

Boston Energy remains supportive of continuing discussions on the development of a default energy bid (DEB) methodology for energy storage resources. As stated in previous comments, Boston Energy urges the ISO to fully vet out its proposed design and not rush a design through to meet some artificial deadline. It would be helpful if the ISO could develop examples, based on actual day-ahead energy prices, on how the DEB methodology would impact generic resources. If possible, these examples should include the impacts on ancillary service awards when the DEB bid is used in the market solution.

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.

Boston Energy strongly opposes the CAISO proposal for introducing a minimum charge requirement on storage resources that have day-ahead energy awards. We reiterate our comments provided to the ISO in early January as part of the RA Enhancements initiative.

The ISO's minimum charge requirement is purely artificial and inconsistent with the fundamental market design principles CAISO's market has been built on. CAISO's markets are setup as a three-settlement system. Where **all** resources will settle day-ahead schedule deviations at the FMM price and all FMM schedule deviations at the 5-minute real-time price. This fundamental concept would continue to apply to all resource except energy storage.

We view such a requirement as discriminatory and ultimately resulting in reducing the flexibility and value of energy storage resources in the market. As an example, why wouldn't the ISO apply the same constraint to a traditional gas peaker which has a multiple start per day limit. Such a resource could in theory receive a day-head energy award for certain evening hours but operate in prior hours due to real-time pricing events. Given the resource limitation such real-time market outcomes would make the resource unable to meet its day-ahead schedule for the evening hours.

This proposed requirement will take away much needed flexibility from the ISO. The ISO's concept incorrectly assumes that reliability is only needed in hours when the day-ahead market schedules energy storage resources for energy. Why does the ISO assume that no reliability events will occur during hours when energy storage resources don't have day-ahead energy schedules? Why does the ISO assume that every hour an energy storage resource has a day-ahead schedule is a reliability event? Contrary to the ISO's characterization, we feel restricting the discharge capability of an energy storage resource could create reliability issue rather than solve them as the proposal is trying to address. What will the ISO do if a reliability event occurs outside of an energy storage resources day-ahead energy schedule hour, and the ISO artificially restricts the energy storage resource from responding? Exceptional dispatch and out of market actions should not be the answer.

Further, the storage market is still evolving and implementing this constraint will place significant downward pressure on the market value of storage. Instead, the ISO should be developing market design enhancements to increase the market value of these resources. Artificially restricting an energy storage resource to respond to real-time price signals is counterintuitive and will result in decreasing energy market value to energy storage resources and ultimately increasing CAISO overall cost to meet system needs. The speed, accuracy, and flexibility of energy storage resource should be viewed favorably by the ISO and valued, not restricted and discouraged.

In addition, given that the majority of energy storage resource are being procured through various long-term procurement process the proposal to implement a minimum charge constraint creates uncertainty and potential financial harm to resources who have already contracted with LSEs. These resources and those currently participating in open RFP's all have to make assumptions on expected CAISO market revenues to provide the LSE's with a least cost best fit option. The introduction of this requirement has significant negative impacts on the assumptions made by developers regarding energy market revenues and is something the ISO needs to really consider before imposing artificial constraints on resource that restricts their ability to maximum energy market revenues from the CAISO markets.

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.

Boston Energy would like to again raise a concern with the disconnect between RTD and AGC as they related to energy from energy storage resources that is associated with a regulation commitment. We continue to see instances, as recently as Match 12, 2020, where RTD is computing 5-minute LMPs of \$1,000, while AGC is asking energy storage resources to regulate down. When this occurs the energy storage resource is paying \$1,000 a MW for the energy associated with the regulation down award. This outcome is very problematic and can have significant financial implications for energy storage resources, especially if this pricing disconnect continues for multiple intervals. We ask the ISO to perform a deep dive into the drivers of the disconnect and consider improvements to its market solution to limit the duration of these instances or provide a make whole payment if energy costs for the day results in financial loses.