



Stakeholder Comments Template

Resource Adequacy Enhancements

This template has been created for submission of stakeholder comments on the Resource Adequacy Enhancements working group on June 10, 2020. The stakeholder call presentation, and other information related to this initiative may be found on the initiative webpage at: <http://www.caiso.com/StakeholderProcesses/Resource-Adequacy-Enhancements>

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **June 24, 2020**.

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

1. Production Simulation: Determining UCAP Needs and Portfolio Assessment

Please provide your organization's feedback on the Production simulation: Determining UCAP needs and portfolio assessment topic as described in slides 4-15. Please explain your rationale and include examples if applicable.

Regardless of whether UCAP is implemented, Calpine supports the development of a Portfolio Assessment utilizing a stochastic methodology to determine whether the RA fleet is capable of serving load in all hours under a broad range of load and renewable generation conditions. Ideally, the Portfolio Assessment would align with the CPUC's MCC buckets or any similar requirements that are developed in Track 3 of the current RA proceeding or subsequently.

2. Transitioning to UCAP Paradigm

Please provide your organization's feedback on the transitioning to UCAP paradigm topic as described in slides 16-19. Please explain your rationale and include examples if applicable.

If UCAP is implemented, Calpine favors Option 2, i.e., Calpine believes that CAISO should introduce UCAP as a newly defined metric and not re-define NQC as UCAP. Calpine would rather not re-define a term that is already used in existing contracts.

3. Unforced Capacity Evaluations

Please provide your organization's feedback on the unforced capacity evaluations topic as described in slides 20-59. Please explain your rationale and include examples if applicable.

- a. Please provide your organization's feedback on the UCAP methodology: Seasonal availability factors topic as described in slides 27-46. Please explain your rationale and include examples if applicable.

Calpine supports the intent of the supply cushion approach, e.g., evaluating UCAP during a dynamic set of hours that reflect tight system conditions, rather than a static pre-defined set of hours, such as the current Availability Assessment Hours. The supply cushion approach, however, may not identify the highest reliability risk hours for at least two reasons. First, it may fail to capture periods in which RA capacity is available but has not been committed so it is not operationally available. Second, it may fail to account for the fact that the capacity that is committed may not be able to respond to changes in system conditions sufficiently rapidly. The CAISO may want to explore similar metrics based on committed capacity and how far that committed capacity could ramp in a pre-defined time window, such as an hour.

- b. Please provide your organization's feedback on the UCAP methodologies for non-conventional generators topic as described in slides 47-59. Please explain your rationale and include examples if applicable.

Calpine is concerned that the CAISO's consideration of the utilization of the end of hour state of charge (EOH SOC) constraint in determining UCAP for storage NGRs does not address the broader problem of ensuring that RA storage resources are actually charged and capable of generating when they are needed to serve load. It is Calpine's understanding that the RA MOO does not require the charging capability of a storage resource to be made available to the CAISO. Therefore, a resource could avoid charging with self-schedules so that it would be uncharged but still technically comply with the RA MOO in a supply cushion hour by offering its discharge capacity, albeit with no energy behind it, even if the SC of an RA storage resource does not use the EOH SOC constraint in a supply cushion hour. It might be more reasonable to treat any shortage of stored energy for a resource to dispatch at its full RA capacity in a supply cushion hour as an outage for the purposes of determining UCAP, perhaps with some allowance if the low SOC is the result of following CAISO dispatch instructions, but only if the resource made both its charging and discharge capability fully available to CAISO in the hours leading up to a supply cushion hour.

Conversely, utilization of the EOH SOC constraint may be a poor indicator of whether a resource is able to discharge in a supply cushion hour. For example, if a 25 MW/100 MWh resource enters a supply cushion hour with a 100 MWh but sets its EOH SOC constraint to 25 MWh, it could still discharge at its full capacity in the supply cushion hour.

Additional comments

Please offer any other feedback your organization would like to provide on the Resource Adequacy Enhancements working group discussion.