

Comments on Price Formation Enhancements Working Group Session 15

Department of Market Monitoring

March 22, 2024

In the Price Formation Enhancement Working Group meeting on March 12, 2024, the ISO discussed the issue of storage resources not being able to bid above \$1,000/MWh whenever the \$2,000/MWh bid cap is in effect.¹ DMM agrees that storage resources, along with other resources with intra-day opportunity costs, should be able to reflect those costs in their incremental energy bids and default energy bids.² Intra-day opportunity costs for storage and some other resources may exceed \$1,000/MWh when real-time prices can be expected to exceed \$1,000/MWh. Under the ISO's current rules, to comply with FERC Order 831, resources need cost-verified DEBs reflecting this higher opportunity cost in order to bid above the \$1,000/MWh soft cap.

DMM agrees with the principle of resources being able to reflect their intra-day opportunity costs in their incremental energy and default energy bids. The ISO could implement default energy bids (DEBs) which better reflect intra-day opportunity costs when the \$2,000/MWh bid cap is in effect. This change would also facilitate the submission of energy bids over \$1,000/MWh when the \$2,000/MWh bid cap is in effect. However, designing these DEBs will require careful consideration and calculation to reflect intra-day opportunity costs accurately.

Consideration of changes to reflect potentially large intra-day opportunity costs in some hours raises the importance of considering a new DEB design that may be substantially different from existing DEB designs. For instance, the ISO currently calculates all DEBs as a static value over the day. DEBs that incorporate intra-day opportunity costs should change hourly, particularly for resources that are able to recharge during the day. These DEBs may also need to incorporate a forecast of real-time prices. While these enhancements may contribute to a DEB that most accurately represents changing intra-day opportunity costs, DMM recognizes that this may be a longer-term solution and may not be feasible to develop and implement in a short timeframe (e.g., by summer 2024).

Should the ISO and stakeholders seek to address this issue in the short-term, it may be simpler for the ISO to simply modify the current static DEB calculations whenever the \$2,000/MWh bid cap is in place. While DMM does not oppose a simplified short-term solution, there are a number of issues to consider. A blunt, static approach may lead to DEBs that are inaccurately high for many hours throughout the day. Although this issue exists today under the current storage DEB design, the scale of the potential impacts of this issue will increase as DEBs increase and potentially exceed \$1,000/MWh. Inaccurately high DEBs have potentially serious consequences, including allowing resources with local market power to avoid being mitigated below these inaccurate DEBs. Inaccurately high DEBs that allow the submission of

¹ Price Formation Enhancement Working Group Session 15, California ISO, March 2024:

<https://www.caiso.com/InitiativeDocuments/Presentation-Price-Formation-Enhancements-Mar12-2024.pdf>

² DMM Comments on Policy Initiatives Catalog and Roadmap Process, February 2024:

<https://www.caiso.com/Documents/DMM-Comments-on-2024-Policy-Roadmap-Feb-29-2024.pdf>

DMM Comments on Scarcity Pricing, February 2024:

<https://www.caiso.com/Documents/DMM-Comments-on-Scarcity-Pricing-Feb-20-2024.pdf>

energy bids over \$1,000/MWh when the \$2,000/MWh price cap is in effect may also exacerbate issues with bid cost recovery (BCR) payments to storage resources.

Because current BCR rules were designed for traditional generators, some BCR payments to storage resources may be inappropriate or more susceptible to gaming.³ The CAISO has already implemented one targeted market enhancement to eliminate inappropriate BCR payments to storage resources.⁴ However, there are a number of other situations where batteries may receive inappropriate or inefficient bid cost recovery payments. Such payments can result from self-imposed state-of-charge constraints that prevent charging or discharging, or from self-imposed state-of-charge limitations that influence market dispatch. DMM continues to recommend enhancing bid cost recovery rules for storage resources to consider state-of-charge limitations and other attributes unique to storage resources. Until these issues are addressed, allowing storage resources to submit higher energy bids – even when aligned with intra-day opportunity costs – could further increase unwarranted BCR payments to storage resources.

DMM understands the need to ensure that resources with intra-day opportunity costs are able to reflect those costs when the \$2,000/MWh bid cap is in effect. While the best approach may be to design a new hourly DEB calculation for these resources that reflects these intra-day opportunity costs in each hour, a simplified approach may be workable in the short-term, until more time and consideration can be taken to design and implement an hourly DEB framework. When assessing simpler short-term approaches, it is important to consider potential issues such as local market power concerns and worsening the magnitude of inappropriate BCR payments to storage resources.

³ *DMM Special Report on Battery Storage*, July 2023, p 20:

<https://www.aiso.com/Documents/2022-Special-Report-on-Battery-Storage-Jul-7-2023.pdf>

⁴ Docket No. ER22-2881 Transmittal Letter, California ISO, September 2022:

<https://www.aiso.com/Documents/Sep19-2022-TariffAmendment-EnergyStorageBidCostRecovery-ER22-2881.pdf>