Memorandum

To: ISO Board of Governors and WEIM Governing Body

From: Eric Hildebrandt, Executive Director, Market Monitoring

Date: January 25, 2023

Re: **Department of Market Monitoring report**

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

EXECUTIVE SUMMARY

This memo provides comments by the Department of Market Monitoring (DMM) on two market design proposals from Management.

- **Extended day-ahead market.** Adding an extended day-ahead market (EDAM) to the Western Energy Imbalance Market (WEIM) has the potential to provide significant efficiency and greenhouse gas reduction benefits by facilitating trade between diverse areas and resource types. The ISO has made significant progress toward forging a consensus around a workable design that can provide significant near-term benefits to entities choosing to participate in EDAM. DMM supports approval of the ISO's proposal, and recommends that the ISO continue working with stakeholders to clarify and resolve some important remaining design details to ensure even greater longer-term benefits for all EDAM participants.

- **Transmission service and market scheduling priorities phase 2**. Management's proposal represents a significant improvement from the current interim rules for high priority wheeling access, and makes the ISO's rules much more similar to the open access transmission tariff (OATT) framework used across the west in balancing areas without organized markets. Because the proposed approach does not include a detailed analysis of the impact of wheeling schedules on flows within the ISO, the proposal may make some additional wheeling capacity available compared to DMM's understanding of how this OATT framework is typically applied. However, under the proposal this high priority wheeling capacity will be somewhat less "firm" under extreme system conditions than firm transmission sold under this OATT framework. This tradeoff seems to strike a reasonable balance between the preferences of ISO load serving entities and external users of the ISO transmission system. Going forward, the ISO and stakeholders could consider future refinements to address concerns of these different stakeholder groups. These changes could result in making less transmission capacity available, while increasing the firmness of these transmission rights to a level more analogous to the OATT framework.

This memo provides a more detailed discussion and recommendations on these two proposals.

EXTENDED DAY-AHEAD MARKET

Overview

DMM strongly supports development of an extended day-ahead market (EDAM) to other balancing areas across the west. Adding a day-ahead market to the Western Energy Imbalance Market (WEIM) has the potential to provide significant efficiency and greenhouse gas reduction benefits by facilitating trade between diverse areas and resource types.

The ISO has made significant progress toward developing a workable design that can provide near-term benefits to entities participating in EDAM. Some important unresolved issues remain in the design that, if not adequately addressed, could have reliability or efficiency costs that could significantly limit the net benefits of EDAM for participating entities during this initial implementation phase. However, DMM believes the most significant unresolved issues can be addressed through a combination of (1) stakeholder processes in each participating EDAM balancing area, (2) clarifications of details during development of the tariff supporting the EDAM design, and (3) design enhancements within the first few years of implementation.

Given the large potential long-term benefits of a west-wide day-ahead market and the enormous challenges in initiating such a market, DMM supports approval of Management's proposal, while recommending that the ISO continue working with stakeholders to resolve some crucial design elements. The remainder of this memo explains what DMM believes are the most important design issues that warrant attention before the initial implementation or within the first few years of implementation.

Net export constraint

DMM supports the 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). In 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, Management is not proposing 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 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 in situations when greater uncertainty materializes than the imbalance reserve up product is designed to procure.[1] 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.[2]

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 EDAM balancing area with a capacity shortfall. The net export constraint is designed 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 balancing areas — such as the ISO — that allow convergence bidding or have day-ahead must offer obligations in excess of their 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 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.

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[1] *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

[2] *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

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 some 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.[3] 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.

Prioritization of load and EDAM transfer curtailments

Under Management's 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 EDAM energy, imbalance reserve, and reliability capacity awards than to the native load in balancing areas that have EDAM transfers out.

The 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."[4]

DMM's understanding is that current good utility practice does not entail curtailing load and firm exports pro rata in all curtailment situations. This is also expressed in

[3] *DMM's 6-17-2022 comments on EDAM Straw Proposal*, pp. 1-3.

[4] *Extended day-ahead market: Final proposal*, ISO, December 7, 2022, p. 23: http://www.caiso.com/InitiativeDocuments/FinalProposal-ExtendedDay-AheadMarket.pdf

comments of several stakeholders.[5] 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 as soon as possible. DMM believes these clarifications will be critical in each balancing area's upcoming stakeholder initiatives to develop procedures for EDAM participation.

EDAM resource sufficiency evaluation penalty and balancing area-specific procedures to prevent incurring penalty

Management proposes to levy an out-of-market penalty on balancing areas that fail the EDAM resource sufficiency evaluation. This penalty is based on bilateral hub prices for a 16-hour on-peak block of energy, along with the quantity (MWs) of the balancing area's largest hourly resource sufficiency evaluation failure.[6]

If the external hub prices accurately reflect the market rate for procuring power before the EDAM market closes, this penalty should be a reasonable reflection of the costs a balancing area would need to incur in order to avoid an EDAM resource evaluation failure and to thereby avoid the penalty. As a result, if there is general consensus among potential participating balancing areas that this penalty creates the appropriate incentives for areas to procure sufficient capacity in advance of each day's EDAM market run, DMM supports the penalty.

However, DMM notes that this penalty could be very large in tight system conditions—potentially tens of millions of dollars for a single day for a 1,000 MW EDAM resource sufficiency evaluation failure. Therefore, it will be critical for each balancing area to develop procedures and tariff authority prior to EDAM participation for procuring extra capacity each day the balancing area is at risk of failing the EDAM evaluation under tight system conditions. The external hub prices could significantly exceed the price at which a balancing area may be able to procure the energy or capacity necessary to pass the EDAM resource sufficiency evaluation.

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[5] 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

[6] For details, see *ISO's December 7, 2022 EDAM Final Proposal*, pp. 71-73.

DMM's understanding is that most potential EDAM balancing areas have marketing divisions prepared to evaluate the bilateral electricity market each morning and procure the lowest price power available in order to try to avoid failing the EDAM resource sufficiency evaluation. However, balancing areas that currently rely on individual third party market participants to bring sufficient capacity to the day-ahead market, such as the ISO balancing area, may not have procedures developed for finding the lowest priced available power to help it potentially avoid an EDAM resource sufficiency evaluation failure.

Therefore, DMM recommends that each potential EDAM balancing area develop appropriate procedures and tariff authority for assessing the costs and benefits of procuring the energy or capacity necessary to pass the EDAM resource sufficiency evaluation each day the balancing area may be at risk of failing it.

Potential for transmission rights holders to exercise market power in the market for supply to meet EDAM resource sufficiency evaluation requirements

Management proposes that in order for a specific resource within a source EDAM balancing area to count towards meeting the EDAM resource sufficiency evaluation requirement of a sink EDAM balancing area, the resource owner has to have procured firm transmission between the balancing areas before the start of the day's EDAM market run. This element of the proposal can potentially contribute to EDAM reliability. However, as several stakeholders have noted in comments, this can create the potential for transmission rights holders to exercise market power in the market for supply to meet the EDAM resource sufficiency evaluation requirements.

To address this concern, DMM recommends the ISO prioritize assessing the extent to which this market power can exist on specific transmission paths and develop EDAM market design enhancements to mitigate this market power where it has the potential to be exercised. While this can be completed through an upcoming initiative, this should be completed before a significant number of balancing areas have joined EDAM. We provide additional discussion of this issue below.

Currently, if a sink balancing area does not require a resource to have firm transmission before the 10 am day-ahead time frame, the set of resources that the balancing area's load serving entities can contract with is not limited to the resources which have transmission rights into the balancing area. As a result, a larger pool of resources can compete to sell supply to load serving entities to meet the balancing area's day-ahead capacity requirements. This competition should help to keep capacity contract prices down at or near competitive levels.

Because the transmission rights holders have to release any unused transmission by the end of the day before power flow, the transmission generally becomes available for the resources ultimately chosen in the day-ahead time frame to provide energy to the sink balancing area. As long as the sink balancing area has limited the amount of generation that it counts towards meeting its day-ahead capacity requirements to the

amount that can be supported by transmission to its border,[7] the balancing area should generally not have over counted the quantity of supply that it can rely on to ultimately flow into its area to serve its load.

The proposal to require generation in a source EDAM balancing area to have firm transmission to the sink EDAM balancing area before each day's 10 am EDAM run can limit the pool of resources within EDAM balancing areas competing to meet a sink EDAM balancing area's resource sufficiency evaluation requirements. This can limit the pool of resources to those resources that already own the transmission rights to the sink EDAM balancing area. Under this requirement, if all the transmission rights on a path to a sink EDAM balancing area have been purchased in advance of the day-ahead time frame, a generator in an EDAM area that has not purchased the transmission rights will not be able to offer its capacity to load serving entities seeking capacity to meet their EDAM balancing area's RSE requirements. These load serving entities would have to buy the transmission rights from the transmission rights holders or be limited to negotiating with the resources in EDAM balancing areas that had procured the transmission rights in advance.

If one company holds so much transmission rights on a path that the sink EDAM balancing area cannot get the total capacity it needs from generation upstream of the path without buying some of that company's transmission rights, the company holding the rights could force load serving entities in the sink EDAM balancing area to buy supply from its affiliated resources in order for the sink EDAM balancing area to pass the EDAM resource sufficiency evaluation. The resources affiliated with the large transmission rights holder could exercise market power in the resource sufficiency evaluation supply market, charging excessively high prices for the capacity the sink balancing area needs to pass the evaluation.

The potential for holders of large quantities of transmission rights on key paths to exercise market power in this way is likely to be mitigated during the initial EDAM implementation due to a limited number of balancing areas initially participating in EDAM. This is because contracts for energy with resources *not* in EDAM balancing areas can count towards meeting a sink EDAM balancing area's resource sufficiency evaluation requirements without having firm transmission to the sink EDAM balancing area prior to each day's 10 am EDAM market run.

If the EDAM optimization utilizes less expensive energy from transmission rights holders or from transfers from other EDAM balancing areas to meet the sink EDAM balancing area's energy needs, the contracted resource from a non-EDAM area will not have to e-Tag transmission. If the EDAM optimization instead schedules the energy from this non-EDAM area resource into the sink EDAM balancing area, a corresponding amount of energy from transmission rights holders will not have been scheduled. As a result, those transmission rights holders will have to release the transmission after EDAM market results are published. The non-EDAM balancing area resource that received the

[7] Minus the amount of firm wheeling rights the balancing area has sold through its area.

energy schedule to the sink EDAM balancing area should then be able to e-Tag at least the last leg of transmission to the sink EDAM balancing area.

Therefore, as long as there are a limited number of participating EDAM balancing areas, the ability for EDAM load serving entities to contract with generation from non-EDAM balancing areas for EDAM resource sufficiency evaluation capacity should mitigate the potential exercise of market power by entities that may hold large quantities of transmission rights on key paths. Before a substantial number of balancing areas join EDAM, DMM recommends the ISO prioritize assessing the extent to which this market power can exist on specific transmission paths and develop EDAM market design enhancements to mitigate this market power where it has the potential to be exercised.

Potential for the same ultimate source of non-source specific supply to be counted more than once towards EDAM balancing areas' resource sufficiency evaluation requirements

Management's proposal acknowledges that allowing contracts for non-source specific energy to count towards EDAM balancing areas' resource sufficiency evaluation requirements creates "potential double counting of resources."[8] This can occur if a supplier has not procured the capacity or energy it schedules into EDAM to meet resource sufficiency evaluation requirements by the 10 am day-ahead market close. In this scenario, the supplier could be relying on there being excess capacity in non-EDAM balancing areas. However, the supplier may also be relying on capacity in an EDAM balancing area that had counted towards the area's EDAM resource sufficiency evaluation requirements.

For example, a supplier could sell a WSPP-C contract to a load serving entity LSE in an EDAM balancing area and then submit a self-schedule of a non-source specific import into that area to count towards its EDAM resource sufficiency evaluation requirement. This supplier could potentially source the import from a low priority export out of the ISO balancing area in the day-ahead market. Or the supplier could potentially purchase energy out of a non-ISO EDAM balancing area after the day-ahead market results are published from resource capacity that was not assigned a real-time must offer obligation through EDAM.

Management proposes that the ISO and DMM monitor and report on activity related to these scenarios, such as "the volume of day-ahead non-resource specific schedules that fail to submit valid e-tags prior to conclusion of the WEIM RSE".[9] To monitor these scenarios, the ISO will need to provide DMM all relevant e-Tag data for any transaction that goes into or out of any EDAM or WEIM balancing area. DMM will monitor and analyze these scenarios to the extent the ISO has made the requisite data available in a usable format.

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[8] *ISO's December 7, 2022 EDAM Final Proposal*, p. 66.

[9] Ibid, p. 68.

DMM notes that monitoring and reporting on the behavior related to the above scenarios is unlikely to be sufficient for preventing undesirable behavior and adverse outcomes. The proposal explains that "WEIM entities depend upon [energy contracts for which the source and transmission path may not be known by the day-ahead market close] to varying degrees."[10] There are likely to be efficiency benefits from power marketers waiting until closer to real-time to determine the least expensive energy available to serve import schedules.

Therefore, DMM recommends that in the next initiative for enhancing the initial EDAM design, the ISO and stakeholders carefully consider more nuanced rule and design changes that could better prevent the same capacity from being counted more than once towards EDAM balancing areas' resource sufficiency evaluations. For example, the overall design may benefit from crafting more explicit rules prohibiting supply that has received an EDAM energy or capacity award, and that therefore has a real-time must offer obligation, from supporting a non-source specific import that was counted towards each balancing area's EDAM resource sufficiency evaluation requirements.

Similarly, the real-time must offer obligations assigned by the EDAM could potentially be enhanced by incorporating into the residual unit commitment load forecast each EDAM balancing area's entire EDAM resource sufficiency evaluation requirement. Tariff rules that more clearly define the undesirable behavior will enhance the process of monitoring and taking enforcement action against the undesirable behavior, while still allowing the arrangements that WEIM entities depend upon.

Process for EDAM balancing area to avoid being removed from EDAM pool for WEIM RSE if a supplier fails to e-Tag a non-source specific import

The final proposal specifies that if cleared imports that counted towards an EDAM balancing area's resource sufficiency evaluation requirements are not tagged four hours before the power is supposed to flow, this can cause the EDAM balancing area to be removed from the EDAM pool for the real-time WEIM resource sufficiency test. "[T]he proposal 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 not previously tagged."[11] 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 is highlighting this as a potential market design issue that may have consequences that warrant an expedited future policy change.

The ISO has indicated that the bids used to cure the untagged imports must 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

[10] Ibid, p. 66.

[11] Ibid, pp. 67-68.

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

DMM recommends 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 change is not made prior to 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.

TRANSMISSION SERVICE AND MARKET SCHEDULING PRIORITIES

Overview

Management's proposal represents a significant improvement from the interim rules for high priority wheeling access, and makes the ISO's rules much more similar to the open access transmission tariff (OATT) framework used across the west in balancing areas without organized markets. However, as noted in comments from numerous stakeholders, the proposal differs from the OATT framework used by other balancing areas in several notable ways.

Entities within California have expressed concern that the proposed approach for calculating available transfer capacity (ATC) does not include a sufficiently robust analysis under more conservative assumptions of native load and of the impact of high priority wheels on internal ISO transmission constraints. Meanwhile, load serving entities outside of the ISO system have noted that the proposal departs from the OATT framework used throughout the west by allowing the possibility of curtailment of high priority wheeling schedules (in conjunction with ISO load curtailments) in cases when no transmission derates have occurred.

The proposal appears to strike a reasonable balance between the preferences of ISO load serving entities and those of external users of the ISO transmission system**.** The ways in which the proposal differs from the OATT framework include a combination of design features that seem likely to make slightly more high priority wheeling capacity available, but may make this transmission capacity somewhat less firm under extreme conditions on the ISO grid.

Going forward, the ISO and stakeholders could consider further refinements to the proposal to address these different stakeholder concerns. These refinements would likely involve a tradeoff between the amount of capacity made available for high priority wheeling versus the firmness of this capacity under extreme system conditions. Examining the impact of more conservative assumptions of native load needs and the impact of wheeling on internal ISO flows could further reduce the risk of pro-rata curtailment for high priority wheel through transactions during extreme ISO system conditions.

This refinement may result in less available ATC, but could be coupled with changes to increase the "firmness" of the high priority transmission rights to a level more analogous to the OATT framework.

Calculating ATC for intertie import capacity

DMM supports the concept of calculating ATC and only allowing high priority wheel through transactions up to the available ATC limit. This approach is generally consistent with DMM's understanding of the practices of other transmission providers, and represents a significant improvement over the interim rules for high priority wheel through transactions.

However, the ISO's proposed approach for determining ATC focuses only on intertie import capacity and excludes internal constraints. DMM understands that other transmission providers in the west determine ATC and sell transmission service on a point-to-point basis that considers the complete transmission path – including flows on internal transmission constraints (such as the major north-south constraints within the ISO system).

Based on DMM's understanding of the standards of other transmission providers in the west, the ATC for high priority wheeling should only be available up to the amount of the most limiting element of the wheeling path, as determined by a transmission planning study and available intertie capacity. In practice, if the intertie transfer constraint is likely to be the binding transmission element on the wheeling path, further assessment of the internal flow impacts may make little difference in the resulting ATC number.

The ISO presents some analysis in the final proposal based on past conditions suggesting that this may be the case in some circumstances. However, since future conditions may not be well represented by the ISO's analysis of past conditions, excluding analysis of internal constraints may leave some ongoing risk that the ISO transmission system could become oversubscribed.

DMM supports the ISO's proposal as an improvement to the interim rules for high priority wheel through transactions. However, conducting a more robust analysis of the impact of high priority wheel through transactions on internal flows could have two benefits. First, assessing internal flow impacts would provide greater assurance of the reliability of the ISO balancing area. Second, assessment of internal flow impacts could also increase the "firmness" of the high priority transmission rights that are made available by the ISO by reducing curtailment risk. This approach may ultimately result in less available ATC, but would support allowing high priority wheeling transaction to be treated in a manner more analogous to the standard OATT framework.

Accounting for ISO native load needs in ATC calculation

DMM supports the ISO's proposal for accounting for the needs of native load. Early in the stakeholder process, DMM suggested a potential approach to estimate the needs of native load in the calculation of existing transmission commitments.[12] The ISO's

[12] *Comments on Transmission Services and Market Scheduling Priorities Phase 2 - Straw Proposal*, Department of Market Monitoring, September 16, 2022. http://www.caiso.com/Documents/DMM-Comments-Transmission-Services-Market-Scheduling-Priorities-Phase2-Straw-Proposal-Sep-16-2022.pdf

proposed approach appears similar to that envisioned in DMM's early comments, with added enhancements that further incorporate ISO load needs and related uncertainty.

Specifically, the proposal includes use of a transmission reliability margin (TRM) to reflect changing levels of load uncertainty on different time horizons. This will allow use of more conservative assumptions which reflect higher ISO load uncertainty on more distant time horizons, so that additional ATC is released as uncertainty of native load needs decreases. DMM believes this approach can support the reliability of the ISO balancing area while also increasing the firmness of ATC that is made available to load serving entities outside of the ISO system for high priority wheel through transactions.

Calculation of ATC on the daily timeframe

The ISO proposes to calculate daily ATC across a 7-day horizon using the same general components that are used to calculate monthly ATC values for a 13-month time horizon, with updated inputs where possible. For daily ATC values, the ISO will use updated transmission outage information. The ISO will also replace estimates of imports under contract by ISO load serving entities used to calculate monthly ATC values with actual showings of contracted imports made prior to each month. The proposed approach also allows the ISO to adjust the transmission reliability margin to reflect changes in uncertainty between the time horizon of the process of calculating daily versus monthly ATC values.

DMM supports the use of these updated inputs to the daily ATC calculation. This will allow the use of more conservative assumptions in longer timeframes used to calculate monthly ATC values to ensure the needs of ISO native load are met, while potentially releasing additional ATC in shorter timeframes for external users of the ISO system as load forecasts become more certain.

Purchasing ATC to establish scheduling priority

The ISO proposes that ATC will be available to entities seeking to establish high priority wheeling on a first come, first served basis within established request windows. This approach is consistent with DMM's understanding of the practice of other transmission providers.

To purchase ATC for high priority wheels, the ISO is proposing that entities be required to demonstrate one of the following types of contracts to serve external load: (1) an executed firm power supply contract to serve external load, (2) a firm power supply contract to serve external load where execution is contingent upon the availability of wheeling through scheduling priority on ISO's system, or (3) ownership of a resource that is contracted to serve external load.

The OATT framework used in other balancing areas does not require entities to have such contractual obligations prior to purchasing available firm transmission. DMM has noted that this requirement could prevent the sale of some ATC that remains available after sales to entities with contractual obligations to serve load.[13] DMM further notes

[13] *Comments on Transmission Services and Market Scheduling Priorities Phase 2 – Draft Final Proposal*, Department of Market Monitoring, January 4, 2023. http://www.caiso.com/Documents/DMM-Comments-Transmission-Services-Market-Scheduling-Priorities-Phase2-Draft-Final-Proposal-2023-01-04.pdf

that many load serving entities within and outside the ISO appear to support or not oppose this aspect of the proposal. However, some suppliers object on the grounds that the contractual requirement may be unnecessary, restricts access to ISO transmission to the benefit of ISO load, or is inappropriate as a means of prioritizing transmission reservations.[14]

The ISO also proposes to allow ISO load serving entities to access ATC on the daily timeframe, in addition to the portion of ATC already set aside for native load needs. DMM supports this approach, as it allows ISO load serving entities equal access to remaining ATC when near term native load needs may not be fully reflected in the daily ATC calculation.

Applying scheduling priorities in the post-HASP process

The ISO market is a mathematical optimization that manages congestion on the overall transmission system. For hourly block intertie transactions, the real-time market manages congestion through the hour ahead scheduling process (HASP). One of the key benefits of a centralized market over a bilateral point-to-point transmission construct is the ability to re-dispatch resources and manage congestion based on economic optimization rather than manual processes or pro rata cuts. In the CAISO system, much – if not most – of the congestion due to transmission de-rates is managed by this market optimization.

DMM notes that this market-based approach is likely in many cases to avoid curtailment of high priority wheel through transactions due to transmission derates, whereas these transactions may have been subject to curtailment under the standard OATT framework. This is a difference from the standard OATT framework, but one that may ultimately benefit transmission customers with high priority wheel through transactions.

However, the proposal states that in extreme situations where all high priority intertie transactions cannot be accommodated in the HASP, the ISO will perform a process after the HASP to allocate available intertie transmission capacity pro-rata between ISO load and priority wheeling through transactions. The ISO proposes that the ISO load share used in pro-rata allocation will be based on the portion of ISO load served by that intertie.[15]

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[14] Comments of Public Power Council, Powerex, and Vistra Corp: https://stakeholdercenter.caiso.com/Comments/AllComments/2d094d39-1199-4fb8-ac57-1906bba3d93a

[15] In the final proposal (p. 42-43), the ISO clarifies that the proposal provides for the explicit derivation of native load needs at each intertie based on historical values of supply contracted to serve ISO load at that intertie. The ISO further clarifies that these values are updated at the T-30 time frame with actual contracted values, and that because this is the value that would represent native load needs, the proposal is for this value to represent ISO load in the post-HASP process. Finally, the ISO notes that any CPM import supply would also be considered in the representation of ISO load, but only up to any remaining ATC or TRM.

Some stakeholders have noted that this is a departure from the OATT framework used throughout the west, since it allows the possibility of curtailment in the absence of a transmission derate due to supply shortfalls.[16] DMM agrees that this difference may result in some additional pro-rata curtailment of high priority wheel through transactions than may occur under the standard OATT definition of firm transmission.

Overall, however, the ISO's proposal reflects a tradeoff between the amount of ATC available at a given intertie, and the firmness of the ATC made available. The proposal includes a combination of design features that may make slightly more available transfer capacity (ATC) available, but may also make this transfer capacity somewhat less firm under extreme conditions on the ISO grid.

DMM agrees that alternative approaches could be taken that may allow high priority wheel through transactions to be treated in a manner more analogous to the OATT framework. However, it seems this may need to be balanced by other changes – such as making more conservative assumptions about native load requirements and the impact of high priority wheel through transactions on internal transmission constraints. This approach may ultimately lead to less available ATC, but with a degree of firmness that aligns with the OATT framework and that allows curtailment under circumstances more analogous to the OATT framework.

DMM supports the ISO's proposal as an improvement over the existing interim rules for high priority wheel through transactions, but we also note that the ISO could have made different policy choices that would have still improved over the interim rules while achieving a framework more analogous to the OATT framework. This alternative approach may be appropriate to the extent that stakeholders across the west determine that the ISO's proposal is not sufficiently compatible with the existing OATT framework and existing market constructs around the west.

Resale of high priority transmission rights

The ISO proposes to allow resale of high priority wheeling rights for the same duration and quantity as the underlying supply contract used to secure the rights. DMM supports this proposal and understands the ability to resell transmission rights to be consistent with the rules of other transmission providers.

In the stakeholder process, DMM suggested that the ISO establish and codify a rate at which transmission scheduling priority can be resold — consistent with DMM's understanding of the practices of other transmission providers. The ISO did not adopt this suggestion, but committed in the final proposal to monitoring resale transactions and considering additional requirements for resale in the future. DMM suggests that the ISO remain open to the possibility of establishing a rate for resale in future initiatives.

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[16] As noted in numerous stakeholder comments, under this OATT framework such pro rata curtailments may only occur when a transmission derate occurs. See comments of Arizona Public Service, NV Energy, Salt River Project, and Powerex: https://stakeholdercenter.caiso.com/Comments/AllComments/2d094d39-1199-4fb8-ac57-1906bba3d93a