Comments on September 15 and 17 Working Group

Initiative: Resource adequacy enhancements

Comment period

Sep 15, 2020, 08:30 am - Oct 01, 2020, 05:00 pm

Submitting organizations

California Energy Storage Alliance

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1. Provide a summary of your organization's comments on the September 15 and 17, 2020 working group discussion:

CESA appreciates the work of the ISO on this initiative as well as the opportunity to provide feedback and recommendations related to it. As CESA has stated previously within this initiative, the ISO must look at the modifications to its RA tariff with an essential principle in mind: *primum non nocere* - first, do no harm. Considering the potential impacts of the ISO's proposals on the Western electric power sector, the ISO should engage with stakeholders on a variety of issues within the scope of this initiative, including those that were not considered in the agenda for the September 15 and 17 working group calls.

In these comments, CESA focuses on issues raised during the working group discussion on the subject of Unforced Capacity Evaluations. In addition, considering the ISO did not include the minimum charge requirement (MCR) proposal in the working group's agenda, CESA presents its position and alternative proposal as additional comments. CESA's comments can be summarized as follows:

- The ISO should modify the proposed outage definitions in order to account for the potential of resources being unable due to transmission outages beyond their control.
- The ISO should consider calculating UCAP values based on the top 15% of hours with the tightest supply cushion, by season.
- The ISO should determine the UCAP value of new resources based on their net qualifying capacity, per Option 2 of those described in the Fifth Revised Straw Proposal.
- The ISO should modify its MCR proposal to consider this solution interim and revise it as follows:

- The MCR must not be binding for all days and criteria for its use must be equal to that of exceptional dispatch (ED).
- For the purposes of future product development, the ISO shall track MCR use in a manner consistent to ED.
- The MCR proposal must include clear settlement rules that include opportunity costs. ?
- In parallel to this interim solution, the ISO should focus on developing an energy shifting product within the next phase of the Energy Storage and Distributed Energy Resources (ESDER) initiative.

2. Provide your organization's feedback on the Unforced Capacity Evaluations topic as described in slides 6-68:

During the September 15 working group call, the ISO clarified that urgent outages, defined as situations when a facility/equipment is known to be operable yet carries an increased risk of a forced outage occurring, would not affect a resource's UCAP unless they are taken, at which point they would be forced outages. Moreover, the ISO noted that they are considering ways to modify their outage exemption proposal to remove transmission-induced outages from UCAP evaluation. CESA supports and appreciates these clarifications. Regarding the latter, as CESA has noted previously, the current set of causes for outage exemption is problematic because it could inappropriately or excessively derate a unit when the unit otherwise was ready to perform.[1] A UCAP derate under these conditions, and considering the growing occurrence of transmission outages due to increasing wildfire risks, is thus inappropriate. Hence, CESA recommends the ISO includes an additional outage definition to be exempt from UCAP, a "Forced Transmission Outage" in line with the definition used in the Midcontinent Independent System Operator's (MISO) footprint.

On the subject of UCAP calculation, the ISO commented on the stakeholder feedback it has received regarding the number of hours considered within their methodology. Specifically, the ISO provided data on the potential impacts of Calpine's proposal to base UCAP off the top 10% of hours with the tightest supply cushion, regardless of season. The ISO concluded this proposal would not improve on their methodology, as it would consider too many hours from off-peak months and would not reflect availability in the mornings, or other periods of known grid stress. While CESA is supportive of a seasonal approach to determine UCAP, the number of hours proposed currently by the ISO (the top 20% of hours with the tightest supply cushion, by season) continues to be excessive in comparison to the practices of other ISO/RTOs. The New York ISO (NYISO), for example, bases its UCAP-equivalent process on an analysis of the performance of assets during the Summer and Winter Peak Hours, totaling about 736 hours per year.[2] As such, CESA recommends that the ISO consider a methodology based on the top 15% of hours with the tightest supply cushion, by season. This methodology could be preferable to both the ISO's and Calpine's proposal since it will decrease the number of hours considered while theoretically maintaining the likelihood to select more hours within the on-peak season, and more hours of known grid stress due its high correlation with net load. Such a cushion level will ensure reliable operations with more cost-efficient outcomes.

Finally, it is noteworthy that the subject of UCAP values for new resources was not addressed within the working group calls. During the September 15 call, CESA commented on this issue, showing support for a modified version of Option 2, which values new resources at their NQC and quickly derates them given their operational record. CESA included this proposal in its comments on the Fifth Revised Straw Proposal. Essentially, CESA recommends adopting Option 2 with a modification to the weighting to read as follows:

Year 0 (i.e. before actual operational data is available): NQC

Year 1: **60% year 0 performance, 40% NQC**

Year 2: 55% year 1 performance, 35% year 0 performance, 10% NQC

Year 3: 45% year 2 performance, 35% year 1 performance, 20% year 0 performance

This modification is reasonable as resources should not be unduly derated for actions not undertaken by their operators. By this logic, CESA opposes Option 1 as it would derate the reliability contributions of brand-new assets based solely on the operational history of assets loosely considered within the same class. Moreover, CESA supports this modified version of Option 2 since (1) it would apply disproportionately to storage assets due to the current status of the interconnection queue; and (2) the ISO's data analyses on UCAP show minimal derates for energy storage, with values between 94% and 97% depending on the season. Thus, CESA considers basing the UCAP value of new resources on their NQC is fair and reasonable while carrying marginal overcounting risks.

[1] Fifth Revised Straw Proposal, at 17.

[2] *See* NYISO, "Installed Capacity Manual", updated June 2020, at 57.

3. Provide your organization's feedback on the RA Imports topic as described in slides 71-120:

CESA offers no comments at this time.

4. Provide your organization's feedback on the Planned Outage Process Enhancements topic as described in slides 121-125:

CESA offers no comments at this time.

5. Provide your organization's feedback on the UCAP for local topic as described in slides 126-139:

CESA offers no comments at this time.

6. Additional comments on the September 15 and 17, 2020 working groups:

CESA is concerned with the ISO's continued consideration of the MCR within this initiative. While understanding of the CAISO's intent, CESA has clearly stated that this proposal will: (1) seriously hinder market participation; (2) increase reliability risks by constraining flexible RA supply; and, (3) potentially discriminate against storage resources while running afoul of CAISO principles of competition and efficient market-oriented policy.

Due to these concerns, CESA has actively and respectfully tried to engage with the ISO and other stakeholders to address this issue formally and find solutions that are well suited for the future of the grid. In this spirit, CESA requested the ISO to include MCR within the scope of the September 15 and 17 working group calls. However, despite our efforts and those of other stakeholders, the ISO did not consider our request and noted this topic would be addressed at the October 9th Market Surveillance Committee (MSC) meeting. This is yet another example of the series of procedural issues which surround the MCR proposal, after it was: 1) not scoped into this initiative; 2) removed from the initiative and taken to the ESDER initiative; 3) removed from the ESDER initiative;4) returned back to this initiative later in its development cycle; and 5) not considered in the recent working group calls, leading to limited opportunity to address this issue before the ISO's plan to submit to the Board of Governors for approval. Given the lack of stakeholder discussion on this subject, CESA includes its position and recommendations on the MCR as additional comments.

The MCR, as proposed, is unduly restrictive to asset operations, well beyond the *de rigueur* requirements of must-offer obligations. As such, CESA believes different market-oriented solutions should be developed to address CAISO's concerns in more efficient and flexible ways that do not limit participation. In this spirit, even as the ISO has not provided or conducted sufficient analysis on the issue necessitating an MCR-like solution, CESA proposes the ISO consider the following interim reforms to serve as a bridge solution to address the ISO's concerns while longer-term market products are developed.

First, given the limitations inherent to the MCR construct, the ISO must consider any non-market-based solutions to be interim. If adopted, the MCR proposal should be contingent on the ISO engaging with stakeholders to develop an energy shifting product that captures energy and regulation opportunity costs, enabling resources to bid at the price they would be willing to take to forego all revenues in order to shift energy on a daily basis. The ESDER initiative could be an adequate venue to define such a product. Once the MCR is identified as a temporal solution, the ISO should modify it to include clear utilization criteria, tracking and reporting requirements, and settlement rules.

As CESA has previously pointed out in this initiative, the MCR construct as proposed could seriously hinder the flexibility of the electric grid. In order to mitigate this risk, CESA recommends the ISO modify the MCR framework so that it would *not* be binding for all days. Instead, the ISO should treat MCR use just as exceptional dispatch (ED). As such, CESA recommends that the MCR must only become binding during a System Emergency, to prevent an imminent System Emergency, or in a situation that threatens System reliability and cannot be addressed by the RTM optimization and system modeling. This set of criteria mirrors the one applicable to ED per section 34.11 of the ISO Tariff. This modification is reasonable as the criteria defined is broad enough to enable MCR use when the ISO deems it necessary while ensuring asset owners that the MCR would not be used excessively. This latter point is strengthened by CESA's tracking and reporting requirements proposal, described in more detail below.

In order to disincentivize excessive reliance on the MCR and to continue the development of future market products, CESA recommends the ISO report MCR use in a manner consistent to ED. As such, the ISO must record the circumstances that have led to the use of the MCR, as done for ED per section 34.11 of the ISO Tariff. Moreover, on the fifteenth day of each month, the CAISO shall

file with the Commission and post to the CAISO Website an initial report concerning the use of MCR that occurred in the month two months prior to the month in which the report is filed. The report shall identify the frequency, volume, costs, causes, and degree of mitigation of MCR during such period to the extent such data are available. These recommendations are consistent to the current treatment of ED, per section 34.11.4 of the ISO Tariff.

In addition, the ISO must revise the MCR proposal to include clear settlement rules for the periods when it is binding. To do so, CESA recommends basing settlement on the ED construct. In this case, CESA considers the settlement prices for resource *i* on interval *t* should be derived as follows:

For charging:

$$Settlement\ Price_{i.t}=MIN(FMM\ or\ RTD\ LMP_{i.t},\ Energy\ Bid_{i.t},\ DEB\ if\ mitigated_{i.t})$$

For discharging:

$$Settlement\ Price_{i.t}=MAX(FMM\ or\ RTD\ LMP_{i.t},\ Energy\ Bid_{i.t},\ DEB\ if\ mitigated_{i.t})$$

This definition of settlement, while useful and viable as it is applicable for ED, is not fully equipped for MCR use as it cannot integrate the opportunity costs faced by a storage asset that has been subjected to forego market revenues in order to ensure later, potentially uneconomic, dispatch. As a result, CESA recommends the ISO focus its attention within the RA Enhancements initiative to develop means to account for energy and regulation opportunity costs within the MCR construct. Given the complexity of estimating different counterfactual operating scenarios, focusing on RT energy arbitrage would enable a viable opportunity cost framework. To initiate this conversation, CESA suggests the ISO considers its work on storage opportunity costs within the ESDER initiative. For the development of default energy bids (DEBs) for storage, the ISO simplified opportunity costs as the assumption that a resource would deplete its total charge during the period with the 4th highest price (assuming a 4-hour resource). For example, if prices are $45, $35, $32, $30, $27, $31, $40; the fourth highest hour would be $32?. Since the MCR methodology currently does not capture potential RT energy and regulation revenues? and in order to maintain simplicity, CESA recommends using a methodology similar to that of ESDER but using the highest priced hour (in the case of the example above, that would be $45?). The opportunity cost proxy thus would be defined as:

$$Opportunity\ Cost_i=highest\ priced\ hour*Pmax_i*4\ hours$$

This definition would allow the ISO to compare the net revenue associated with settlement via the formulae described above to that assumption of complete discharge during a 4-hour period priced as the highest priced hour. Thus, the ISO should pay the resource the maximum of either the settlement amount or the opportunity cost:

*Compensation over MCR use=MAX[Q*Settlement Price, Opportunity Cost]*

With these modifications adopted, the ISO shall then work with stakeholders to replace the limited MCR/ED tool with a sustainable market product to provide the intended and needed reliable grid operations from storage. Specifically, the ISO should define an energy shifting market product that energy storage assets can bid into to provide daily arbitrage. The data collected from MCR use could be extremely helpful, as it would enable the ISO to better understand the grid conditions that lead to MCR need, as well as the opportunity costs faced by storage resources. Thus, adopting a modified MCR would be a catalyst for a comprehensive and reasonable review of the role of storage within reliability planning.