



Memorandum

To: ISO Board of Governors and WEM Governing Body

From: Benjamin F. Hobbs, Chair, Market Surveillance Committee

Date: September 19, 2024

Re: **Briefing on Market Surveillance Committee activities – May 11, 2024 to Sept. 19, 2024**

This memorandum does not require ISO Board of Governors or WEM Governing Body action.

During the period of time covered by this memorandum, the Market Surveillance Committee (MSC) of the California ISO held two general session meetings, one on May 15, 2024 and the other on July 30, 2024.¹

During the May 15th meeting, the committee adopted a final Opinion on Federal Energy Regulatory Commission Order 831 Rules for Bidding Above the Soft Offer Cap.² The Opinion addressed the ISO's proposal for revision of offer rules for the summer of 2024 for battery storage and hydropower resources under Order 831. The adopted Opinion was submitted to the ISO Board of Governors and WEM Governing Body during their joint general session on May 22, 2024. During that meeting, MSC Member Dr. Scott Harvey provided an oral summary of the Opinion.

The July 30 MSC general session meeting had two major agenda items. The first agenda item addressed the causes of energy emergencies that occurred in late July 2023, and the subsequent use by the ISO of transfer limitations to reduce risks and impacts of such emergencies. This part of the meeting began with an ISO staff presentation by Dr. Guillermo Bautista-Alderete, Director, Market Performance and Advanced Analytics, who summarized those events and the ISO's use of transfer limitations.³ The cause of the emergencies were several types of intra-hour events within the ISO footprint as well as other balancing authority areas in the western energy imbalance market. The flexible ramp product is designed to address only some of those types of events; to manage other types, operators continue to rely on load conformance adjustments in the hour-ahead and fifteen-minute markets. Starting on July 26, 2023 and ending in November 2023, the ISO also relied on limits upon

¹ www.caiso.com/informed/Pages/BoardCommittees/MarketSurveillanceCommittee/Default.aspx

² J. Bushnell, S. Harvey, and B.F. Hobbs, "Opinion on Order 831 Rules for Bidding Above the Soft Offer Cap," Final Opinion of the CAISO Market Surveillance Committee, May 15, 2024, www.caiso.com/documents/msc-final-opinion-on-price-formation-enhancements-831.pdf.

³ www.caiso.com/documents/presentation-transfer-limits-july-events-jul-30-2024.pdf

advisory import transfers to ISO area from other areas in the energy imbalance market. In part because the ISO does not have the capability that other balancing authorities in the energy imbalance market have to impose net import and export constraints, Dr. Bautista-Alderete stated that those limits may be reimposed if the ISO again encounters the operating conditions that led to their use in 2023. If the ISO does so, it will include enhanced and more timely communication of these limits to market participants.

Closing this agenda item was a presentation by MSC member Dr. Harvey.⁴ His extensive presentation began with a description of some significant elements of the chronology of the operational surprises that the ISO system had to deal with on July 20 and 25, 2023. He then described several features of the current ISO software functionality that can create obstacles to monitoring of the conditions leading to those surprises and perhaps may exacerbate them during some operational conditions. These features include:

- how the structure of the ISO's hour-ahead scheduling process interacts with such events, which can provide a misleading picture of actual supply-demand conditions;
- how difficulties in implementing nodal deliverability tests and locational operation of demand curves for the flexible ramp product can contribute to operational surprises; and
- why restrictions on transfer imports in the hour-ahead scheduling process may not eliminate some types of operational surprises in part, and could make them worse.

Dr. Harvey included several simple numerical examples to illustrate his points. He concluded by summarizing a number of lessons and questions concerning the transparency and management of real-time operational surprises. Those lessons include the need to consider changes to the role and structure of the hour-ahead scheduling process, especially relating to the modeling of export curtailments, and to similarly consider changes to the design and implementation of flexible ramping product procurement.

The second agenda item in the July 30 general session meeting concerned the ISO's initiative addressing storage bid cost recovery and default energy bid (DEB) enhancements. Two presentations were made during this agenda item. The first was a presentation on the initiative by ISO staff member Sergio Dueñas Melendez, Storage Sector Manager in Market Policy Development.⁵ He first provided background on the purpose of bid cost recovery provisions in the ISO market, and how they were initially designed with thermal generating units in mind. He then described the difficulties involved in estimating operating costs for battery storage and the consequent distortions in operating incentives for batteries introduced by the present bid cost recovery system design. In particular, incentives to respond to real-time scarcity appear to be dampened or eliminated, which can result in premature discharge

⁴ www.caiso.com/documents/presentation-operational-surprises-hasp-and-eim-transfers-msc-jul-30-2024.pdf

⁵ www.caiso.com/documents/presentation-storage-bid-cost-recovery-and-default-energy-bid-enhancements-track-1-jul-30-2024.pdf

of energy by batteries and exacerbated energy shortages during tight evening periods. Furthermore, there are incentives to strategically modify offers to discharge or bids to charge in order to increase bid cost recovery payments. Mr. Dueñas Melendez concluded his presentation by summarizing Track 1 of the initiative which would attempt to correct these distorted incentives by refining bid-cost recovery provisions for stand-alone storage resources.

The second presentation during the part of the meeting devoted to the storage bid cost recovery enhancements was by MSC member Dr. Scott Harvey regarding principles and issues involved in storage bid cost recovery.⁶ Dr. Harvey agreed with ISO staff that the present bid cost recovery system provides distorted incentives that could yield inefficient storage utilization. He also pointed out other aspects of the ISO markets that can limit the ability of storage operators to efficiently management battery state of charge and identified potential options for improvements. These alternatives include:

- reducing time lags between submission of discharge offers and when they are implemented in the market optimization;
- inclusion of state-of-charge dependent bids and offers;
- allowing storage operators to set larger values than those specified by the ISO for the attenuation factors used to model the impacts of a storage resource providing ancillary services on its state-of-charge in the day-ahead market; and
- safe-harbor provisions for small resources who would avoid offer mitigation if the storage resource capacity is below a defined de minimus size and the storage operator does not own other generation assets within the constrained region.

⁶ www.caiso.com/documents/presentation-storage-resource-bid-cost-recovery-msc-jul-30-2024.pdf