**CAISO Response to comments submitted by the California Community Choice Association (CalCCA).**

CAISO agrees with CalCCA that the issue at hand must be addressed to prevent adverse reliability and price formation outcomes by implementing the proposed modification this summer. Beyond this summer, the CAISO is fully committed to the development of a more durable long-term solution within the Storage Design and Modeling stakeholder initiative.

CAISO agrees with the importance of regular monitoring and reporting on the results of the proposed modification so as to determine its performance and identify any unintended consequences. This monitoring shall be reported through the monthly Market Performance and Planning Forum.

CAISO confirms that, if any major unintended consequences arise, the CAISO will have the ability to roll back the proposed modification to the SOC AT calculation. Finally, CAISO confirms its ongoing efforts to document all storage constraints for all markets in a single document.

**CAISO Response to comments submitted by the Western Power Trading Forum (WPTF).**

The CAISO is committed to ensuring transparency and actively engaging stakeholders in the process of this proposed modification. To enhance communication and gather valuable feedback, the ISO organized an additional meeting on April 14th, beyond the requirements of the BPM PRR process This meeting aimed to communicate the proposed changes, as well as provide stakeholders an opportunity for further comment and submit questions. During the April meeting stakeholders shared a desire for further discussion of the modification and potential testing results. Stakeholders also asked for opportunity to provide comment via the Storage Design & Modeling (SDM) Initiative comments in addition to the BPM PRR platform. In response to this stakeholder feedback, the CAISO facilitated further discussion on this topic during the 5/9 SDM call, and developed a comment template to accept written comments on the 4/14 meeting through the SDM Initiative comments in addition to the PRR comments. Our approach to public engagement and openness to feedback for this modification significantly exceeds what is required for a BPM modification of this nature. We appreciate the active participation of stakeholders in order to provide this additional feedback and remain committed to fostering a collaborative environment.

CAISO understands that some stakeholders may consider the proposed modification as overly conservative since it reserves all of the SOC associated with an Uncertainty Award in the upward direction despite the fact that there is no guarantee the market will use the ramping capability starting in that interval, if at all. The CAISO sees that conservative approach as desirable since it allows the market and operators to have absolute certainty that the ramping capability awarded will be there if and when called upon.

Stakeholders have also noted that the proposed modification 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. In general, ramping capacity products and ancillary service capacity products do not fully align because the ramping products cover the ramp between consecutive intervals (last half of previous plus first half of next), where the AS capacity products cover an entire interval. This is a particularity of the products that exists today and is not modified by the proposed modification. On a related note, this matter is considered in the SOC constraints that will be implemented as part of the Day-Ahead Market Enhancements (DAME) effort. The CAISO will seek to use those formulations to inform future policy discussions and proposals related to this issue beyond summer 2025.

In their comments, WPTF requests CAISO to share and discuss thorough testing results of the modification with stakeholders, noting that the information shared during the May 9th stakeholder meeting were extremely limited. WPTF argues that 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 binding schedules and prices. CAISO finds the information provided to be meaningful to assess how the enhancement performs and changes the market solution for storage resources. This assessment is done in an offline system and using snapshots of the original market solution. This approach cannot replicate the overall dynamic of the actual market that runs continuously and uses the information from previous market as a starting point for next market. In the actual market, a solution for current interval will influence the solution for the next interval, creating a trajectory of resource schedules. For instance, if the enhancement results in awarding less FRP to storage resources and now commits a conventional gas resource; the next interval will used that information and rely on capacity available from the newly committed resource. Thus, the enhancement will create two impacts, one it will ensure storage resources are awarded SOC-feasible schedules but also will change the overall solution and will lead to different schedules for other non-storage resources in subsequent intervals. The offline testing can assess only the impact on the current interval but cannot create new trajectories over time. Thus, providing additional binding intervals only will not correctly show the full scope of the changes.

In comments, WPTF also requested the CAISO to provide an explanation for how the CAISO is identifying FRU awards that are undeliverable due to insufficient SOC. The data presented on this matter is from a sample day in 2024 summer. It shows an estimate of FRU awarded to storage resources but unavailable due to insufficient SOC. The percentage is the unavailable MW out of total FRU awards to storage resources. To estimate this value, the CAISO assessed how much FRP is supported with available SOC. For example, if a resource has an FRP award equivalent to 25 MWh and the available SOC is 10 MWh, it means only 10 out of 25 MWh of FRP can be deployed, or 40%. This is estimated as the total SOC needed for FRP over the entire market horizon of each market run and the available SOC over the same market horizon. Using the numerical example presented in the May 9 meeting as an example, the original solution has FRP awards of 80, 80, 80, 0.1, and 0MW over the market horizon. However, there is no SOC available to support these awards. Therefore, the FRP that cannot be supported in this case is 48 MW (240.1MW/5 intervals). The associated percentage of infeasible FRP in this case is 100% because there was no SOC available to support any of the FRP awards. As such, this metric is meant to surgically assess only the FRP that is not deliverable/deployable because there is not sufficient SOC to support. The metric does not measure any FRP deliverability issue due to congestion. FRP deliverability with respect to congestion is addressed by enforcing transmission constraints in the FRU and FRD deployment scenarios.

Finally, WPTF asks the CAISO to commit to develop a long-term durable solution. Beyond this summer, the CAISO is fully committed to the development of a more durable long-term solution within the Storage Design and Modeling stakeholder initiative.

**CAISO Response to comments submitted by Pacific Gas & Electric (PG&E).**

CAISO agrees with PG&E’s perspective that the proposed modification is an appropriate and implementable approach to mitigating the issue at hand for the summer of 2025.

In addition, the CAISO understands PG&E’s comments noting that t**he proposed change will require monitoring to ensure it isn’t preventing access to needed flexibility under stressed conditions.** CAISO agrees with the importance of regular monitoring and reporting on the results of the proposed modification so as to determine its performance and identify any unintended consequences. This monitoring shall be reported through the monthly Market Performance and Planning Forum.

Finally, the CAISO welcomes PG&E’s proposed alternative set of constraints. These constraints will inform the stakeholder discussion relative to the development of a durable long-term solution. Such discussions are currently expected to be held in the context of the Storage Design & Modeling (SDM) initiative.