



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.

[The Council reserves comment on this issue.](#)

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

[The Council reserves comment on this issue.](#)

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

[The Council reserves comment on this issue.](#)

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.

The Council reserves comment on this issue.

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

The Council reserves comment on this issue.

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.

Definition of the Problem Being Addressed

The California Efficiency + Demand Management Council (Council) appreciates the more refined definition of the CAISO's proposal regarding variable-output demand response (DR), although additional details are still needed. Specifically, the reasoning behind, and the need for, the proposal remains unclear. To the extent it is currently defined, the CAISO's proposal appears to address two areas of concern regarding DR in the context of Qualifying Capacity (QC) valuation. The first is the use-limited nature of DR, and the second is a perceived discrepancy between the claimed QC value of a DR resource and its capability to deliver the associated amount of energy during its contracted hours. However, the CAISO's claims lack any real analysis or citations to its tariff to illustrate these perceived concerns and have so far only relied on generalizations and a redefined purpose of Resource Adequacy (RA). The Council seeks to better understand the CAISO's perceived problems with regards to current monthly supply plans for DR resources before discussing whether changes to QC valuation would be appropriate. As a starting point, the CAISO should provide its analysis with supporting data to more clearly define and demonstrate the problem.

Regarding the first area of concern as the Council understands it, it is unclear why the CAISO would single out DR among all other dispatchable use-limited resources to discount their capacity value. As will be discussed further below, it appears to be the CAISO's contention that all RA resources should be available in all hours of the day and days of the year. Irrespective of the merits of this position, the CAISO should explain why this concern is not addressed toward all other dispatchable use-limited resources.

Regarding the second area of concern, the CAISO has not yet demonstrated that the existing tools to ensure DR resources are delivering energy commensurate with their QC values have been ineffective, nor has it explained why its concerns cannot be

addressed in the California Public Utilities Commission’s (Commission) DR proceeding. The CAISO should present an analysis demonstrating the degree to which DR resources’ energy market deliveries fall short of the QC values indicated in their monthly supply plans. Otherwise, it is difficult to gauge how prevalent shortfalls in capacity deliveries by DR resources are occurring.

Definition of Variable-Output Demand Response

The Council appreciates the effort made by the CAISO to more clearly define the term, “variable-output demand response”.¹ However, this definition appears to effectively encompass virtually all types of DR. The amount of load drop that can be delivered by a DR resource can be dependent on many different factors. For instance, daily and seasonal temperatures will impact cooling/heating and refrigeration load, seasons will affect water pumping for agricultural customers, and production orders will affect industrial process load. DR provided by energy storage, whose state of charge will typically vary, may not provide a consistent amount of load reduction from one day, month, or season to the next if the energy storage technology is being utilized to perform other functions such as peak shaving to manage a customer’s demand charges. Given such an all-encompassing definition, it may be more practical to define the type of DR that would be exempt from the applicability of this stakeholder initiative.

Resource Adequacy Rules and Use-Limited Resources

In its working group slides, the CAISO’s citation of California Public Utilities Code Section 380(c) selectively interprets a single provision to make a very broad conclusion that DR (and presumably other dispatchable use-limited resources) must be available to meet system needs in all hours of the day.² Public Utilities Code Section 380.c states,

Each load-serving entity shall maintain physical generating capacity and electrical demand response adequate to meet its load requirements, including, but not limited to, peak demand and planning and operating reserves. The generating capacity or electrical demand response shall be deliverable to locations and at times as may be necessary to maintain electrical service system reliability, local area reliability, and flexibility.

The CAISO appears to interpret this provision to mean that all generating capacity and DR must be available to meet load requirements in all hours. This interpretation is clearly not the intent. In actuality, as long as each LSE maintains a portfolio of generating capacity, DR, and other resources to meet its load requirements and peak planning needs, they are generally meeting their System RA obligations.

It should be noted that the Public Utilities Code provision cited above states that generating capacity or DR shall be deliverable where and when needed. If the CAISO wants to argue that “when needed” should apply to DR and all other resources then it should also be willing to argue that “where needed” should also apply to DR and all

¹ Variable-Output Demand Response is defined as “DR whose maximum output of DR resources can vary over the course of a day, month, or season due to production schedules, seasonality, temperature, occupancy, etc.”

² CAISO Presentation, at Slide 42.

other resources. However, common sense dictates that no single resource can be located or deliverable everywhere it is needed, so in the context of this sentence, no single resource should be expected to always be available whenever it is needed, as long as there are sufficient resources in an LSE's portfolio to meet the need.

The CAISO states, “[t]he presumption that resource adequacy capacity comes with sufficient energy to meet load in all hours may have led to a misunderstanding that resource adequacy is simply ensuring sufficient peak capacity exists on the system.”³ The Council disagrees that this was ever a presumption of the RA program. Clearly, it is necessary for resources to be available to meet load outside of the Availability Assessment Hours, but by simply referring to the systemwide load duration curve, it is clearly not necessary (nor cost-effective) that all RA resources be available during all hours. This principle serves as the fundamental basis for the Commission's Maximum Cumulative Capacity (MCC) buckets which limits the amount of dispatchable, use-limited resources that can be used to meet System RA needs, rather than discounting their QC value.

Meeting Peak Loads Remains a Critical Function of RA Resources

The Council agrees with the principle that the RA program is meant to ensure there is sufficient energy when and where needed. This is demonstrated in Commission Decision 04-01-050 which states, “In developing our policies to guide resource procurement, the Commission is providing a framework to ensure resource adequacy by laying a foundation for the required infrastructure investment and assuring that capacity is available when and where it is needed.”⁴ Decision 04-10-035 and Decision 05-10-042 reinforce the purpose of System RA requirements to meet expected peak loads.⁵ However, by definition, when energy is needed is most likely to be during the peak period which remains an extremely important purpose of the RA program. This has most recently been affirmed in the June 20, 2019 Assigned Commissioner and Administrative Law Judge's Ruling Initiating Procurement Track and Seeking Comment on Potential Reliability Issues in Rulemaking 16-02-007. In this ruling, the Commission highlights that out-of-state resources are playing a greater role in meeting peak system RA requirements and directs LSEs to procure 2,000 MW of peak capacity.⁶ The Commission clearly continues to see the importance of meeting the peak load as it proposes to procure more DR and other resources to meet peak load needs.⁷ Given this latest development, the CAISO's proposal to implement an Effective Load Carrying Capability (ELCC) methodology appears to disregard the importance of capacity procurement to meet peak loads and the value of DR to that end.

Variability and QC Valuation

³ Ibid, at Slide 43.

⁴ Decision 04-01-050, at pp. 10-11.

⁵ Decision 04-10-035, at p. 9; Decision 05-10-042, at p. 8.

⁶ Assigned Commissioner and Administrative Law Judge's Ruling Initiating Procurement Track And Seeking Comment On Potential Reliability Issues, June 20, 2019, R.16-02-007, at p. 12.

⁷ Ibid, at p. 14.

The Council supports the CAISO’s contention that “variability must be reflected in QC valuation to ensure enough resources are procured to cover energy needs during the operating day.”⁸ This is why it is fully appropriate to reflect the variability of intermittent wind and solar resources in their QC valuation because their nameplate capacity will rarely, if ever, reflect the amount of QC they can deliver absent an enabling technology such as energy storage. However, unlike an intermittent resource, there is no variability associated with when a DR resource is dispatched – it is not a must-take resource and can be dispatched when most needed by the grid. Therefore, applying an ELCC methodology to DR would be inappropriate.

The aggregate QC value of the monthly supply plan may not be consistent with the year-ahead supply plan, but any repercussions associated with a discrepancy between the year-ahead and month-ahead QC value, and month-ahead QC value and Demonstrated Capacity (DC) value are a contractual matter between the LSE and CAISO DRP. Any capacity shortfalls in the DR contract will be rectified by the LSE or CAISO DRP consistent with the provisions of that contract, especially if a shortfall puts the LSE at risk of being short. Therefore, no discounting of QC value is needed when it is known far enough in advance for any capacity shortfalls to be addressed.

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.

[The Council reserves comment on this issue.](#)

Additional comments

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

⁸ CAISO Presentation, at Slide 44.