



Stakeholder Comments Template

Energy Storage and Distributed Energy Resources (ESDER) Phase 4

This template has been created for submission of stakeholder comments on the Issue Paper for ESDER Phase 4 that was published on Feb 6, 2019. 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 **Feb 27, 2019**.

Submitted by	Organization	Date Submitted
<i>Naor Deleanu 650-533-2014</i>	<i>Olivine, Inc</i>	<i>2/27/2019</i>

Please provide your organization's comments on the following issues and questions.

1. Non-Generator Resource (NGR) model

Support.

Olivine supports improvements to NGR optimization and simplifying participation agreements for NGR and NGR DDR resources.

2. Bidding requirements for energy storage resources

No position

3. Demand Response resources

a. DR Operational Characteristics:

Support with caveats

Olivine supports further clarification on bidding options for PDR resources that are required to be available in the real-time market due to RA obligations. CAISO should make clear in the tariff any restrictions on commitment costs as well as expected bid behavior to best account for DR's

operational characteristics. CAISO should also include in this scope recognition of maximum run times, minimum run times, and start limitations.

More holistically, CAISO should consider a different bid structure for DR resources to better account for operational differences compared to conventional generators. For example, recognition of a DR “event” rather than a “start” and “dispatch” could allow committed resources to participate in the real-time market without risking exhaustion of daily use limitations. Even under the hourly bidding option with CCEDEBE bidding options, it is possible for a resource with 1 start per day to get dispatched for non-consecutive intervals. Consider the following simplified example:

- 1 MW PMax
- 0 MW PMin
- \$200/hour curtailment cost, translated to \$200/MWh energy bid
- 1 event per day

The resource will frequently get committed to 0 PMin assuming \$0 startup cost. Note if the startup cost is greater than 0, the resource will likely have to reduce the bid price accordingly to achieve the same probability of commitment. It would also have the effect of relatively reducing the chance of a shorter event period compared to a longer event period.

The market price could be \$200 from 1-2 PM, \$100 from 2-3 PM, and \$250 from 3-4 PM. The resource would not be able to meet the second dispatch unless told to continue operating from 2-3 PM. However, even if this were an option, the revenue from 2-4 PM would only be \$350 compared to \$400 in costs.

Consider the same resource with a \$200/hour Minimum Load bid instead (with \$0/MWh energy bid). In this case, the resource would only be kept running if the expected revenue was more than \$200/hour and thus would not receive a second dispatch. This is one of several scenarios where fitting conventional generator bidding options into DR resources will lead to a combination of unorthodox bidding (such as using minimum load bids instead of energy bids) and uneconomic or infeasible market dispatches. The possibility of these types of situation may result in lower offered DR capacity or poor market performance.

b. Weather-Sensitive DR

Support with Caveats

Olivine supports efforts to address RA issues and RAAIM concerns regarding weather-sensitive DR resources. However, we would suggest this as an opportunity to tackle these issues as they pertain to other DR resources as well. DR resources may be partially weather-dependent and could have non-weather-related capacity variability. Olivine is skeptical that the RAAIM construct is a proper framework for evaluating availability of any

DR resources. Should RAAIM continue to be applicable to DR, CAISO should make sure to coordinate RAAIM changes in the RA Enhancements initiative with ESDER 4 progress. This includes whether a reliability “trigger” as conceived would apply to DR as well, and how to assess resources that may not have been dispatched at all during the “trigger” period due to insufficiently high prices.

4. Multiple-Use Applications (MUA)

Support with Caveats

As part of the CPUC’s MUA working group, Olivine commented, along with IOUs, that the PDR is a more realistic avenue to market participation than DERA for behind-the-meter storage resources¹. As distributed solar and storage systems continue to proliferate, the exclusion of export is also becoming a greater barrier to market participation. CAISO should open up PDR to exports, both for storage and non-storage resources. This would allow customers with solar systems and/or large batteries to provide demand response in excess of net facility load. It would also be a necessary precursor to DR opportunities that do not exist today, such as V2G from commercial EV chargers and a full range of Ancillary Service participation from behind-the-meter storage independent of other facility load.

¹ See Chapter 1, Recommendation 2 of the [Multiple Use Applications Compliance Report](#)