



Submit comment on 4/14 meeting and BPM policy changes

Initiative: Storage design and modeling

1. Please provide your organization's comments on the April 14th meeting and related materials. *

WPTF appreciates the opportunity to submit these comments on the CAISO's proposed change to the SOC AT formulation discussed on the April 14th and May 9th stakeholder calls. WPTF submitted these comments both on the policy page as well as within the PRR process.

We understand the CAISO is concerned that some of the Flexible Ramping Up product awarded to storage resources cannot be supported due to insufficient SOC. While we generally support improving the accuracy of SOC formulations and constraints to ensure feasible schedules and awards, we remain extremely concerned with the lack of transparency and thorough vetting of the proposed solution with stakeholders, most notably the implications this may have on how storage resources are utilized by the market throughout the day. The high level analysis presented by CAISO seems to indicate a significant impact on storage resources, thus should be well understood by all participants prior to implementation.

The CAISO has already acknowledged that this proposed change is (1) overly conservative and (2) does not accurately represent the fact that when a resource is utilized for the ramping product, the ramping occurs across two intervals as opposed to wholly within the interval of the FRU award. Additionally, when awarded there is no guarantee the market will use the ramping capability starting in that interval, if at all. There are clearly some modifications to what the CAISO is proposing that should be considered.

WPTF respectfully requests the following from the CAISO prior to implementation of the proposed formulation:

- **Share and discuss thorough testing results of the modification with stakeholders:** During the May 9th stakeholder meeting the CAISO did present testing results but they were extremely limited. The one testing result provided by the CAISO that showed the impact the proposed change will have on storage resources was limited to one resource in one real-time market run. While the CAISO showed 7 intervals of results, it was the 7 intervals within the market horizon, thus only one of those 7 corresponded with actually binding schedules and prices. It is challenging for stakeholders to get a complete understanding of potential impact when only looking at one binding interval result.
- **Provide an explanation for how the CAISO is identifying FRU awards that are undeliverable due to insufficient SOC:** The CAISO has presented some data analysis that seems to indicate a non-trivial amount of FRU awards are undeliverable due to insufficient SOC. However, WPTF remains unclear on how the CAISO is identifying awards as

undeliverable due to insufficient SOC. When a resource is awarded FRU the CAISO market already has a constraint (ASSOC) to ensure that there is sufficient SOC to support the award in that interval. Additionally, when a resource is awarded FRU there is no guarantee it will be used for the ramping capability starting in that interval, if at all, and the real-time SOC is updated frequently based on telemetry. Therefore, conducting such an analysis is extremely challenging and not entirely straightforward. Thus, we would like to understand what assumptions and logic the CAISO is using to identify the MWs that are undeliverable.

- **Commit to develop a long-term durable solution:** The CAISO has already acknowledged the current proposal has some room for improvement, including accurate reflection of the cross-interval ramping and incorporation of FRD. However, stakeholders have already noted that CAISO cannot simply add FRD to the formula as that will likely result in the market simply awarding FRU and FRD to support regulation awards. That will have significant market and reliability impacts. The fact that the proposal cannot simply be expanded to FRD further supports the notion that the current proposed modification is not a robust solution and the CAISO and stakeholders should strive to develop an efficient and effective solution to address the concern.