November 4, 2024

Jan Schori
Chair, Board of Governors
Robert Kondziolka
Chair, Western Energy Market Governing Body
California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

Dear Chair Shori and Chair Kondziolka:

The California Energy Storage Alliance ("CESA") has been an active participant in the Energy Storage Bid Cost Recovery ("BCR") and Default Energy Bid ("DEB") Enhancements stakeholder initiative. CESA recognizes that the current BCR design can result in inflated or inappropriate real-time BCR payments either inadvertently or through strategic bidding. The causes are a forced buy-back of a day-ahead discharge schedule or a forced sell-back of a day-ahead charging schedule. The real-time dispatch is forced because the market optimization must respect the storage resources state-of-charge to ensure a feasible 15-minute market schedule or a 5-minute real-time dispatch. Since forced buy-backs and sell-backs do not consider the bid costs, mitigation of the bid cost used in BCR settlements is warranted.

The BCR design is extremely complicated and prone to unanticipated settlement outcomes from rushed market design changes. CAISO's original proposal addressed forced buy-back and sell-back of day-ahead schedules by identifying intervals where the state-of-charge was either 0% or 100% and making those market intervals ineligible for BCR. This proposal was not implementable. CESA, along with other stakeholders, proposed alternative approaches to be applied on an interim basis. The principle CESA sought to implement is if a day-ahead schedule was not deliverable due to state-of-charge limitations then the combined day-ahead and real-time energy settlement should not be greater than if the day-ahead schedule was actually delivered.

Prior to the draft final proposal, CESA coordinated with other stakeholders to develop a joint proposal to address forced buy-back and sell-back of day-ahead schedules. The joint proposal identified intervals where there was a reasonable expectation that a forced buy-back/sell-back of a day-ahead schedule had occurred due to a constrained dispatch and not economics or market design limitations. In those intervals, the real-time bid cost was replaced by a reasonable proxy cost to mitigate against inflated and inappropriate BCR.

In the draft final proposal, CAISO expanded the use of the joint proposal's proxy cost to apply in all intervals including intervals without a day-ahead schedule or WEIM base schedule. The

CAISO proposal re-designs storage BCR whenever a buy or sell occurs in the real-time market. The joint proposal was not intended to be applied in this manner. In fact, an addendum was required by CAISO to modify the proposal as it would be inappropriate to consider the day-ahead price if there was no day-ahead schedule in the proxy cost logic.

CAISO must improve transparency in the Energy Storage Enhancements initiative to holistically address storage participation and settlement in the day-ahead and real-time markets. In this initiative, CESA and others requested additional information and clarifications that were not addressed. For example, CAISO stated that an implementation issue with the joint proposal's use of three conditions to identify a forced buy-back/sell-back interval was not implementable because in many cases all three conditions could not be met, but CAISO could not identify which of the three was causing an issue. This created a concern that the joint proposal was not modeled as intended in the examples developed by CAISO. CESA and others requested the actual spreadsheet behind the analysis to validate the results but were not accommodated. Lastly, CESA requested that the CAISO should provide masked examples of days CASIO believes excessive BCR was occurring so that the various approaches could be evaluated on their effectiveness in addressing inflated BCR which was not provided.

CESA does not support or oppose the storage BCR proposal before you. An interim approach is needed to address inflated BCR caused inadvertently or through strategic bidding. Based on the opinion of the Market Surveillance Committee (MSC), the MSC highlights there may not be a material difference between the CAISO proposal and the joint proposal[1]. However, if there is a material difference there may be other market design elements impacting BCR that need to be addressed, but identification of those issues may be masked by applying the BCR proxy cost logic in all intervals.

All energy must be focused on the Energy Storage Enhancement initiative which was slated to start in Q1 2024. The rapid increase in storage within the CAISO footprint requires a holistic review of storage participation. This is similar to ten years ago when wind and solar reached production levels that caused the Participating Intermittent Resource Program to negatively impact market efficiency. In response CAISO developed the ability to automatically update within the operating hour by using the forecast to adjust the bid curves of variable energy resources in the real-time market. CAISO also developed a fifteen-minute market to further incentivize economic bidding in the real-time market. Market design changes of a similar magnitude should be considered for storage resources.

[1] See Page 28. *Market Surveillance Committee Final Opinion – Storage Bid Cost Recovery* https://www.caiso.com/documents/market-surveillance-committee-final-opinion-storage-bid-cost-recovery-nov-01-2024.pdf "In practice, the CAISO design will apparently only result in lower BCR than the Joint Stakeholder design in intervals in which a storage resource is dispatched to discharge when it does not have a day-ahead market schedule and the real-time price is less than the DEB. But there will generally be no BCR on phantom losses when this is the case."

The MSC highlights that "*the current BCR mechanism … reduces the incentive of the storage operator to use its bids and offers to manage the state of charge over the day so the resource can cover its day-ahead market schedule*." The MSC then states "*that another long-term goal should be to ensure that any BCR system does not interfere with the incentives to manage the storage in response to real-time price signals so that stored energy is managed in a way that storage discharge occurs when that energy is most needed by the system*."[2] These two goals are not necessarily consistent. Meeting both goals simultaneously requires improved storage modeling and bidding flexibility combined with increased financial exposure to operator mismanagement of the state-of-charge in the real-time market.

The Energy Storage Enhancement initiative must address: (1) approaches reducing the real-time bid latency given the T-75 minutes real-time bid submission deadline, (2) modifications to the real-time default energy bid costs and reference level adjustment process, (3) appropriate make-whole payments for out-of-merit dispatches made outside the control of storage operators, and (4) improvements to the non-generator resource model.

Thank you for your consideration.

Sincerely,

Scott Murtishaw
Executive Director

cc: Members, CAISO Board of Governors, WEM Governing Body

[2] See Page 3.