California ISO

Stakeholder Comments Template

Energy Storage and Distributed Energy Resources Phase 4 – Work Shop

This template has been created for submission of stakeholder comments on the ESDER Phase 4 - Workshop that was held on June 27, 2019. The workshop, stakeholder meeting presentations, and other information related to this initiative may be found on the initiative webpage at:
http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage_DistributedEnergyResources.aspx

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **July 11, 2019.**

Submitted by	Organization	Date Submitted
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Please provide your organization's comments on the following issues and questions.

1. Default Energy Bids for Energy Storage

Please provide your organization's feedback on the ISO's presentation on the *default energy bids for energy storage* topic. Please explain your rationale and include examples if applicable.

Please provide your organization's feedback on DMM's presentation on *default energy bids for energy storage*.

Please provide your organization's feedback on SCE's presentation on *resource availability.*

2. NGR State-of-charge parameter

Please provide your organization's feedback on the ISO's presentation on *the NGR State-of-charge* topic. Please explain your rationale and include examples if applicable.

Please provide your organization's feedback on WPTF's presentation on *the NGR State-of-charge* topic.

3. Variable Output Demand Response

Please provide your organization's feedback on the ISO's presentation on *the variable output demand response* topic. Please explain your rationale and include examples if applicable.

Olivine continues to have questions on how CAISO proposes to assess capacity value of demand response resources. CAISO has acknowledged that not all DR is expected to be available for curtailment 24/7, but at the same time proposes assessing variable output DR on a 24/7 ELCC model to establish NQCs. Our understanding is that resources are not considered "variable output" if they are program-limited to bidding in certain hours but can maintain a constant quantity, but they may still have NQC evaluated by looking at a 24/7 analysis rather than simply using contract quantity and requiring availability during peak hours.

CAISO should work with the CPUC to determine clear guidelines on RA value and expected bidding behavior, both for variable and constant output DR resources that still have limited availability windows. We remain concerned over the significant disconnect between CPUC intentions for DR qualifying as RA, and CAISO must offer obligations, especially with respect to expectations for DRAM resources. Given the likely extension of DRAM and future supply plan integration of IOU programs, it is critical that expectations are aligned and DRPs and customers will have clear guidelines on necessary availability in order to count towards Resource Adequacy.

4. Maximum Run Time Parameter for DR

Please provide your organization's feedback on the ISO's presentation on *the maximum run time parameter for DR* topic. Please explain your rationale and include examples if applicable.

Olivine greatly appreciates CAISO's acknowledgement of the value of a maximum run time parameter. A maximum run time would allow flexible and/or variable output DR resources to properly reflect program or operational limitations significantly better than the energy limit that exists today. We do understand SCE's concern over the potential for

resources that are available for multiple dispatches a day but only a limited number of hours per day still not able to properly reflect these with a maximum run time. If possible, CAISO should work with DRPs and the CPUC to determine whether a maximum daily run time is a feasible parameter and whether it is necessary in addition to or as an alternative to the maximum commitment time that is currently envisioned.

Additional comments

Please offer any other feedback your organization would like to provide on the topics discussed during the workshop.

Regarding acceptable "commitment" costs for demand response resources, fixed "startup" costs are also not easily determined for most Demand Response resources. As mentioned in previous comments, the inclusion of startup costs can significantly impact the probability of DR resources getting awarded in the day-ahead market. For example, a 1 MW resource bidding $50/MWh in the day-ahead market that adds a $10 startup cost will significantly reduce opportunities for dispatch, especially for one-hour awards, since this means that CAISO will not likely choose the resource for a 1-hour dispatch unless prices are over $60/MWh (or an average of $55/MWh over 2 hours, $52.5/MWh over 4 hours, etc.). While some more sophisticated retail customers may have readily determined fixed event costs equivalent to a "startup" cost for DR, there is no easy way to generically determine and verify this cost. Olivine is open to working with DR Stakeholders and CAISO or DMM to ensure DR resources can better reflect actual operating capabilities, especially for RUC and in the real-time market.

CAISO's new bidding options in ESDER 3 may significantly increase the quantity of DR resources that can respond to real-time events, but still will not fully address "long-start" day-ahead only DR resources. Currently, there are still challenges regarding commitment to "PMin" unless resources are willing to forgo daily bidding flexibility and instead use Masterfile parameters to reflect costs. For non-variable output DR resources, especially those with no real-time availability, we believe that in the current market construct, setting PMin to be equal to PMax and using minimum load costs rather than energy bids may be the most realistic path forward for DR. This would give resources the same flexibility as exists today to submit economical curtailment bids and ensure that any commitment is for a resource's full bid quantity. Any capacity committed in RUC would reflect the resource's full supply plan quantity and would be treated equivalently to a day-ahead energy award. Real-time responsive resources would still be required to bid in the real-time market and would receive full capacity, contiguous, binding awards depending on resource minimum run time.

Given the possibility of many DR resources heavily utilizing minimum load costs in lieu of conventional energy bids, we want to make sure that this is acceptable within the RAAIM construct and acceptable bidding behavior. For example, suppose a PDR has a 1 MW PMin, 2 MW PMax, and 1 MW supply plan commitment. Would it fulfill RAAIM obligations by simply submitting a minimum load bid for 1 MW in the day-ahead market, with no accompanying energy bid? Would a PDR have full flexibility to submit hourly minimum load bids in both the day-ahead and real-time market without any bid mitigation, similar to energy bids today? If this is a long-start resource and is given RUC capacity for one hour, would this be treated as equivalent to a day-ahead energy award? If it is a short-start or

medium start resource, would RUC Capacity still be treated as nonbinding, with real-time bidding potentially resulting in a different commitment schedule? Olivine appreciates CAISO's work on these issues and looks forward to achieving a realistic durable solution.