

MEMORANDUM

DATE: June 13, 2025

To: Western Energy Market Governing Body

FROM: Susan L. Pope, Western Energy Market Governing Body Market Expert

SUBJECT: INITIAL BRIEF: Opinion on California ISO Final Proposal for EDAM Congestion Revenue Allocation (June 6, 2025)

This is an initial brief summarizing my more detailed final opinion that will be posted prior to the June 18, 2025, Western Energy Markets (WEM) Governing Body meeting regarding California's ISO June 6, 2025 proposal for Extended Day-Ahead Market (EDAM) congestion revenue allocation (Final Proposal)¹ responds to stakeholder concerns about the FERC-approved EDAM market rules for allocating EDAM congestion revenue among EDAM balancing authority areas (BAAs). For the start-up of EDAM, the Final Proposal would modify the allocation of EDAM congestion revenue to enable EDAM BAAs to make payments to monthly and long-term firm Open Access Transmission Tariff (OATT) customers to provide a more complete congestion hedge for the congestion charges that these customers will pay for balanced self-schedules under EDAM operation.² Stakeholder comments support the proposed rules for EDAM start-up coupled with a commitment by the California ISO in the Final Proposal to work over a 12 to 24 month period with stakeholders on a long-term, durable design for allocating congestion revenue.³

I support the proposed rules for EDAM start-up, although I have substantial concerns about the possibility of negative outcomes due to self-scheduling incentives and impacts on congestion revenue right (CRR) revenue adequacy. The proposed rules for EDAM start-up provide an incentive for monthly and long-term firm OATT customers to submit balanced self-schedules in order to receive a congestion revenue allocation to offset the congestion costs of serving their loads that stem from congestion on transmission constraints located in another EDAM BAA. Submission of inflexible resource self-schedules, rather than the submission of bids and offers to EDAM, reduces the potential gains from employing the EDAM software to optimally commit and schedule resources on the EDAM transmission

¹ California ISO, *Final Proposal: EDAM Congestion Revenue Allocation*, June 6, 2025.

² Herein, the market rules for congestion revenue allocation under the Final Proposal that would apply at the start-up of EDAM to allocate congestion revenue to EDAM BAAs corresponding to the parallel flow congestion charges paid by OATT customers using firm monthly or yearly OATT service to support balanced self-schedules will be referred to as the "proposed rules for EDAM start-up". The proposed rules for EDAM start-up would modify the congestion revenue allocation in the approved EDAM tariff.

³ See *Comments 5/27 hybrid call*, June 2, 2025. For example, the Balancing Authority of Northern California states, "[BANC] generally supports the congestion Revenue Allocation [sic] Revised Draft Final Proposal as a workable interim solution while the CAISO and stakeholders take the necessary time to develop a more durable approach that addressed the identified issues surrounding incentives for self-scheduling."

grid. The self-scheduling incentive could materially reduce cost savings relative to previous expectations for EDAM.

Acceptance of the proposed rules for EDAM start-up appears to be necessary to enable the operation of EDAM to begin in May 2026 as planned because the California ISO has identified no superior approach that could enable the provision of a more complete congestion hedge for OATT customers and be developed in time for the start-up of EDAM. I expect the development of an improved EDAM congestion revenue allocation design to require at least one to two years of steady work with stakeholders, which is consistent with the schedule proposed by the California ISO, but I also expect an additional year to be required for implementation. My views about timing assume that the long-term approach will be the development of financial rights to congestion revenue, such as CRRs or financial flow rights for major transmission constraints. Financial rights are the only approach to congestion revenue allocation that I have encountered over many years of working on electricity market design that support efficient unit commitment and dispatch and that can be implemented with transparently equitable rules to balance impacts on parties with existing transmission rights of different kinds (including Congestion Revenue Rights (CRRs)). The design of a system of financial flow-based rights for the EDAM is both achievable and important; it would remove self-scheduling incentives, thereby unlocking cost savings from EDAM's optimized bid-based unit commitment and dispatch.⁴

The central reason for my support for the proposed rules for EDAM start-up is to enable the California ISO and WEM to move forward with the introduction of EDAM. Operation of EDAM is anticipated to enable substantial cost savings and increases in reliability on behalf of customers of EDAM entities. A second benefit of start-up will be the provision of data and experience to assess the performance of the market and identify areas for improvement. The EDAM design is new, and, in my view, it is important to begin the market in May 2026 rather than waiting two or three years for the development and implementation of an improved design for congestion revenue allocation. The market rules and software for EDAM have not been previously tested because, unlike other regional electricity markets, it combines an optimized regional unit commitment and dispatch with OATT service sold separately by participating BAAs. There will be substantial work for the California ISO and stakeholders after start-up to assess the EDAM outcomes and address market rule and software concerns that will likely arise. Modifications or additions to the market rules are very likely to be needed to achieve intended outcomes. Data and experience provided by actual EDAM operation also will inform improvements to the EDAM design and the long-term design for congestion revenue allocation. Discussions of alternative designs for congestion revenue allocation will likely move forward more quickly with the benefit of actual data illustrating the parallel flows on EDAM BAA transmission constraints arising from different types of EDAM and non-EDAM schedules. The learning that can occur by running EDAM will move the region toward achieving the efficiency gains that are the objective of the EDAM design. For this reason, despite substantial concerns about self-scheduling incentives and possible impacts on CRR revenue adequacy, I support use of the proposed rules for EDAM start-up while the California ISO undertakes a concentrated stakeholder process to develop a long-term, durable approach for allocating congestion revenues.

⁴ In its June 2, 2025 comments, the DMM agrees, stating "DMM recommends the ISO continue to work toward a long-term approach that decouples congestion hedging from resource scheduling... For example, long-term options may include flow entitlements and/or financial approaches."

My major concern with proposed rules for EDAM start-up is the incentive for OATT transmission customers with firm monthly and yearly service to self-schedule balanced transactions to receive an allocation of parallel flow congestion revenue. The economic incentive for self-scheduling of out of merit resources is well-documented and is recognized by the California ISO, DMM, Market Surveillance Committee (MSC) and stakeholders.⁵ The transmission system flows from inefficiently self-scheduled resources could cause a cascade of impacts on the EDAM commitment and schedules of other flexibly offered resources, so that the cost increases from self-scheduling would extend beyond the BAA in which resources have been inefficiently self-scheduled.

The California ISO Final Proposal presents an analysis of PacifiCorp data suggesting that elective self-scheduling may not cause large market distortions during the period in which the California ISO develops a long-term design for the allocation of EDAM congestion revenues.⁶ This analysis is concerning because it relies on PacifiCorp's intention to offer its resources to the EDAM market because "it believes the risk of congestion costs does not outweigh the benefits of economic bidding."⁷ However, there could be periods of high parallel flow congestion costs for California ISO constraints that would put political and regulatory pressure on PacifiCorp to self-schedule its network resources so that its customers would not have to pay California ISO parallel flow congestion costs. Even the expectation of high congestion costs on certain California transmission constraints would give OATT customers within EDAM entities a strong incentive to self-schedule to avoid parallel flow congestion charges and OATT customers that are not within the EDAM an incentive to schedule inflexible transactions because congestion will increase the market price of otherwise serving their loads. Both PacifiCorp and other parties who rely on California transmission to support scheduled or unscheduled flows of energy to serve their loads will be under pressure to self-schedule when there is the expectation of material transmission congestion costs on these transmission facilities. The potential for a cascade of self-scheduling could significantly erode the benefits of EDAM.

While the California ISO and DMM recognize that the self-scheduling incentives will reduce the benefits of EDAM relative to those expected under the approved EDAM design, they expect that EDAM will nonetheless yield benefits.⁸ I agree that unit commitment and dispatch cost reduction will likely occur for EDAM entities, relative to the current pre-EDAM outcomes, despite the self-scheduling incentives created by proposed rules for EDAM start-up, as long as: the start-up rules are not extended to an EDAM entity where there is an incentive for a large amount of additional elective self-scheduling; and the California ISO expeditiously implements additional market rules to limit excessive inefficient self-scheduling in the event that it occurs.

The proposed rules for EDAM start-up have both benefits and costs for California loads. The principal benefit is that the California BAA will retain parallel flow congestion revenue paid for flows on California

⁵ See, for example, Scott Harvey, *Congestion Rent Allocation*, Market Surveillance Committee Meeting, May 2, 2025 and Susan L. Pope, *Parallel Flow Implications for Physical and Financial Transmission Rights*, WEM Governing Body General Session, April 8, 2025, p. 19.

⁶ Final Proposal, p. 21.

⁷ Final Proposal, p. 20.

⁸ In its June 2, 2025 comments DMM states, "While the changes outlined in the revised draft final proposal may create increased incentives to self-schedule that could reduce market benefits relative to the approved EDAM design, the implementation of EDAM with this allocation will still create market benefits relative to the current pre-EDAM market."

ISO constraints remaining after congestion revenues are returned to EDAM BAAs for balanced self-schedules utilizing firm monthly and yearly OATT service. This is revenue that the California BAA does not receive today and, as the California ISO suggests, could reduce the underfunding of CRRs. Further, California ISO loads should benefit if the EDAM is able to improve the unit commitment for EDAM entities, relative to their base schedules today.

On the other hand, because there is no OATT service in the California BAA, California loads will not have a way to receive the same allocation of EDAM parallel flow congestion revenue that will be available to loads served by monthly and yearly firm OATT transmission under the proposed rules for EDAM start-up.

Further, there could be costs for California ISO loads due to negative impacts of the proposed rules for EDAM start-up on the revenue adequacy of CRRs. The revenue available to pay CRR holders and, therefore, the value California loads receive from holding CRRs or from the CRR auctions could decline for the following reasons:

- The proposed rules for EDAM start-up will increase potential revenue inadequacy from congestion settlements for flows on California binding transmission constraints that are in the opposite direction of congestion (generally called “counterflow”). OATT self-schedules of monthly or longer firm transmission will receive a refund of their parallel flow congestion charges, but any counterflow that is paid to relieve congestion on the same constraints that support the OATT self-schedules will not, symmetrically, pay back the money received. Thus, congestion revenue that would otherwise have been paid to CRR holders will be used to fund the congestion revenue allocation to an OATT schedule that is feasible because of counterflow. This could materially reduce the congestion revenue available to pay out to CRRs and could even cause a negative congestion revenue balance. Whether the counterflow is intentionally or unintentionally scheduled in EDAM, it will contribute to revenue inadequacy when OATT schedules receive a refund for congestion on the same constraint. The potential for strategic scheduling to obtain unwarranted payments for counterflow has been identified as a concern.
- Under the proposed rules for EDAM start-up, the congestion revenue collected in EDAM for the flows on derated transmission facilities will be allocated, first, to EDAM BAAs whose OATT customers pay for parallel flow congestion over the constraints for balanced schedules. Only the residual congestion revenues (for the reduced capability of the facility) will be available to CRR holders. The proposed rules for EDAM start-up afford a higher priority to the OATT rights than to CRRs when congested transmission is derated, reducing CRR congestion revenue.
- Increases in parallel flow on congested California ISO transmission facilities could occur for a number of reasons because of the incentives created by the proposed rules for EDAM start-up. Increases in parallel flow would reduce the transmission capacity on these facilities accruing value that would flow to California ISO loads. In particular, parallel flows could increase because of the self-scheduling incentives previously described.

The California ISO proposes to monitor the impact of the proposed rules for EDAM start-up on self-scheduling. Monitoring and transparent reporting of possible problems is critical. Because the market design is untested there is a material possibility of unintended results, and the California ISO should be prepared to address these quickly. Additionally, the California ISO will need to monitor and assess the

impacts on CRR revenue adequacy. Based on a stakeholder meeting yesterday, I understand that plans are underway to clarify and address CRR settlements under EDAM.⁹

My support for the Final Proposal does not encompass the two “near-term enhancements” that the California ISO has suggested it would implement by 2027: allocation of parallel flow congestion revenue to cleared, balanced day-ahead market schedules supported by OATT service, in addition to balanced self-schedules; and allocation of parallel flow congestion revenue to CRRs. The enhancements sound attractive in words, but their possible complexity has not been vetted by robust discussion or stakeholder comments. The most efficient and equitable approach to achieving both is most likely the development and allocation of financial flow rights for major EDAM transmission constraints. Approval of the Final Proposal should not hinge on assuming successful implementation of the proposed near-term enhancements by 2027.

The proposed rules for congestion revenue allocation at EDAM start up in the Final Proposal are flawed, but they are also a pragmatic step forward. They support EDAM implementation in 2026 while The California ISO and stakeholders work on efficient and equitable long-term congestion revenue allocation design.

⁹ See video recording and presentations for June 12, 2025 stakeholder meeting: *Congestion Revenue Rights (CRR) Modeling and Settlement in the Extended Day-Ahead Market (EDAM)*.