

Comments on Extended Day-Ahead Market ISO Balancing Authority Area Participation Rules Issue Paper and Straw Proposal

Department of Market Monitoring

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Introduction

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the Extended *Day-Ahead Market ISO Balancing Authority Area Participation Rules Issue Paper and Track A1 Straw Proposal (Straw Proposal)*.¹ DMM recognizes that this initiative focuses on market rules for only the CAISO balancing area's participation in the extended day-ahead market (EDAM). However, one of DMM's core duties is to "review existing and proposed market rules, tariff provisions, and market design elements and recommend proposed rule and tariff changes to the CAISO, the CAISO Governing Board...".² As the proposed market rules will be decided by the CAISO Governing Board, it is within the scope of DMM's role to review and make recommendations on the policy.

While this initiative develops rules specific to the CAISO balancing area, we have attempted to make our recommendations apply generally to any potential EDAM balancing area. We hope aspects of these comments may be useful to stakeholders in other balancing areas as they redesign their OATTs to facilitate EDAM participation.

Setting the net export transfer constraint

DMM continues to support the EDAM proposal to allow each balancing authority area (BAA) to utilize a net export constraint to determine hourly limits on net exports of EDAM energy, imbalance reserve up (IRU) and reliability capacity up (RCU). Under the proposed EDAM design, during tight system conditions each balancing area needs a mechanism to help ensure EDAM transfers do not cause it to take responsibility for load curtailment caused by another balancing area with a capacity shortfall.

The EDAM should continue to increase coordination and collaboration between Western balancing areas. However, the ISO did not ultimately propose that all EDAM balancing areas share load curtailment if there is a collective supply shortfall. Instead, if there is a collective supply deficiency in real-time, the real-time optimization will identify EDAM balancing areas

¹ *Extended Day-Ahead Market ISO Balancing Authority Area Participation Rules Issue Paper and Track A1 Straw Proposal*, California ISO, May 5, 2023: <http://www.caiso.com/InitiativeDocuments/IssuePaper-TrackA1StrawProposal-EDAMISOBAAAParticipationRules.pdf>

² *Appendix P to CAISO Tariff*, CAISO, April 1, 2017, p. 3: https://www.caiso.com/Documents/AppendixP_CAISODepartmentOfMarketMonitoring_asof_Apr1_2017.pdf

that do not have sufficient supply to meet their real-time load, export and EDAM transfer obligations.

As a result, if one or more balancing areas do not bring sufficient capacity to the EDAM in tight system conditions, EDAM transfers can shift responsibility for potential load curtailment from balancing areas that have insufficient capacity in the day-ahead time frame to balancing areas that had sufficient capacity in the day-ahead time frame.

One way this shift of responsibility can occur is when greater net load uncertainty materializes than the imbalance reserve up product is designed to procure.³ In addition, if an EDAM area allows convergence bidding, virtual supply can also cause the balancing area to assume responsibility for real-time load curtailment even if the area provided sufficient capacity to cover its obligations in EDAM.⁴

As a result, during tight system conditions each EDAM balancing area needs a mechanism to help ensure EDAM transfers do not cause that area to take responsibility for load curtailment caused by another balancing area with a capacity shortfall. The net export constraint is intended to provide this critical function in the EDAM design.

EDAM balancing areas that do not have day-ahead must offer obligations and that do not allow virtual bidding could potentially prevent this adverse outcome by withholding capacity in excess of their EDAM resource sufficiency evaluation (RSE) requirements. However, even for these balancing areas, utilizing a net export constraint would be more efficient because it would allow the balancing area to bid their excess capacity into EDAM. This would allow this additional capacity to be efficiently re-dispatched within its own balancing area through the EDAM optimization.

For a balancing area that allows convergence bidding or has day-ahead must offer obligations in excess of its EDAM resource sufficiency evaluation requirements, the net export constraint could be critical for ensuring its reliability in situations when other EDAM balancing areas' capacity shortfalls could cause the EDAM footprint to have insufficient supply in real-time.

The net export constraint will not be able to serve this critical function in the EDAM design if a balancing area has not obtained authority under its open access transmission tariff (OATT) to properly utilize the constraint in tight system conditions. Therefore, it is important that each balancing area develop and test procedures for implementing its own net export constraint prior to EDAM participation. For the constraint to be effective in preventing shifting of

³ *Comments on extended day-ahead market straw proposal*, Department of Market Monitoring, June 17, 2022, pp. 4-6: <http://www.caiso.com/Documents/DMM-Comments-Extended-Day-Ahead-Market-Straw-Proposal-June-17-2022.pdf>

⁴ *Comments on extended day-ahead market draft final proposal*, Department of Market Monitoring, November 22, 2022, pp. 5-7: <http://www.caiso.com/Documents/DMM-Comments-Extended-Day-Ahead-Market-Draft-Final-Proposal-2022-11-22docx.pdf>

responsibility for load curtailment from another balancing area, these procedures must allow sufficient flexibility to cover the dynamic nature of a balancing area's load and resource uncertainty, which can fluctuate based on the specific mix of resources a balancing area is relying on for a particular day.

One controversial aspect of the ISO's proposal is to allow bid-in supply that will not count towards the BAA's EDAM RSE, such as non-resource adequacy imports, to increase the net export constraint limit. Procedures that allow non-resource sufficiency evaluation (RSE) eligible bids to relax net export transfer constraints under normal operating conditions would allow for greater potential trades and benefits across the EDAM. Under normal conditions, relaxing net export constraints to account for non-RSE eligible bids might create a small and unlikely potential downside risk. But the balancing area that increases the net export constraint would potentially benefit as well. Generation within this balancing area, including generation controlled by load serving entities, would have the opportunity to sell more energy into the EDAM if its balancing area has lower restrictions on transfer exports. Less restricted transfers would provide higher potential benefits for participants within the balancing area as well as for the overall EDAM.

When capacity is tight across western markets — and risks of shortages are higher — a balancing area may want to discount non-RSE eligible bids when calculating the net export transfer constraints. Under tight system conditions, resources not eligible for the EDAM RSE may not show up in real-time markets as they historically do under normal conditions. The balancing area is ultimately responsible for its reliability, and operator judgement and good utility practice should inform how operators set the net export constraint.

Similarly, the reserve margin portion of the net export constraint calculation should also be set using the balancing area operator's judgment and good utility practice. The straw proposal lists three criteria for setting the reserve margin: (1) replacement reserves for the most severe single contingency, (2) protection for non-credible contingency from weather events, and (3) gas operational flow orders/curtailments. These items seem reasonable. However, DMM recommends that each EDAM balancing area not set its policy to unnecessarily restrict the balancing area from including other future risks in the reserve margin, consistent with good utility practice, that have not been contemplated in the straw proposal.

DMM recognizes that the use of a net export constraint can reduce the potential efficiency benefits of an extended day-ahead market relative to not using a net export constraint. However, other fundamental elements of the EDAM design have made this constraint the critical tool for balancing areas to ensure EDAM transfers do not shift responsibility for load curtailment from another balancing area when they have brought sufficient capacity to EDAM.

DMM continues to believe the ideal EDAM design would involve a stringent day-ahead resource requirement sufficient for meeting all participating EDAM balancing areas' reliability thresholds. This would then allow mutually agreed upon sharing of any supply shortfalls that ultimately

materialize in real-time.⁵ DMM understands that it would have been extremely difficult for diverse balancing areas to agree upon one standard set of day-ahead reliability standards for this initial phase of EDAM implementation.

DMM continues to recommend that the ISO and participating EDAM balancing areas work towards this goal in upcoming initiatives to enhance the EDAM design. In the meantime, some loss of potential EDAM efficiency due to the use of the net export constraint in tight system conditions is an unfortunate, but necessary, cost for the implementation of this initial design.

Tagging non-resource specific imports that count towards EDAM RSE

The final EDAM proposal states that if prior to the start of the STUC run for an hour, an EDAM BAA does not e-tag non-resource specific imports that counted towards the EDAM RSE, “the proposal is to remove the BAA from the pooled WEIM RSE approach.”⁶ The proposal also “allows the EDAM entity to cure these failures through resupply of the capacity by the STUC horizon, through additional real-time bids, to replace the supply previously not tagged.”⁷

Clarifying EDAM policy for curing untagged imports

DMM’s understanding is that the ISO plans to more clearly define what will count as “additional real-time bids” to prevent a balancing area from being removed from the pooled WEIM resource sufficiency test in its development of EDAM business process requirements. DMM continues to highlight this as a potential market design issue that may have consequences that warrant an expedited future policy change.⁸ DMM recommends that the ISO clarify this EDAM policy as soon as possible so that each EDAM balancing area can design its own tariff provisions for incentivizing imports to tag by the deadline and for curing any failures to prevent removal from the pooled WEIM RSE.

The ISO has indicated that the bids used to cure the untagged imports may only be bids that were not submitted in the day-ahead market. This may have unintended adverse consequences. For example, in balancing areas with resource adequacy programs, all energy and capacity that is forward procured is expected to bid into the day-ahead market. Thus, an EDAM balancing area could procure significantly more capacity than needed to pass the EDAM resource sufficiency evaluation, but may have a very limited quantity of resources that have not been offered into the day-ahead market. In this situation, a relatively small amount of untagged imports could cause a balancing area with much more capacity than was necessary to

⁵ DMM’s 6-17-2022 comments on EDAM Straw Proposal, pp. 1-3.

⁶ *Extended Day-Ahead Market – Final Proposal*, CAISO, December 7, 2022, p. 67:
<http://www.caiso.com/InitiativeDocuments/FinalProposal-ExtendedDay-AheadMarket.pdf>

⁷ *Ibid*, pp. 67-68.

⁸ *Memorandum to ISO Board of Governors and WEIM Governing Body*, Department of Market Monitoring, January 25, 2023, p. 9: <http://www.caiso.com/Documents/DepartmentofMarketMonitoringReport-Feb2023.pdf>

meet its resource sufficiency requirements to be removed from the pooled real-time WEIM resource sufficiency test.

DMM continues to recommend that the ISO address this issue by defining “additional real-time bids” to include any bids in excess of what was required to pass the EDAM resource sufficiency evaluation. If this is not the policy for the initial EDAM implementation, the ISO should monitor to determine if this issue is causing inappropriate EDAM RSE failures and be prepared to quickly adjust the policy. If the initial policy is to only allow supply that was not bid into the day-ahead market to cure untagged imports, the risk of inappropriate EDAM RSE failures increases the importance of each EDAM balancing area developing incentives for imports to tag and developing policy for curing untagged imports that could result in the balancing area’s removal from the EDAM pool for the WEIM RSE.

Each EDAM BAA should develop incentives for imports to tag and policy for curing untagged imports

As describe above, the EDAM policy for tagging non-resource specific imports could result in a small quantity of imports untagged by the STUC run causing the entire EDAM balancing area to be removed from the EDAM pool for the WEIM RSE. After the ISO clarifies the EDAM rules for supply that will count towards curing untagged imports, it will be important for each EDAM balancing area to develop rules in its tariff to properly incentivize imports that count towards the EDAM RSE to tag prior to the STUC run. This may warrant additional analysis of the financial consequences to an EDAM BAA from being removed from the pooled WEIM RSE in order to adequately assign these costs to the importers who caused it.

Similarly, it will also be important for each EDAM balancing area to develop policy for how it may cure any non-resource specific imports that fail to tag before the STUC run. This policy should include the conditions in which entities besides the scheduling coordinators for untagged imports should intervene to prevent EDAM RSE failure, and who should bear the costs of capacity required to cure the untagged imports.

Clarifying which EDAM BAA is responsible for an untagged non-resource specific import that was supposed to wheel through one EDAM BAA to count towards the EDAM RSE of another EDAM BAA

If a non-resource specific import contracted to count towards an EDAM BAA’s EDAM RSE requirement schedules on the border of that EDAM BAA, the policy is clear that this EDAM BAA will bear the consequences of that import not tagging by the start of the STUC run. However, consider a scenario of a non-resource specific import that counts towards one EDAM BAA’s EDAM RSE. Now assume that this non-resource specific import is ultimately supported by an import into a second EDAM BAA that is wheeled through that second EDAM BAA using Bucket 1 transmission and then imported into the first EDAM BAA, which counts this import as EDAM RSE supply. In this scenario, the EDAM policy is not clear on which of the two EDAM BAAs will bear the consequences of the import failing to tag by the start of the STUC run.

DMM's current understanding of the planned implementation of supply using Bucket 1 transmission from EDAM BAA 2 to count towards the EDAM RSE requirements of EDAM BAA 1 is that the ISO will simply increase the EDAM RSE requirement of EDAM BAA 2 and decrease the EDAM RSE requirement of EDAM BAA 1. In this wheel-through scenario, this would imply that the consequences for the import failing to tag would fall on the EDAM BAA that the import is simply wheeling through (EDAM BAA 2 in this example). DMM questions whether this would be the most appropriate policy.

Regardless of the final policy decision, DMM recommends that the ISO clarify which EDAM BAA will bear the consequences of the untagged import in this scenario as soon as possible. Each EDAM BAA will need to develop policy for addressing possible untagged non-resource specific imports wheeled through its BAA, and this policy will depend on which BAA is responsible for the consequences of the import failing to tag.

Clarifying implications of a non-resource specific import counted towards EDAM RSE but that ultimately tags its source as being from an EDAM BAA

The ISO's proposal contemplates the possibility of a non-resource specific import counted towards an EDAM BAA's EDAM RSE. The ISO would model the import as a distributed injection at the sink BAA's Demand Aggregation Points. The proposal then describes the policy for how the real-time market would treat such an import, if the import ultimately sourced from within the EDAM footprint:

In the real-time market, once the source of the supply is known, the scheduling coordinator would be expected to submit a bid at the resource if the source supporting the firm delivered energy is located within the EDAM footprint. The scheduling coordinator would be expected to cancel the DA schedule at the resource in the EDAM footprint through a base transfer deviation with the ISO at the applicable interface between EDAM areas. This base transfer associated with the resource in the footprint would contribute to the ISO WEIM RSE.⁹

DMM asks the ISO to clarify this policy. If a non-resource specific import tags as ultimately being sourced from within an EDAM BAA, it seems reasonable to automatically set the real-time tagged energy amount on the import resource that cleared the day-ahead market to 0 MWs, forcing the importer to buy back the day-ahead cleared quantity at the relevant real-time market price. This could also expose the importer to each EDAM balancing area's penalties for failing to tag an import. It is not clear if this is the intended EDAM policy. It is also not clear how the EDAM and WEIM implementation will adjust to allowing the power in this scenario to count towards the WEIM RSE of the EDAM BAA that was the sink of the non-resource specific import, rather than towards the WEIM RSE of the EDAM BAA that is ultimately tagged as the

⁹ EDAM ISO BAA Participation Rules – Straw Proposal, p. 29.

source. EDAM BAAs will need to develop rules in their tariffs to account for the potential of being the import source or sink in this scenario.

Prioritization of load and EDAM transfer curtailments

Under the EDAM final proposal, after the supply offered in the real-time WEIM under stressed system conditions has been exhausted, the market software will assign any supply shortfall to the balancing area with insufficient supply. Based on the proposed software constraints that will be used to effectuate this design feature, DMM understands that the real-time software will assign higher priority to transfers out of EDAM energy, imbalance reserve, and reliability capacity than to the native load in balancing areas that have the EDAM transfers out.

The EDAM final proposal clarifies that if load must actually be curtailed, the balancing area to which the real-time market software assigns the shortfall will not be responsible for delivering all EDAM transfers out while curtailing the shortfall. Instead, “the EDAM BAA would afford market transfers and load equal prioritization subject to operational discretion and coordination, consistent with good utility practice. This means that load and transfers will be curtailed on a pro-rata basis.”¹⁰

DMM’s understanding is that current good utility practice does not entail curtailing load and firm exports pro rata in all curtailment situations. This was also expressed in the comments of several stakeholders on the EDAM draft final proposal.¹¹ The proposal therefore appears to create some ambiguity over how balancing areas may operationalize the prioritization of load and transfer curtailments in emergency situations.

While such situations may be rare, each balancing area’s understanding of how other areas in EDAM will prioritize any necessary curtailments is likely to have a significant impact on how balancing areas behave in the EDAM market under tight system conditions. This is also likely to shape the procedures developed in each individual balancing area’s tariff development to prepare for EDAM participation. Therefore, DMM recommends that the ISO continue working with other potential EDAM balancing areas to clarify what the actual operational prioritizations will be under various load curtailment scenarios in more detail. DMM believes these clarifications will be critical in each balancing area’s stakeholder initiatives to develop rules for EDAM participation.

¹⁰ *Extended day-ahead market: Final proposal*, ISO, December 7, 2022, p. 23:

<http://www.caiso.com/InitiativeDocuments/FinalProposal-ExtendedDay-AheadMarket.pdf>

¹¹ For example, see the comments on extended day-ahead market draft final proposal by Bay Area Transmission Group, response to Question 3; and comments on the extended day-ahead market draft final proposal by Joint Undersigned Entities, p. 1. Both are available at:

<https://stakeholdercenter.caiso.com/Comments/AllComments/d6824007-f3a8-4d3a-8309-9d9af4729ccf#org-1af2a957-4a97-4529-8e72-13b5ad2164fc>

Allocation of RSE failure costs

To the extent possible, balancing areas should allocate EDAM RSE failure costs to those who can act to avoid or cause the costs. Resources contracted to provide EDAM RSE capacity that do not bid into the EDAM should be allocated RSE failure costs because they contribute to the failure by not making the capacity available to the EDAM. Similarly, if the amount of contracted capacity is less than needed to pass the EDAM RSE, the entities responsible for contracting to provide EDAM RSE capacity should pay the failure costs.

It follows that RSE failure costs should be allocated to contracted resources not bidding into the EDAM first, with the remainder allocated to the entities contracting capacity to meet RSE requirements. If a balancing area is short by 100 MW, and 70 MW of contracted capacity did not bid in, then total procurement was 30 MW short. The entities contracting to meet RSE requirements should be allocated costs based on their 30 MW of under procurement. The contracted resources that did not bid into the EDAM should be allocated costs based on their 70 MW that did not show up.

This cost allocation framework appears similar to the ISO's Track B Option 2. DMM recommends that each EDAM balancing area work towards developing and implementing this form of two-tiered cost allocation policy that first assigns costs to unavailable contracted supply as soon as possible.