Flexible Resource Adequacy Criteria and Must-Offer Obligation
Third Revised Straw Proposal, Posted October 3, 2013

Submitted by	Company	Date Submitted
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CESA continues to applaud the CAISO's collaborative work with the CPUC and stakeholders reflected in the Third Revised Straw Proposal ("Proposal") to ensure that flexible capacity energy storage resources are available in the very near future to reliably operate the grid while fulfilling state energy and environmental goals. CESA will continue to work closely with the CAISO and the CPUC in developing the CAISO tariff changes necessary for the CAISO to adopt flexible resource adequacy RA capacity requirements that specifically include energy storage for inter-hour, load following, and ramping needs.

CESA provides the following responses to the specific question posed by the CAISO:

1. The ISO has outlined a methodology to allocate flexible capacity requirements to LRAs. It is based on one possible measurement of the proportion of the system flexible capacity requirement to each LRA and calculated as the cumulative contribution of the LRA's jurisdictional LSE's contribution to the ISO's largest 3-hour net load ramp each month. Please provide comments regarding the equity and efficiency of the ISO proposed allocation. Specifically, please comment on:

    a. The ISO's proposal to use an LSEs average contribution to historic daily ISO maximum 3-hour load changes to allocate the Δ load component of the flexible capacity requirement.

CESA's Response: CESA urges the CAISO to re-consider its use of three-hour ramping as a benchmark for need evaluation and allocation of flexible capacity requirements. Instead, CESA advocates for a methodology that appropriately values the benefits that shorter discharge duration energy storage resources may provide in terms of flexibility. For example, three 100 MW one-hour energy storage resources could provide more value to grid operations than could one 100 MW three-hour resource.

Both can provide 100 MW capacity for three hours, but the aggregated one-hour resources could provide up to 300 MW of short-term capacity if that were required. In order to allocate flexible capacity requirements with more appropriate discharge durations, system need evaluations should therefore incorporate sub-three-hour load ramps.

2. The ISO believes the proposed methodology reflects causation principles. Specific to allocating flexible capacity requirements, what does "causation" mean to your organization and how would this definition be most accurately reflected in a flexible capacity requirements allocation process?

CESA's Response: CESA has no comment at this time.

3. What are the appropriate bounds for the maximum and minimum for the error term as well as how to address year-to-year variability? What are the appropriate actions if such bounds are reached?

CESA's Response: CESA has no comment at this time.

4. The ISO has proposed must-offer obligations for various types of resources. Please provide comments and recommendations regarding the ISO's proposed must-offer obligations for the following resources types:

    a. Resources not identified as use-limited

    b. Dispatchable gas-fired use-limited resources

        1. Please provide comments regarding the ISO's proposal that would allow resources with use- limitations to include the opportunity costs in the resource's default energy bid, start-up cost, and minimum load cost.

        2. Please provide information on any use-limitations that have not been addressed and how the ISO could account for them.

    c. Hydro Resources

    d. Specialized must-offer obligations (please also include any recommended changes for the duration or timing of the proposed must-offer obligation):

CESA's Response: CESA agrees with the proposed hourly must-offer windows. CESA also supports the rating of all systems according to their ability to deliver within their

hourly windows. A resource might be derated according to its use limitations within the hourly windows proposed for that specific resource. CESA also urges the CAISO to establish a load following category of must-offer obligations that fits the five-minute to five-minute need identified by the CAISO.

CESA additionally urges the CAISO to establish flexible RA counting criteria that recognize the multiple capabilities and characteristics of energy storage resources. CESA recommends that flexible RA counting criteria should incorporate the following characteristics of energy storage resources:

- The full flexible capacity of the charge and discharge range should be accounted for. Energy storage resources may be able to charge and discharge at full capacity, which essentially provides double the flexible capacity of conventional generation with comparable rated capacity.

- The proposed three-hour discharge duration requirement should be reconsidered in favor of a methodology that values the benefits that resources with shorter discharge duration capability may provide in terms of flexibility. It should be clarified that "availability" during the full time window may not require full discharge for the entire must-offer window.

- The ability to charge an energy storage resource from exported renewable energy produced by eligible renewable resources ("ERRs") should be accounted for in the valuation. Solar energy peaks midday, and wind resources usually produce greater generation at night. The ability to capture any energy exported from ERRs, as opposed to curtailing them, should be included in the valuation.

- The impact of resources on customer service should be accounted for in RA counting criteria, either through a standardized valuation methodology or by prioritization in the bidding process. This will appropriately recognize energy storage's ability to avoid disrupting customer service, especially in comparison to other load-management methods such as demand response.

- Resource availability (i.e. operational hours or total use cycles per year) should be accounted for. Energy storage resources generally do not have use-cycle constraints, which increases their grid benefits relative to other use-limited resources. This could be accounted for in the above proposed rating of systems by their ability to deliver within their specified time windows.

- Ramp rate should be factored into RA counting criteria for all resources. The ramp rate of a resource affects the flexibility benefits it provides to the grid, especially in relation to rapid fluctuations in supply or demand.

5. The ISO has proposed a flexible capacity availability incentive mechanism Please provide comments of the following aspects of this mechanism:

    a. The selection of the adder method as the preferred option

        1. Should the ISO still consider the bucket method, the "worse-of" method, or some other method not already considered? Why?

    b. The price for the flexibility adder. Specifically, if the ISO proposed price is not correct, what price or data source should the ISO consider and why?

    c. The interaction between the existing SCP and the proposed SFCP

    d. The proposed SFCP evaluation mechanism/formula

        1. The formula used to calculate compliance (including the treatment of long-start and use-limited resources

        2. The treatment of forced and planned outages

        3. The minimum availability thresholds for use-limited resources

    e. The proposed substation rules for forced outages

    f. Please also include comments regarding issues the ISO must consider as part of the evaluation mechanism that are not discussed in this proposal.

CESA's Response: CESA supports the Adder method proposed by the CAISO. However, energy storage resources should be allowed to have different SCP and SFCP ratings. Energy storage resources may provide more SFCP than SCP; this difference of capabilities should be explicitly recognized in the rating system. CESA also urges the CAISO to harmonize its requirements with the CPUC, which has proposed a counting method that: (a) does not allow for differential SCP and SFCP ratings, and (b) does not recognize the 15-minute NEM category for energy storage flexible capacity.

6. The ISO has proposed to include a backstop procurement provision that would allow the ISO to procure flexible capacity resources to cure deficiencies in LSE

SC flexible capacity showings. Please provide comments regarding the following issues of ISO's proposed flexible capacity backstop procurement proposal:

a. The inclusion of the adder methodology

b. The opportunity for LSEs to provide a list of uncommitted flexible capacity that can be used to help cure flexible capacity deficiencies

CESA's Response: No comment at this time.