Comments on Extended Day-Ahead Market Congestion Revenue Allocation Issue Paper - March 17, 2025

Department of Market Monitoring

April 7, 2025

Summary

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *Extended Day-Ahead Market Congestion Revenue Allocation Issue Paper*.[1] The current FERC approved EDAM design would allocate congestion revenue to the balancing authority area (BAA) where the transmission constraint creating the congestion is located. The issue paper presents a potential alternative congestion rent allocation method to use on a transitional basis. The alternative would allocate the rent back to the BAAs where schedules creating flows (or counterflows) over the constraint are located.

Based on the EDAM stakeholder process, DMM understood that the rent allocation in the approved EDAM design was intended to be transitional in nature as well. Developing an allocation that is efficient and equitable is very complex. EDAM was meant to begin with a workable allocation while stakeholders would continue to develop an allocation for the long-term.

The currently approved EDAM congestion rent allocation is a reasonable design based on consensus in the stakeholder process. DMM agrees with the key points made in the PacifiCorp and CAISO answer to protests. The approved EDAM allocation is not a design flaw, and the issues raised in recent protests and discussions were known during the policy development. Under this approach, EDAM BAAs would not have sufficient revenue to provide transmission customers a hedge against congestion charges that their schedules create in other BAAs.

Under the alternative allocation approach being considered in this stakeholder process, a BAA will not pay for congestion caused by EDAM schedules in its BAA, nor will it receive congestion rents from EDAM schedules in other BAAs that create flows over the BAA's transmission. Under this approach, EDAM BAAs would receive congestion revenues that can be allocated to their transmission customers to provide a hedge against congestion charges that their schedules create in other BAAs.

The alternative allocation is also a reasonable transitional measure. While it is possible the alternative allocation could reduce the benefits from managing congestion over an expanded EDAM footprint, there will still be significant benefits from an expanded market relative to the current pre-EDAM market.

Currently, in the CAISO day-ahead market, modeled flows on CAISO transmission coming from non-CAISO BAA schedules face no congestion charges and no rent is collected. Therefore, the alternative

[1] *Extended Day Ahead Market Congestion Revenue Allocation Issue Paper*, California ISO, March 17, 2025: https://stakeholdercenter.caiso.com/InitiativeDocuments/Issue-Paper-Extended-Day-Ahead-Market-Congestion-Revenue-Allocation-Mar-17-2025.pdf

allocation is in principle no different than how all non-CAISO market schedules are settled in the current pre-EDAM market. This alternative is also the same as how non-EDAM flows will be settled under EDAM.

The differences from using the alternative allocation rather than the currently approved allocation in terms of settlements and market performance can only be accurately assessed once EDAM is implemented. Regardless of what approach is adopted initially, the ISO should closely assess the differences, keep stakeholders informed, and be prepared to develop other transitional and longer-term options. As noted in numerous filings on this issue, the most efficient longer-term approach would be one that is decoupled from scheduling. Long-term options may include, for example, flow entitlements and/or financial approaches.

Comments

There is now a voluminous record of background information and opinions on the issues involved in this stakeholder process. In these comments, we discuss and compare three market design scenarios: (1) the current pre-EDAM market, (2) the approved EDAM design, and (3) the alternative allocation. We compare these market designs in terms of (A) modeling and management of congestion across BAAs, (B) the charging/collection of congestion rent, and (C) the allocation of rent. Table 1 below summarizes these comparisons.

Modeling and management of transmission flows from outside BAAs

Current pre-EDAM market

Currently, the CAISO day-ahead market model estimates transmission flows from non-CAISO BAAs. The ISO creates estimated load and generation schedules for non-CAISO BAAs, generally at an aggregated load and an aggregate generation node for each BAA.[2] The ISO then uses a full network model to calculate flows from the estimated schedules over the transmission system, including within the CAISO BAA. Under this current design, the estimated schedules outside the CAISO cannot be re-dispatched to manage congestion over CAISO transmission. The flows created by these estimated schedules outside the CAISO footprint reduce the available transmission in the day-ahead market in the direction in which flows are projected to occur.

Approved EDAM design

Under the approved EDAM design, flows from schedules in non-EDAM BAAs over EDAM BAA transmission will continue to be estimated in the same manner as they currently are for BAAs outside the CAISO day-ahead market over CAISO transmission. Under EDAM, however, flows from one EDAM BAA on another BAA's transmission will be calculated from the actual nodal market schedules – rather than the more aggregated estimates currently used in the full network model. This improved information should enable the ISO to more accurately model the impact of schedules within one EDAM BAA on all other EDAM BAAs.

[2] It appears that for the PacifiCorp BAAs, the ISO might be using a more granular schedule estimated below the ELAP/DGAP aggregate node level.

Under EDAM, the day-ahead market software will also be able to dispatch schedules in all EDAM BAAs to manage congestion. By increasing the economically dispatchable resources in the market, EDAM will allow for a more efficient congestion management and use of the transmission system.

Alternative allocation approach

The alternative allocation approach under discussion would not change the potential improvement in modeling of flows, or the ability of the EDAM software to dispatch across BAAs to manage congestion relative to the approved EDAM design. As noted above, these features are expected to provide significant improvements in modeling and management of congestion throughout EDAM. To the extent that the alternative allocation facilitates open access transmission tariff (OATT) provisions in EDAM BAAs that incentivize self-scheduling instead of market bids, as described later in these comments, the congestion management and market benefits of EDAM could be reduced. But there are still likely to be benefits from moving to EDAM compared to the pre-EDAM day-ahead market.

Congestion charges and rent collection

Current pre-EDAM market

All non-CAISO schedules, including schedules from the long-term rights holders, are currently not charged for flows over CAISO transmission. That is, the non-CAISO schedules are completely hedged from congestion costs on the CAISO transmission system. Similarly, CAISO schedules are not charged for day-ahead flows they create on non-CAISO BAA transmission.

Currently, the modeled flows on CAISO constraints from other BAAs are not settled, and no congestion rent is collected from the schedules in other BAAs creating these modeled flows. The transmission capacity taken up by these non-settled modeled flows reduces the amount of transmission revenues collected – and therefore the congestion rents paid out to load serving entities that pay for this transmission through the transmission access charge and other CRR holders.

The impact of this loss in congestion revenue depends on how much they affect the transmission prices. If the non-CAISO BAA modeled flows reduce the settled market flows below the implied CRR flows, they would increase offset charges to CRRs reducing the payments to CRR holders (holding prices constant).[3]

Approved EDAM design

Under the approved EDAM design, flows from one EDAM BAA over another EDAM BAA's transmission will be settled, and congestion rent will be collected from them. The rent would be allocated to the BAA where the transmission generating the rent is located.

For CAISO, flows from schedules in other EDAM BAAs on CAISO constraints would increase congestion rent that could be used to pay CRRs, or enter the CRR balancing account (which is refunded to load serving entities). For modeled flows from non-EDAM BAAs on EDAM BAA transmission, the current reduction in available transmission without rent collection would continue as it does in the current pre-EDAM market.

[3] The modeling could also show counterflows. In general, when flows are discussed in these comments, keep in mind that there are also cases where they could be counterflow.

All non-CAISO EDAM BAA schedules would pay for congestion they create in other EDAM BAAs. Under BAA OATT provisions, parties who hold long-term firm rights may not be subject to transmission charges in their BAA, but subject to transmission charges in CAISO or other EDAM BAAs. Therefore, these rights holders may receive a partial congestion hedge.

CAISO schedules creating flows on non-CAISO EDAM BAA transmission would be charged and any rent would be allocated to the non-CAISO EDAM BAA. This rent would be allocated per the BAAs OATT.

Alternative allocation

Under the alternative allocation, flows from one EDAM BAA over another EDAM BAA's transmission would still be settled and congestion rent collected. The rent would be allocated to the BAA where the schedules creating the flows that generate the rent are located.

For CAISO, rent from other EDAM BAA schedules over CAISO transmission will be allocated to that BAA and will not be available to pay CRRs or enter the CRR balancing account. This is the same as not collecting rent from modeled flows from non-CAISO BAAs, as is currently done in the pre-EDAM market. However, rent from CAISO schedules flowing over non-CAISO EDAM BAAs will be allocated to the CAISO CRR balancing account.

All non-CAISO EDAM BAA schedules would pay for flows over CAISO transmission. We assume any rent allocated to the BAA would be allocated to load pro-rata after long-term rights holders are paid, but this is subject to the BAA's OATT. Long-term rights holders would not be subject to congestion charges from transmission in any BAA and would receive a full congestion hedge, as they do in the current pre-EDAM market.

Table 1. Comparison of pre-EDAM market, approved EDAM design, and alternative allocation approach

	Current (pre-EDAM)	Approved EDAM design	Potential short-term alternative
Other BAA flow modeling	Available day-ahead market transmission reduced by estimated flows from other BAAs.	**Improved flow modeling from EDAM BAAs in day-ahead market**. Non-EDAM area flows estimated as in pre-EDAM.	Same as approved EDAM design.
Congestion management	Day-ahead congestion managed by re-dispatching schedules inside ISO.	Day-ahead congestion managed by re-dispatching schedules inside CAISO and other EDAM BAAs. **More efficient congestion management in all EDAM BAAs**.	Same as approved EDAM design but efficiency reduced to extent alternative leads to increased incentives to self-schedule. **Still more efficient than pre-EDAM.**
Collection and allocation of congestion charges	Congestion charges not collected for modeled flow on CAISO constraints from schedules in other BAAs.	Congestion charges are collected for modeled flow on an EDAM BAA's constraints from schedules in other EDAM BAAs. Revenues allocated to BAA where constraint is located.	Congestion charges are collected for modeled flow on an EDAM BAA's constraints from schedules in other EDAM BAAs. Revenues allocated to BAA where schedules originate. BAAs do not receive congestion revenue for outside BAA flows. **Same as with pre-EDAM.**
Impact on CAISO CRR holders	Unsettled flows from other BAAs create no revenue to pay CRRs, contributes to CRR revenue inadequacy.	Flows from other EDAM BAAs create revenues to pay CRR holders, can decrease revenue inadequacy.	Same as current pre-EDAM design.
Impact on transmission rights holders outside CAISO	Not charged for congestion impacts in other BAAs, **receive complete hedge**.	Are charged for congestion impacts in other EDAM BAAs, **receive partial hedge**.	Same as current pre-EDAM design.

Other Comments

Self-scheduling requirements

Under the current (pre-EDAM) market design, schedules in non-CAISO BAAs submitted in the day-ahead timeframe are not subject to congestion charges from constraints within their BAA, or any other BAA. Under the approved EDAM design and the alternative being considered, the OATT provisions of different EDAM BAAs may require transmission holders in EDAM to be self-scheduled or meet other requirements in order to avoid being subjected to congestion charges under EDAM. However, there is no part of the approved EDAM design other than existing transmission contract/transmission ownership rights (ETC/TORs) for pre-OATT legacy rights that requires self-scheduling of transmission rights to receive a congestion hedge. Any congestion hedge from self-scheduling under the approved EDAM design comes from the OATTs of the transmission providers. The EDAM design only establishes different scheduling priorities for self-scheduled firm OATT rights, which would stay the same under the alternative proposal.

To the extent that the OATTs of EDAM BAAs link hedging of EDAM congestion costs for transmission rights holders to self-scheduling, the potential inefficiencies from self-scheduling may be higher under the alternative than the approved EDAM design. This is because under the alternative approach under consideration, EDAM BAAs may offer a greater hedge against congestion charges that may be offered under the currently approved EDAM design.

However, as described above, this potential inefficiency exists under the ISO's current market design which has no option for these schedules to participate economically in the day-ahead market. This potential inefficiency has been raised in prior discussions and is the type of issue that a long-term allocation design would seek to address.

Counterflow effects

As the ISO makes clear in their paper and examples of the alternative allocation, if schedules in one EDAM BAA on net create counterflow over another EDAM BAAs transmission, the payments for providing that counterflow will be taken back and paid to the other BAA. That is, the EDAM BAA with the schedules creating the counterflow will be charged rather than allocated rent.

This creates the possibility that an EDAM BAA could be charged if on net schedules were counterflow, but may have to pay long-term rights holders who had schedules creating flows. We do not know how likely such a scenario might be.

Effect of slack bus on alternative allocation

The alternative allocation depends on the congestion costs as calculated from the reference slack bus. Changing the slack bus does not change the LMPs but can change the portion of the locational marginal price (LMP) considered congestion. The difference in LMPs, and therefore the difference in congestion components, is always the same.

To the extent generation and load offset in a BAA, the slack bus will not affect the alternative allocation. To the extent there are EDAM transfers, and generation and load do not fully offset, the choice of slack bus does affect the alternative allocation.

The market uses a load distributed slack, so each load node is part of the reference. This seems to be a reasonable choice for the alternative allocation, and it is unclear what criteria would lead to choosing a different slack bus.