Memorandum

To: ISO Board of Governors and Western Energy Imbalance Market Governing Body

From: Anna McKenna, Vice President of Market Policy and Performance

Date: December 7, 2022

Re: **Decision on WEIM Resource Sufficiency Evaluation Enhancements – Phase 2 and Rules Related to Low Priority Exports**

This memorandum requires ISO Board of Governors and WEIM Governing Body action.

EXECUTIVE SUMMARY

Management has worked extensively with stakeholders to propose two changes to the Western Energy Imbalance Market's (WEIM) Resource Sufficiency Evaluation (RSE). Management has also worked with stakeholders to propose an e-tag rule for low-priority exports from the ISO balancing authority area (BAA).

The first RSE change provides an option for WEIM energy transfers at an additional cost into a BAA that has failed the RSE, instead of restricting the transfers. These optional transfers, termed "WEIM assistance energy," will enable BAAs that are short supply to access the WEIM's efficient dispatch while still providing incentives for BAAs to participate in the WEIM with sufficient resource to meet their own load.

The second RSE change is to no longer count certain low-priority exports from the ISO BAA in its RSE obligations. This change accounts for interactions between WEIM energy transfers and ISO exports that can occur in the real-time markets and can result in the ISO BAA erroneously failing the RSE when it has sufficient internal supply resources to meet its load obligations. WEIM BAAs receiving these exports would still be permitted to count the supported supply towards meeting their RSE obligations.

Management proposes an additional change unrelated to the RSE, but related to ISO operations during emergencies discussed in the stakeholder process. Management proposes that market participants must submit e-tags for low-priority exports from the ISO BAA with the designation that the energy is "Firm Provisional" to facilitate market

and manual operator curtailments of these low-priority exports and provide visibility as to their scheduling priority.

The two changes to the RSE proposed in this memorandum fall under the ISO Board of Governors' and WEIM Governing Body's joint approval authority. The third change proposed in this memorandum associated with e-tag rules for low-priority exports falls under the WEIM Governing Body's advisory role to the ISO Board of Governors. All three changes are proposed to be severable from each other should they not be approved in total:

WEIM Governing Body and Board of Governors joint decision on RSE changes

Moved, that the ISO Board of Governors and WEIM Governing Body approve the two changes to the resource sufficiency evaluation proposal as described in the memorandum dated December 7 , 2022; and

Moved, that the ISO Board of Governors and the WEIM Governing Body authorize Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement these changes, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.

WEIM Governing Body decision on advisory role on e-tag rules for low priority exports

Moved, that the WEIM Governing Body advises the ISO Board of Governors, as discussed in the December 14, 2022 joint general session meeting, that it supports / does not support Management's proposal pertaining to e-tag rules for low-priority exports as described in the memorandum dated December 7, 2022.

Board of Governors decision on e-tag rules for low priority exports

Moved, that the ISO Board of Governors approve the e-tag rules for low-priority exports as described in the memorandum dated December 7, 2022; and;

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement these changes, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.

DISCUSSION AND ANALYSIS

Background

The proposed changes in this memorandum are the product of a robust and collaborative stakeholder process conducted throughout 2022 to further refine the resource sufficiency evaluation, the *WEIM Resource Sufficiency Evaluation Enhancements – Phase 2* initiative. This initiative followed an initial set of RSE enhancements developed in 2021 that the ISO Board of Governors and WEIM Governing Body jointly approved at their February 2022 meeting. This initiative began with a workshop focusing on the WEIM assistance energy concept and a series of workshops examining analyses regarding various aspects of the RSE's performance.

The RSE tests each hour that individual BAAs in the WEIM have scheduled or bid sufficient supply in the ISO real-time market to meet forecasted demand. Today, the WEIM ensures participants offer sufficient resources to meet their load obligations in the WEIM by restricting a BAA's energy transfers in the corresponding real-time market interval if it fails either the RSE "capacity test" or "flexible ramping" test. Depending on the nature of the failure, WEIM import or export transfers are limited to the preceding interval's schedules.

In addition to the enhancements proposed in this memorandum, stakeholders also considered whether the RSE should consider BAA operator adjustments to the BAA's load forecast. Also, stakeholders considered whether a net load uncertainty adder should be reinstituted in the RSE's capacity test and whether an adder to account for potential undelivered imports should be reinstituted in the RSE. Based on stakeholder feedback, Management does not plan to incorporate operator adjustments in RSE requirements at this time and will further consider the RSE adders, along with other topics, in a future RSE enhancements initiative phase.

Proposal

<u>WEIM Assistance Energy</u>

WEIM assistance energy provides an important RSE enhancement. At their February 2022 meeting, the guidance the Board of Governors and WEIM Governing Body gave was to find an economic solution for providing assistance energy instead of limiting transfers. In response, Management proposes changes to market and financial settlement rules that will provide for WEIM assistance energy. WEIM assistance energy consists of energy transfers at an additional cost into a BAA that has failed the RSE and has elected to be eligible to receive WEIM assistance energy. WEIM assistance energy will enable a BAA that is short of supply to leverage the WEIM's efficient dispatch, while still providing incentives to ensure forward procurement of sufficient supply to meet its load obligations.

The current RSE rules limit additional WEIM energy transfers into a BAA in a market interval in which the BAA is short of supply and has failed the RSE. Management proposes that this provision would no longer apply to BAAs that elect to receive WEIM assistance energy to fill in any supply shortfall. For these BAAs, the real-time market would dispatch energy transfers into a BAA without limitation, subject to available supply elsewhere in the WEIM, during real-time market intervals for which it failed the RSE. These transfers will then have an additional cost applied after-the-fact through the ISO's settlement system, *i.e.,* not considered during the market clearing process. The assistance energy will receive an additional surcharge at the energy bid cap in effect for that interval, typically $1000/MWh. or $2,000/MWh under tight system conditions, in addition to the applicable market price cleared in the market for transfers necessary to resolve a shortfall.

This additional revenue received for WEIM assistance energy will be used to compensate BAAs who brought the additional supply to the WEIM and was used to cure a BAA's supply shortfall. The proposal for assistance energy will allow a BAA to leverage the WEIM's efficient dispatch and resolve its supply shortfall when the BAA is deficient despite its best efforts to procure supply in advance of the real-time market. This leverages a key benefit of the WEIM which is the ISO real-time market's ability to optimally dispatch all of the supply available and provide access to supply that may not otherwise be available in the bilateral market outside of the WEIM. The additional cost of the assistance energy at the bid cap provides additional compensation to those BAAs that are the source of the additional supply.

Because this surcharge price will not be considered in the market clearing process, WEIM transfers may occur through the economic displacement the WEIM is designed to facilitate; *i.e.*, those transfers that the BAA may not have needed to meet forecasted demand can potentially be exposed to this after the fact charge. To minimize the impact of this occurrence, the proposal will limit the after-the-fact surcharge to the minimum of (1) the MWh quantity by which the BAA failed the RSE, or (2) the amount of WEIM transfers into the deficient BAA. This limits a BAA's exposure to the assistance energy's additional cost that may not be needed to resolve a deficiency.

Available balancing capacity is a WEIM feature that dispatches resource capacity a BAA has not bid into the WEIM, but has indicated to the ISO that it wants to be dispatched in the event the BAA could otherwise not meet its load. If the amount of WEIM transfers into the deficient BAA is the minimum amount that would determine the assistance energy additional cost, i.e. item (2) described above, the transfer amount subject to the additional cost will be reduced by the BAA's unused available balancing capacity or its equivalent for balancing authority areas with full resource participation.

For example, consider a balancing authority that received 50 MW of assistance energy transfers to resolve shortfall but retained 20 MW of unused available balancing capacity that was not dispatched. In this case, the after the fact charge would be calculated based on 30 MW of assistance energy transfers. The rationale for reducing the amount

of transfers exposed to the after-the-fact surcharge cost based on this unused capacity is that the real-time market would likely dispatch this capacity before transfers if the assistance energy additional cost would have been modeled in the market.

However, BAAs could potentially have adverse incentives to lower exposure to the after the fact surcharge by strategically increasing the quantity of supply designated as available balancing capacity. Consequently, the ISO will monitor available balancing capacity amounts, as compared to historical designation, to ensure it is not being misused as a mechanism to inappropriately limit exposure to assistance energy charges.

Next, Management proposes that to allocate the WEIM assistance energy revenue to BAAs in the WEIM that were the source of the assistance energy and did not fail the RSE. Management proposes to allocate the revenue to each BAA that has passed the RSE in the applicable market interval in proportion to its net export energy transfers in the corresponding market interval. Revenue and cost sub-allocations within each balancing authority will be made at the discretion of each balancing authority; the CAISO balancing authority will allocate the revenue to real-time imbalance energy and the cost to measured demand.

Finally, Management proposes that a BAA's election to utilize WEIM assistance energy will be made in the ISO Master File and any changes to that election will occur through the existing Master File change management process, which represents a 5 to 11 day lead time. Today's tariff based existing RSE failure consequences limiting WEIM transfers to the amount in the previous market interval would be maintained for BAA's that opt out of WEIM energy assistance. Management will develop a process for the CAISO BAA to determine whether to elect to participate in assistance energy in a subsequent process.

Accounting for Low-Priority Export's in the ISO's RSE Obligations

The second RSE change Management proposes would no longer include low-priority exports in the ISO's upward capacity RSE that are only scheduled in the real-time market (*i.e.*, low-priority exports not scheduled in the day-ahead market). "Low-priority exports" in this context refers to ISO export self-schedules not explicitly backed by designated non-resource adequacy resources and exports resulting from economic bids. These are exports scheduled at the ISO interties primarily on an hourly basis and are separate from energy transfers between BAAs that result from the WEIM's dispatch of resources across the WEIM.

This proposed change addresses differences between the way exports are scheduled in the ISO's real-time market and the way other WEIM BAAs schedule exports. Exports are scheduled from the ISO BAA based on the results of its market clearing process, while WEIM BAAs have the ability to schedule exports that they know can be supported by their own resources. For the ISO, low-priority exports can clear the real-time market

based on supply from scheduling WEIM energy transfers into the ISO. This can cause the ISO to fail the RSE even if it has sufficient supply to meet its RSE obligations. This occurs because the RSE does not count WEIM energy transfers into a BAA as available supply, but does count a BAA's RSE obligation for non-WEIM exports.

For example, assume the ISO should pass the RSE because it has 42,000 MW of supply to meet 42,000 MW of forecast demand, and further assume the real-time market clears 1,000 MW of low-priority exports based on 1,000 MW of WEIM transfers into the ISO. Under the current rules, the ISO BAA would fail the RSE because the RSE would calculate the ISO BAA as having only 42,000 MW of supply to meet 43,000 MW of demand because the 1,000 MW of low priority exports represent a supply obligation.

The example shows how the ISO BAA can fail the RSE despite having sufficient internal supply to meet its demand, simply because the real-time market scheduled the low-priority exports based on the supply provided by the market also scheduling WEIM transfers. This is not an issue for other BAAs in the WEIM because the real-time market does not schedule non-WEIM exports from those BAAs. The BAA determines whether it has sufficient internal capacity to support exports before it schedules the exports.

The analysis of RSE performance discussed with stakeholders showed that that this interaction between low-priority exports clearing the real-time market based on WEIM transfers contributes to the ISO BAA failing the RSE. For example, as much as 1,500 MW of low-priority exports cleared based on WEIM transfers shown in data gathered from July 9, 2021 and discussed with stakeholders.

Therefore, Management proposes to no longer include low-priority exports in the RSE upward obligation for the ISO BAA that are only scheduled in the real-time market. Management proposes to continue to count in the ISO's RSE obligations low-priority exports scheduled in the day-ahead market that the real-time market has been determined as supportable because there are no WEIM transfers in the day-ahead market that they can clear against as in the real-time market example above.

Despite this change, Management is not proposing to change the current rule that WEIM BAAs receiving low-priority exports that clear the real-time market's hour ahead scheduling process count as supply towards meeting their RSE obligations. The stakeholder process explored a more complicated methodology that would determine hourly which ISO exports were not supported by WEIM transfers, but stakeholders pointed out that in practice this approach would not be feasible. In addition, these exports should be reliable because the ISO real-time market has determined them to be feasible.

Low-Priority Export E-Tags

The third change Management proposes requires low-priority exports[1] to be e-tagged as Firm Provisional Energy, with a designation of the associated ISO real-time market priority. This will identify these exports as having a priority lower than ISO load so that they can be curtailed according to existing tariff rules. This change will help ensure that low-priority exports have a lower priority than ISO load within the operating hour. These proposed tariff revisions are not related to the RSE; rather, they address issues that arose during the stakeholder process in connection with discussions regarding low-priority exports.

The proposed procedure will explicitly apply the existing scheduling priorities used in the day-ahead and real-time markets to manual actions operators may take outside of the market. Such actions occur within the operating hour after the real-time market's hour ahead scheduling process schedules exports. This will continue to enable operators to exercise judgement to maintain reliable grid operations and fulfilling obligations to neighboring BAAs under NERC requirements. This will ensure the ISO can manually curtail low priority exports within the operating hour if the ISO is unable to maintain its own load serving obligations as a BAA.

The requirement to e-tag low-priority exports as Firm Provisional Energy will also increase visibility to market participants and the BAA receiving these exports as to their lower scheduling priority and increased risk of curtailment.

POSITIONS OF THE PARTIES

The majority of stakeholders strongly support providing for WEIM assistance energy for a BAA that fails the RSE, noting that it will increase reliability by allowing WEIM participants to leverage the market and make up for supply shortfalls. These stakeholders recognize that the proposed design, while not meeting all RSE stated design objectives, will adequately serve as an interim measure that increases reliability. Management plans a subsequent stakeholder process to explore a more robust assistance energy solution that is priced through the market.

A minority of stakeholders oppose the proposed assistance energy product being applied after-the-fact, rather than being applied to real-time imbalance energy prices. They maintain that the proposed design lessens the financial consequences a balancing authority area may be exposed to resulting from being resource insufficient.

Management agrees with this sentiment, however, Management does not believe additional design changes can be implemented prior to the summer of 2023 in a manner that would ensure equal and equitable application of an assistance energy product is

[1] Under tariff section 34.12.1, low-priority exports are (1) RUC schedules that are self-schedules of exports at scheduling points not back by generation from non-Resource Adequacy Capacity, or (2) real-time market self-schedules of exports at scheduling points not backed by generation from non-Resource Adequacy Capacity or non-RUC capacity.

incorporated into the real-time imbalance energy price. As stated above, Management intends to explore a more robust assistance energy solution that is priced through the market in a subsequent stakeholder process. The assistance energy product proposed in this memorandum is proposed to sunset no later than December 31, 2025. at which time the more robust design should be completed and ready for implementation.

Stakeholders generally support not counting low-priority exports that are only scheduled in the real-time market and not the day-ahead market in the ISO's RSE upward obligations.

Stakeholders within the ISO BAA generally support the e-tagging rule change for lower priority exports and associated tariff clarifications. Some of these stakeholders maintain they should be curtailed before an EEA 3, while others outside the ISO BAA do not support this rule change, stating that this will greatly diminish the value of ISO exports or negatively impact their existing business or operational practice.

As a clarification, the ISO may curtail low-priority exports regardless of being in an EEA 3 if it determines the exports may not not supportable without putting ISO load at risk. Management believes the proposed tariff changes merely clarify that low-priority export's existing scheduling priority extends to within the operating hour and supports accurate curtailment. The requirement to e-tag these exports as Firm Provisional Energy reflects and makes transparent this priority.

Some stakeholders within the ISO BAA object to allocating assistance energy costs to demand, rather than to individual entity's shortfalls. Management notes that the allocation to demand is consistent with existing provisions for allocating the costs of emergency supply procured outside the WEIM. Nevertheless, Management plans additional consideration of this element in the planned initiative to examine the terms of the ISO BAA's EDAM participation.

The ISO Market Surveillance Committee developed a formal written opinion on Management's proposal, included as Attachment A. In this opinion, they recognize the proposed changes to the treatment of low-priority exports in the RSE corrects a underlying flaw in the design, however the proposed ability for sink balancing authorities to continue to count this non-firm supply for meeting their RSE obligation, as well as the ISO system operators persistent use of load conformance warrants further attention. In addition the MSC recognizes the proposed design of the assistance energy product may serve to increase reliability, but at the cost of undesirable and inefficient pricing due to the out of market surcharge applied to these transfers. In response, the ISO commits to continue stakeholder discussions in a subsequent RSE focused initiative to improve on this design.

The ISO Department of Market Monitoring supports Management's proposals, and acknowledges stakeholder views that the proposed approach for energy assistance is an important option to have available by next summer. In addition to supporting the

proposed changes to how low-priority exports are treated, DMM views the proposed design for assistance energy transfers as a reasonable compromise that could encourage a large portion of BAAs in the WEIM to participate in this option.

CONCLUSION

Management recommends that the ISO Board of Governors and the WEIM Governing Body approve the changes described in this memorandum. They will enable BAAs that are short supply to leverage the WEIM's efficient dispatch, more appropriately account for ISO BAA low-priority exports in the RSE, and align ISO e-tag rules to transparently reflect the scheduling priority of ISO low-priority exports.