Comments on Storage Bid Cost Recovery and Default Energy Bids

Issue Paper and Straw Proposal for Track 1

Department of Market Monitoring

August 8, 2024

DMM appreciates the opportunity to comment on the *Storage Bid Cost Recovery and Default Energy Bids for Track 1 Straw Proposal*.¹

Real-time bidding incentives

Throughout the stakeholder process, many stakeholders have raised the issue of potential gaming or actions by "bad actors". DMM agrees that the potential for gaming bid cost recovery (BCR) payments by batteries is concerning, and one purpose of the straw proposal and this initiative is to mitigate gaming concerns. However, the current BCR rules for batteries also create significant market efficiency and reliability concerns. These three concerns—gaming, market efficiency, and reliability—are all driven by BCR rules that create incentives for resources to not bid their true marginal costs in real-time.² The Track 1 process should address all three concerns.

The straw proposal addresses all three concerns by changing the BCR rules to fix the core issue of how current BCR rules create an incentive for batteries not to bid expected opportunity costs in real-time— and instead bid in a manner that tends to result in battery capacity being discharged prior to the peak net load hours. DMM believes it is important to address all of the real-time storage BCR issues simultaneously, rather than classifying the market efficiency issues as a lower priority to be taken up at a later time. Addressing all issues as proposed in Track 1 is a better approach than implementing an interim change to address only BCR gaming concerns and then tackling the core bidding incentive issue in a later process. We note that implementing the changes proposed in the Track 1 straw proposal should not preclude additional discussion and further changes in Track 2 of the stakeholder process.

Battery DEBs should more accurately reflect potential real-time intraday opportunity costs

As discussed in prior DMM comments, without real-time BCR payments that cover losses from dayahead schedule buybacks or sellbacks when state-of-charge (SOC) constraints are binding, batteries need to manage the risk of losses with real-time bid prices.³ These bids are the primary determinant of how the real-time market software dispatches batteries above or below the batteries' day-ahead schedules. In order to dispatch batteries efficiently, bids should reflect the potential opportunity costs of charging or discharging batteries differently in the real-time market (particularly for day-ahead schedules in hours beyond the real-time advisory lookout). Therefore, default energy bids (DEBs) for

¹ Storage Bid Cost Recovery and Default Energy Bid Enhancements: Issue Paper & Straw Proposal for Track 1, California ISO, July 26, 2024: <u>https://stakeholdercenter.caiso.com/InitiativeDocuments/Issue-Paper-and-Straw-Proposal-Storage-Bid-Cost-Recovery-and-Default-Energy-Bids-Enhancements-Jul-26-2024.pdf</u>

² As explained in earlier comments. *Comments on Storage Bid Cost Recovery and Default Energy Bids: July 8, 2024 Workshop*, Department of Market Monitoring, July 18, 2024: <u>https://www.caiso.com/documents/dmm-comments-on-storage-bcr-and-default-energy-bids-july-8-2024-workshop-jul-18-2024.pdf</u>

³ Ibid.

batteries used when bid mitigation is triggered also need to reflect potential opportunity costs of dispatching batteries in the real-time intervals leading up to the day-ahead schedules. More generally, DEBs for batteries need to reflect the real-time opportunity cost of dispatching before reaching a dispatch opportunity in a future hour.

Currently, batteries can opt to have default energy bids for the real-time market that include an opportunity cost component based on the fourth highest resource LMP from the day-ahead market, plus a 10 percent adder.⁴ The option may be effective and efficient in many instances. However, in real-time, these DEBs may be insufficient to capture intraday opportunity costs associated with potentially higher real-time prices based on changing real-time conditions. Further, the current DEB design is a static value over all hours of the operating day and does not consider changing intraday opportunity costs throughout the day. This can lead to a DEB that is too high in some hours, and too low in other hours. DMM recommends the ISO develop DEBs that could be higher in the intervals leading up to the peak pricing hours, and lower in later intervals as intraday opportunity costs fall.

Track 1 may need to consider potential impacts of mitigation under the current storage DEB design

With DEBs based on day-ahead prices that may not reflect real-time intraday opportunity costs, local market power mitigation could cause storage resources to be discharged below their actual real-time opportunity cost. This can lead to a storage resource being dispatched on a mitigated bid, having state-of-charge depleted, and potentially incurring losses associated with buying back or selling back a day-ahead schedule.

The establishment of more dynamic DEBs considering real-time conditions reduces the risk of mitigation to a value that does not reflect real-time intraday opportunity cost. However, development of such a DEB is a longer-term effort that will not be addressed in Track 1. Therefore, an alternative approach may be needed in Track 1 to avoid potential impacts of mitigation to values that may not reflect real-time intraday opportunity costs.

As one potential solution to the mitigation issue, the Market Surveillance Committee (MSC) proposed that when storage resources are dispatched on mitigated bids, the ISO could apply the same settlement as used for storage exceptional dispatches to hold state-of-charge.⁵ This settlement would calculate the real-time incremental revenues occurring over the hours following mitigation, and compare to a counterfactual real-time settlement as if the mitigation had not occurred. If the counterfactual without mitigation would have resulted in higher revenues, the battery would be made whole for this difference.

This settlement approach would ensure that when batteries are subject to mitigation, they are equitably compensated for any lost revenues that can result when the current Energy Storage DEB option does not reflect actual real-time opportunity costs. However, this settlement approach will not completely prevent inefficient dispatch in real-time that can be caused when bids are mitigated based on current DEBs. Therefore, this settlement approach would not negate the need to develop more accurate battery DEBs in Track 2, but could be a workable solution to consider in Track 1. DMM supports the ISO's

⁴ For a four hours energy storage resource. For an N hour energy storage resource it would be the Nth highest dayahead LMP. See Appendix D, Market Operations Business Practice Manual p 310: https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Market%20Instruments

⁵ Storage Resource Bid Cost Recovery Rules, Scott Harvey, Market Surveillance Committee, July 30, 2024: <u>https://www.caiso.com/documents/presentation-storage-resource-bid-cost-recovery-msc-jul-30-2024.pdf</u>

consideration of this potential solution to mitigation in Track 1, while scoping development of improved storage DEBs in Track 2.