California ISO

Stakeholder Comments Template

Resource Adequacy Enhancements

Submitted by	Organization	Date Submitted
Matt Barmack *Mark Smith*	*Calpine*	*1/27/20*

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.

Calpine is not convinced of the merits of the CAISO developing system UCAP requirements and resource-specific UCAP counting rules. In particular, Calpine believes that the CAISO's proposed system UCAP requirements require a firmer analytical basis. For example, the CAISO proposes adding 6% to the peak load forecast to account for operating reserves. On the one hand, it is unclear that the CAISO needs to maintain 6% operating reserves in all conditions and may in fact dip in to operating reserves under the most extreme conditions (beginning with Stage 1 emergencies). On the other hand, by basing proposed requirements on the 1-in-2 forecast, the CAISO may not cover the need for capacity under the most extreme conditions, even with an allowance for operating reserves and what the CAISO deems forecast error.

As Calpine has articulated previously, Calpine would prefer that the CAISO (and CPUC) develop estimates of the planning reserve margins (PRMs) that are necessary to meet an objective reliability standard, such as 1 event in 10 years, by running a loss of load expectation (LOLE) model. The resulting PRMs would be in installed rather than unforced capacity terms. Consequently, the CAISO would have to be careful about translating the results to UCAP terms. For example, if the LOLE modeling is based on unrealistically low forced outage rate assumptions, it may yield installed capacity PRMs that are too low. Further, typically, installed capacity PRMs are adjusted downwards to UCAP terms by subtracting an average forced outage rate. If the forced outage adjustment is higher than the average forced outage rate reflected in the LOLE analysis, it could result in a UCAP PRM that is too low.

Calpine supports CAISO's proposal to determine resource-specific UCAP values during "the tightest system supply cushion hours." Calpine agrees that this approach will reflect the availability of resources when they are most needed.

While Calpine generally supports the goals of the proposed portfolio assessment, i.e., to ensure that the RA fleet not only has sufficient capacity to meet peak load but also sufficient energy to serve load in all hours, Calpine is concerned about how it will inform and impact RA (and energy) procurement. Ideally, LSEs should be subject to clear ex ante requirements to procure sufficient capacity and energy. If such requirements are set correctly, e.g., if the CPUC revamps the MCC buckets appropriately, then the portfolio of procured RA capacity (and energy) should "pass" the portfolio assessment. In the event that ex ante procurement requirements lead LSEs to procure RA capacity with insufficient energy to pass the portfolio assessment, it is unclear how the portfolio assessment and any backstop procurement that might result from identified deficiencies will be allocated or provide appropriate incentives for ex ante procurement given that the portfolio assessment will not be able to ascribe deficiencies to inadequate procurement by any specific LSE.

Also, Calpine seeks much more information on the mechanics of the portfolio analysis itself, especially with respect to the treatment of use-limited resources. For example, at the recent workshop, the CAISO suggested that historic profiles of energy generation from wind and solar would be the basis of the portfolio analysis. Use of deterministic profiles may not adequately reflect periods of low renewable generation. Consequently, the portfolio analysis should examine different potential renewable profiles, i.e., it should be stochastic, or sufficient numbers of days to reflect the potential for low renewable generation.

Calpine generally supports the must-offer obligation aspects of the proposal.

With respect to planned outages, Calpine generally supports the CAISO's proposal to require replacement capacity for all planned outages with certain limited exceptions, such as short-term opportunity outages. Given that California's RA requirements are tailored to the reliability requirements in each month, it is reasonable to expect shown RA capacity in each month to be operationally available. (In contrast, in markets with seasonal or annual requirements that are sized to meet seasonal or annual peaks, it may be possible to allow planned outages of RA resources in lower demand months without jeopardizing reliability.) Relatedly, Calpine does not support Option 1, which it interprets as allowing suppliers to lean on excess showings of RA capacity not on outage.

Calpine believes that the import RA aspects of the proposal require greater consideration and likely will receive additional attention at the CPUC. In these comments, Calpine highlights a few important considerations. First, Calpine generally supports limiting import RA to resource-specific. Calpine notes however, that, as discussed at the January 7th stakeholder meeting, dynamic import capability from the Pacific Northwest is severely limited, so it is likely impractical to limit resource-specific

import RA to dynamic schedules and pseudo-ties alone, as the CPUC has proposed. In fact, the dynamic transfer capability on the BPA system is only 600 MW – which is greatly oversubscribed. Second, as SCE pointed out at the workshop, merely referencing a specific resource even if remotely telemetered, in an import RA agreement may not assure the availability of the associated capacity if the host BAA can recall the capacity in an emergency, which as Calpine understands is an immutable right. Regardless of whether import RA capacity is resource-specific, its value must be discounted by the fact that it is recallable.

Calpine recommends that the CAISO confirm with both NERC/WECC and other BAAs that recall rights are negotiable. If so, then, this issue could be addressed through sufficiently robust RA confirms and/or an attestation process. If not, then pseudo-ties may be the only means of ensuring that capacity committed to California is actually available to California under all conditions. Third, Calpine supports Powerex's argument that import RA capacity should be backed by physical supply that is secured in the relevant forward time frame, i.e., even if a supplier attests that it is providing capacity that is not recallable in the year-ahead time frame, for example, it should also be obligated to line up corresponding physical supply in the same time frame.

The CAISO's new proposal for operationalizing storage resources is an interesting and thoughtful approach to ensuring that storage is available when it is needed that merits further development. Under the proposal, a minimum charge requirement (MCR) constraint would be used in real-time to ensure that a storage resource could fulfill its day-ahead schedule while still allowing some deviations from the schedule. One potential concern with this approach is that it may limit the efficient utilization of storage when it is most needed. For example, suppose a (net) load peak occurs earlier in the day than was anticipated in real-time. Would the MCR constraint limit storage from responding to that new earlier peak. Relatedly, for storage resources providing local RA capacity, would the MCR constraint limit a storage resource from responding to local contingencies in a manner that is inconsistent with its day-ahead schedule, for example if contingencies do not coincide with the system (net) load peaks that might typically drive day-ahead schedules?

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.

Calpine continues to support the CAISO's proposal to simplify flexible RA and tie requirements more closely to real operational/spot market requirements, i.e., the need for capacity to supply imbalance reserves. Under the current proposal, which would count resources at their maximum 15-minute ramp rate and determine need based on the need for imbalance reserves, it is hard to imagine that flexible RA requirements would bind in the sense that they generally would not be satisfied by procurement to meet system and local requirements alone. Calpine would appreciate analysis of the supply and demand balance of flexible RA capacity under the proposal. To the extent

that the proposed requirements are non-binding, Calpine would encourage the CAISO to consider dropping flexible RA requirements entirely.

In order to assure access a resource's fastest 15-minute ramp rate, the CAISO is proposing to require resources providing flexible capacity to offer economically their entire economic ranges. As an alternative, the CAISO might consider a more general requirement to offer in a manner that allows the CAISO to access any EFC that is shown. For example, if a resource is capable of ramping 20 MW in 15 minutes from Pmin, if it is providing 20 MW of flexible capacity, it would be obligated to offer economically only the first 20 MW above Pmin.

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.

To the extent that the CAISO continues to calculate local capacity requirements in installed capacity/NQC terms, Calpine is unclear of the merits of translating such requirements to UCAP terms and shares some of the concerns raised at the July 8th stakeholder meeting, e.g., it might lead to the procurement of resources with relatively high UCAP values relative to their NQCs that then do not satisfy CAISO NQC-based local capacity requirements.

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.

Calpine supports the proposed modifications to the CPM CSP to accommodate UCAP, if it is implemented.

Additional comments

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

Calpine appreciates CAISO's continued efforts to refine the RA Enhancements proposal. While the changes in this version of the proposal are relatively incremental, they reflect stakeholder feedback and careful thinking about hard issues.