California ISO

Stakeholder Comments Template

Resource Adequacy Enhancements

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

1. System Resource Adequacy

Please provide your organization's feedback on the System Resource Adequacy topic as described in section 5.1. Please explain your rationale and include examples if applicable.

Please provide your organization's position on the System Resource Adequacy topic as described in section 5.1. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

CESA Comments:

CESA has two main areas of comments in response to section 5.1. First, CESA has concerns about critical details of the proposal, including determinations of UCAP for storage resources. Second, CESA opposes the "Operationalizing Energy Storage" concepts, and suggests the CAISO consider State-of-Charge controls (parameters, constraints) in an "ESDER 5" initiative, rather than as part of the RA Enhancements initiative. CESA elaborates on these positions below.

On the determination of System UCAP

CESA appreciates the thought-work done by the CAISO to incorporate forced outage rates or equivalent forced outage rates of demand ("EFORd") into the process by which System RA needs are determined as well as into the outage and substitution process. CESA understands this inclusion will help guarantee a functioning and reliable electrical system in the CAISO footprint. Nevertheless, CESA notes some

areas in the ISO's proposal require further refinement, as they could potentially hinder reliability and inappropriately harm the valuation of resources for RA purposes.

CESA therefore requests further details or modifications to the EFORd aspects of the proposal before the CAISO cements this market design. These include:

- Unintended consequences in System and Local RA value derived from the proposed UCAP methodology.
- Issues related to the proposed seasonal methodology, both in terms of hours considered and temporal weighs.

Further details are important to provide as this market design is complex and could have many ramifications. For instance, this change in System RA could affect the transactability of assets for System and Local RA purposes. The ISO may potentially overestimate the fungibility between System RA requirements expressed by a UCAP value, and Local RA data expressed in NQC values (albeit, later translated, per section 5.3 of the Proposal) under actual market conditions, inside existing contracts, etc. This creates uncertainty regarding the capacity value of assets which are usually transacted as providers of both System and Local RA.

Such issue is highlighted by the proposed methodology of section 5.1. The ISO proposes to estimate the UCAP seasonally by analyzing the 100 tightest supply condition hours during each season, based upon hourly available RA and hourly load.[1] It is unclear in the proposal if consideration between system and local conditions will be taken into account when calculating the seasonal average availability factor. This is an important factor as system and local RA needs differ in time and magnitude and, while they are often procured together, the UCAP values could differ substantially. These discrepancies must be properly acknowledged as they could create further inconsistencies between the ISO's noted requirements, the CPUC's RA program, and the resources best suited to attend those needs.

CESA remains concerned with the use technology class averages for determining the UCAP value of resources with less than five years of observable operation, as mentioned in our comments on the previous iteration of this initiative.[2] CESA believes this methodology could unduly de-rate resources' capacity, as many first-year resources can have 'burn-in' issues as the equipment is tuned and adjusted. Such burn-in issues are generally viewed as first-year issues, yet the CAISO's proposed methodology could extend the outage rates of burn-ins illogically through a long-period (5 years) of otherwise healthy operations.[3] This seems overly punitive and unnecessary, particularly for material matters like capacity valuations. Further, technology class averages would not provide a reliable metric of actual performance and would instead increase uncertainty related to reliability and availability. CESA notes that many different types of energy storage exist and may be deployed, so much definition and delineation is needed on predefining class averages. CESA instead urges the ISO to rely on a bottom-up approach for the calculation of UCAP values,

[1] Proposal, at 18.
[2] See CESA's Comments on the Second Revised Straw Proposal, at 1 through 2.
[3] Proposal, at 18.

evaluating resources solely on their particular performance rather than using class averages, while also accommodating resources for 'burn-in periods' in ways that are not punitive and poorly reflective of actual performance post-burn-in.

On the establishment of Must-Offer Obligations and Bid Insertion Requirements

Another issue contemplated in section 5.1 refers to the establishment of a 24-by-7 MOO and bid insertion requirements. CESA has already expressed concern with this proposal, as it could limit resources seeking to participate in a wide array of markets (i.e. multi-use applications ("MUA")). Noting that the ISO has considered shifting the issues related to bidding obligations and MOOs for PDR resources to the ESDER 4 initiative, CESA considers the same should be done for assets participating under the NGR scheme as it potentially pertains to energy storage resources providing MUA.[4]

On the Section Related to Operationalizing Energy Storage Resources

CESA is opposed to the MCR proposed in section 5.1.7, Operationalizing Energy Storage Resources. While CESA understands the CAISO's general reliability intent underwriting for this proposal, this proposal may (1) seriously hinder market participation; (2) increase reliability risks by constraining flexible RA supply; and, (3) potentially discriminate against some resources (storage) while running afoul of CAISO principles of non-discrimination and efficient market-oriented policy.

Consider a hypothetical case where a storage asset has been scheduled to provide a significant dispatch in the hours after sunset. For this resource, the MCR could limit the asset's ability to provide minor dispatch that would be extremely valuable during the periods where flexible ramping capacity is needed. The MCR proposal thus could limit the participation of energy storage assets during the periods where they must stand idle in order to fulfill DA schedules. This will result in a loss of value for developers and owners, and, more importantly for CAISO, the potential for increased reliability risks via the inability to dispatch the resource. In other words, the ISO's MCR proposal could increase the risks of the very issues which the ISO seeks to mitigate through the Flexible RA reforms of the RA Enhancements paper.[5] Limiting the participation of storage assets in the sunset hours introduces additional uncertainty to the calculation related to the use of either imbalance reserves or Flexible RA.

CESA also considers this approach is unduly restrictive. The ISO seeks to ensure energy storage resources will have the energy required to meet scheduled dispatches; however, it is unclear if the MCR proposal takes into account if a given resource might have enough time prior to the scheduled dispatch to discharge, charge again, and then fulfill the scheduled need.

Finally, CESA would like to bring to the attention of the ISO that this proposal may unintentionally be discriminatory insofar as it forces resources of particular technology

[4] Proposal, at 38.
[5] Proposal, at 69 through 72.

classes to "sit-out" several intervals instead of ensuring price signals and market optimization function properly. As CESA understands this issue, such restrictions are not placed upon other technologies. If a gas unit doesn't buy gas to meet DA schedules, does the CAISO not allow the resource to generate during mid-day hours? Does the CAISO monitor that the water of complex multi-dam hydro systems are operated to ensure afternoon energy availability from a downstream resource?

CESA believes different market-oriented solutions could address CAISO's concerns in more efficient and flexible ways that do not limit participation. First, CESA urges the ISO to consider an approach where the MCR is solely applied in intervals close to a significant DA dispatch. This would imply that resources are only bound to maintain an MCR for the period it would take them to recharge from their current state-of-charge (SOC) to the level needed for the DA-established dispatch. This mid-point approach would enable some flexibility while ensuring schedules can be met. Another option would be to have this MCR need incorporated as a dummy variable which would be activated at times of predicted scarcity and deactivated at all other intervals. This would minimize risk at times when it is most worrisome. Either of these approaches would still constrain energy storage resources; nevertheless, their impact would be less onerous than the one proposed by the ISO. The ISO should focus on having robust markets with clear market signals in order to incentivize behavior, not constrain resources that are able to participate in multiple areas and provide value in the form of a wide array of services and products. Due to the complexity of this issue, CESA recommends the ISO consider moving this discussion to an ESDER phase 5 initiative, where SOC controls and parameters could be examined.

2. Flexible Resource Adequacy

Please provide your organization's feedback on the Flexible Resource Adequacy topic as described in section 5.2. Please explain your rationale and include examples if applicable.

Please provide your organization's position on the Flexible Resource Adequacy topic as described in section 5.2. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

CESA Comments:

CESA supports, with caveats, the ISO's proposals on Flexible RA. In general, CESA agrees with the CAISO's determination to focus on unpredictable ramping needs. Furthermore, CESA supports the ISO's proposal to change counting rules associated to EFC given the growing need for intra-hourly flexibility. CESA considers this decision clearly signals the need for quick-response flexibility and values it as such. Thus, CESA also supports the ISO's conclusion that NGR-participating assets shall not have their EFC capped at their UCAP, given their flexibility and agile response time. Nevertheless, CESA is skeptical of the ISO's claims that it should be able to cover all predictable ramping need via the imbalance reserve product. Thus, CESA urges the CAISO to reconsider the elimination of the three-hour ramping

product until more stakeholder discussion has occurred. CESA is particularly concerned about the interactions of this proposal with the section on operationalizing energy storage assets contained in this proposal, as it was mentioned in section 1 of this document.

3. Local Resource Adequacy

Please provide your organization's feedback on the Local Resource Adequacy topic as described in section 5.3. Please explain your rationale and include examples if applicable.

Please provide your organization's position on the Local Resource Adequacy topic as described in section 5.3. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

CESA Comments:

CESA supports, with caveats, the Local RA proposals made by the ISO. As noted in our comments on the System RA section, CESA is concerned that proposed changes to these RA markets will impact the fungibility and overall transactability of assets that participate both as Local and System RA providers. CESA is concerned that methodological inconsistencies related to the translation of NQC values to UCAP values for Local RA could limit the liquidity of the current RA marketplace. As proposed by the ISO, two identical resources with identical performance histories would have the same system UCAP value, but could have differing local values since those are calculated as TAC-dependent translations of the NQC value. Differences between these two values could thwart the liquidity of the RA market.

4. Backstop Capacity Procurement Provisions

Please provide your organization's feedback on the Backstop Capacity Procurement Provisions topic as described in section 5.4. Please explain your rationale and include examples if applicable.

Please provide your organization's position on the Backstop Capacity Procurement Provisions topic as described in section 5.4. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

CESA has no comments on this section at this time.

Additional comments

Please offer any other feedback your organization would like to provide on the Resource Adequacy Enhancements third revised straw proposal.

CESA has no comments on this section at this time.