



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
<i>Maria Belenky</i>	<i>OhmConnect, Inc.</i>	<i>July 11, 2019</i>

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*.

OhmConnect has no comment at this time.

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.

OhmConnect has no comment at this time.

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.

OhmConnect appreciates CAISO's detailed responses to stakeholder concerns during the June 27 workshop. However, we are still not entirely convinced that 1) applying Effective Load Carrying Capacity (ELCC) to demand response (DR) will solve an issue that presently exists in the market, 2) the policy¹ and operational solutions must be adopted together or not at all; and 3) the application of an ELCC methodology is appropriate to determine the qualifying capacity (QC) of DR. Here, we provide feedback on several aspects of the proposal as presented by the CAISO.

1. **There is not yet enough evidence to suggest that a misalignment currently exists between the QC of DR resources and the amount of megawatts these resources are able to offer during times of greatest grid need.**

CAISO has stated that the QC valuation and must offer obligations (MOO) must be consistent.² To support this point, the June 27 presentation offered a quantitative example where a resource's maximum output during CAISO system peak far exceeded its output during hours of greatest system need. We recognize that, in theory, situations such as that showcased in the example are worrisome in that they demonstrate a deviation between programmatic requirements (MOO), the Availability Assessment Hours (AAH) used to set QC, and times of actual grid need. However, it is not clear whether this example represents an actual existing problem or a purely theoretical case study.

¹ We use "policy" and "planning" interchangeably to refer to the year-ahead process to set the QC value of DR resources.

² June 27 ESDER Phase 4 Stakeholder Workshop, CAISO Presentation, at p. 44

The load reduction capability of a DR resource (the QC) must be based on its availability during the AAH;³ presently, this is 4pm to 9pm.⁴ These are also the hours where the system is likely to experience greatest need. The CAISO has presented a scenario where a DR resource could theoretically receive a QC value based on its projected load curtailment potential outside of the AAH (e.g. from 1pm to 3pm) when CAISO system load and a hypothetical resource’s capabilities are at a maximum, even while the hours of greatest grid need are in the evening. However, we have not seen evidence that this is actually happening, especially given the current RA rules and the grid conditions observed today (where the AAH align with the hours of greatest grid need as demonstrated by both electricity demand and prices).

Moreover, we disagree that “allowing resources to bid forecasted output while relying on a peak capacity amount as its RA value would create misalignment between planning and operations.”⁵ The QC value of a DR resources is not directly comparable to the nameplate capacity of a wind or solar resource. Unlike nameplate capacity—a maximum output as determined based on engineered parameters—DR QC is *not* determined independent of when that capacity can be delivered. Rather, for a DR resource, QC is determined based on the capacity a resource is capable of delivering during the AAH—the hours when system need is likely to be highest—independent of when the resource’s actual “peak” occurs. Therefore, the CAISO potentially errs in saying that “[u]nder this construct, the amount of capacity procured would not be reflective of amount of energy available.”⁶ The amount of capacity procured would, within margins of error, reflect the amount of energy available during the hours the grid is likely to need DR most.

Finally, while it is true that “CAISO may require energy from RA resources outside of the peak hour”, it is also true that LSEs procure a portfolio of resources, including non-variable resources, to meet the expected RA need throughout the entire day. Modeling DR to be available at any hour of the day at the QC value is not the most efficient way to use demand response as a resource and would severely limit its potential to contribute to California’s carbon-free electricity goals. A more measured pathway is to continue to ensure that the QC reflects what the resource can deliver during the hours of greatest anticipated grid need.

³ The Load Impact Protocols (LIPs), used by IOU DR programs to set QC, provide load curtailment estimates during the AAH, regardless of when the resource’s “true” peak is. Similarly, for DRAM resources, capacity must be demonstrated via a test or dispatch twice a year during the AAH (with the QC set to contract quantity for the residual months). Going forward, per the May 31, 2019 Proposed Decision in A.17-01-012 et al., historic performance—which is measured during the AAH—will inform the year-ahead QC valuation.

⁴ Although MOO hours could differ from the AAH due to program specifications, DR resources receive monthly QC values based on expected delivery during the AAH. Moreover, changing the QC methodology will not necessarily alter the capacity provided as part of the MOO, if those hours are outside of the AAH; however, a change *will* alter the capacity provided during the AAH.

⁵ June 27 Workshop, CAISO presentation, at p. 44.

⁶ *Ibid.*

2. ELCC is not necessary to create alignment between planning and operations.

While we agree that some level of consistency between planning (QC at the year-ahead stage) and operations (daily energy bidding into the CAISO market) is important, we disagree that applying the ELCC methodology to demand response is necessary to create this alignment.

Based on our understanding of the CAISO's current position, what appears to be most important is that the year-ahead (planning) and the day-ahead (operations) estimations of QC be based on similar underlying assumptions and methodologies in an effort to minimize differences between the amount of MWs a resource is "credited" and the amount it can bid into the CAISO market during times when the system most needs it. However, we do not believe that such alignment is created by mandating a specific methodology (e.g. ELCC) to guide the year-ahead (planning) process; it is created by ensuring that the year-ahead estimates and the day-ahead forecasts are derived using similar underlying assumptions and data, of both system need and resource availability, to the greatest extent possible. Whether or not DRPs are using the best possible methodology to underpin *both* the QC valuation and the day-ahead forecast, if one were to be implemented, is a separate question that should be dealt with in a CPUC RA proceeding.

Meanwhile, we continue to believe that implementing an operational solution to the day-to-day variability of some DR resources is prudent as a stand-alone item and would allow DRPs to more accurately indicate what they can deliver to the CAISO market. Holding the implementation of a forecast-based bidding option until the current QC methodology can be discussed and refined at the CPUC (a process that has not yet even been initiated) is allowing the perfect to be the enemy of the good.

3. The ELCC methodology and its applications to demand response warrants significant additional discussion.

As of this time, we do not believe that there is enough evidence to demonstrated that the ELCC methodology would produce more accurate estimates in the year-ahead process than the methodologies currently in use. We continue to believe that demand response is fundamentally different from other variable resources such as wind and solar,⁷ and that a pure application of the existing ELCC methodology to DR is not guaranteed to increase the precision of DR capacity estimates. It would useful for the CAISO to hold additional workshops, ideally informed by specific analyses, quantitative examples and methodological comparisons, before a recommendation is made to the CPUC regarding the use of ELCC for DR.

4. Maximum Run Time Parameter for DR

⁷ See OhmConnect's May 17 comments on ESDER 4 Straw Proposal, at pp. 2-3.

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.

We continue to be optimistic that existing and planned improvements, together with expanded utilization of the minimum load cost parameter, will be sufficient to address the existing challenge of DR resources moving between their Pmin and Pmax in 5-minute increments.

Additional comments

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

OhmConnect has no additional comments at this time.