Comments of the
California Energy Storage Alliance (CESA)
on Energy Storage and Distributed Energy Resources
(ESDER) Phase 4
August 21, 2019 Workshop

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. **Discussion on non-24x7 settlement of BTM Resources**

   Which areas will require the local regulatory authority to change its rules or provide clarification to load serving entities?

   CESA appreciates the CAISO's focus on this issue.

   CESA seeks to support and address concerns about non 24x7 DERP participation. CESA also requests the CAISO continue to specify key concerns and to consider solutions and to learn from both existing practices in California and approaches elsewhere.

   CESA reiterates that a growing number of resources have both capabilities and varying degrees of appetites for providing wholesale market services in some periods. CESA recognizes that any participation model for behind-the-meter (BTM) resources that enter and exit the market at various times will need to ensure appropriate tracking of wholesale services and energy versus retail services and energy. Fortunately, much of this work has been addressed or considered already. Southern California Edison (SCE), in comments related to the CPUC's Multiple-Use Application (MUA) Working Group, developed approaches for settlement, including approaches for the tracking and 'accounting' for wholesale versus retail settlement. These concepts highlight that tracking and separation of such resources are possible.

The CAISO also rightly recognizes that load scheduling should be reasonably accurate, and that the effects of changing or directed schedules for BTM resources could affect load scheduling. CESA seeks to explore solutions to this topic. Past efforts, such as demand response (DR) efforts, have addressed this topic through baselines, communication protocols, etc. CESA believes these approaches could similarly be used.

A reasonable assessment of the risks of BTM resource market participation and market entry and exit on load scheduling should also be considered. CESA hazards that such scheduling 'dynamism' may be mere noise compared to load scheduling system-wide. For instance, load forecasting can be challenging under many conditions – e.g., guessing the timing of the fog belt going offshore of the LA Basin. CESA also knows that VERs can be hard to predict at times. The challenges and effects of market entry and exit from DERPs should factor into any level of concern on this topic.

The implications for distribution system operations should also be considered, though this is not directly CAISO jurisdictional. Despite the CAISO lacking jurisdiction, the CAISO has supported a 'conferral process' as part of the registration of DERPs such that utility distribution system operations can be considered prior to a DERP's activation.

Finally, CESA believes that accommodations or solutions can be developed to address any issues that may arise between utility metering and tracking versus CAISO settlement. CESA continues to seek to understand any specific examples of issues in this regard.

2. **Market Power Mitigation for energy storage resources**

CESA again recognizes the CAISO's leadership role on this issue. In light of recent discussions and findings, CESA is herein partially modifying its position on this issue.

To date, CESA has been supportive of enabling Market Power Mitigation (MPM) for energy storage. CESA continues to believe that Default Energy Bid (DEB) calculations will be tricky for storage. CESA thus continues to advocate for customizable DEB calculations for resources, where needed.

CESA has previously suggested any DEB approach include a relatively large buffer to ensure that a resource's costs were covered by its DEB, but analysis and discussions form the Market Surveillance Committee (MSC) meeting on August 19, 2019 highlighted the risks of too high of a single-point bid curve. CESA is thus open to a more precise approach for DEBs such that the capacity and energy of a storage device is not inefficiently underutilized via an overly conservative (high) DEB.

CESA also suggests pursuit of a two or more point-mitigation curve structure such that the optimization recognizes how to both charge and/or discharge a storage device even when mitigated. On this point, however, CESA continues to seek to understand how mitigation may apply differently in the day-ahead 24-hour

simultaneous optimization versus the rolling real-time market. While Bid-Cost Recovery (BCR) approaches will ensure that costs are still recovered, CESA remains unclear on if the mitigation may create situations where the bid curve is not monotonically increasing, and how such an outcome could affect the optimization's consideration, scheduling, and dispatch of storage resources.

In terms of reflecting the interplay between state-of-charge (SOC) and depth of discharge (DOD) on storage device degradation (or on maintenance costs), CESA appreciates the CAISO's thoughtful approach to this issue, teeing up Option 1 and Option 2. CESA notes that many storage projects are under development but that relatively few are in operations today. CESA thus expresses some caution in endorsing Option 1 versus Option 2.

CESA's views are guided by the idea that, with multiple bid points (as expressed above), a DEB should reasonably reflect costs while generally positioning storage resources efficiently. This efficient position may depend on the storage medium, but battery storage technologies can generally be expected to be avoid extreme SOCs – i.e., more likely to operate in the mid-range SOCs.

CESA understands that Option 2 (with multi-point bids) is likelier to yield this 'sweet spot' positioning when compared to Option 1. A multi-point segment bid and different multipliers for each segment could readily reflect the varying costs of the SOC and DOD for batteries but could also be used by other storage devices that do not experience SOC, DOD, or cycling-related degradation. The capability to represent the multipliers could be added to SIBR as well. CESA emphasizes that the multipliers will be project specific in many cases, and the ability to establish appropriate multipliers may be essential to the accuracy of the DEBs.

Perhaps even broader than allowing idiosyncratic multipliers on each of multiple bid points, CESA believes an approach that is flexible and tunable will be beneficial as parties finalize a DEB calculation bid-curve formulation methodology that truly works. CESA recommends further consideration of this 'sweet spot' concept, as it should also be balanced against theoretical

3. **Variable Output Demand Response resources**

   CESA has no comments at this time.

4. **Additional comments**

   Please offer any other feedback your organization would like to provide from the topics discussed during the working group meeting.

   CESA has no additional comments at this time.