

Memorandum

To: Energy Imbalance Market Governing Body

From: Anna McKenna, Interim Head of Market Policy and Performance

Date: November 25, 2020

Re: Decision on real-time settlement review proposal.

This memorandum requires EIM Governing Body action.

EXECUTIVE SUMMARY

Management proposes four changes to the real-time market settlement rules that apply to the western energy imbalance market (EIM). At the end of last-year's *Real-Time Market Neutrality Settlement* stakeholder process, Management committed to an additional stakeholder process, which it started this summer to comprehensively review ISO market real-time settlements and identify any potential inappropriate cost shifting between balancing authority areas (BAAs).

The first two proposed settlement rule changes address issues that can arise when EIM participants make a change to an energy schedule to deliver a bilateral transaction between BAAs after the hourly deadline for submitting EIM "base schedules."

The first proposed settlement rule change is to require transfer schedule changes for all EIM entities be settled through the ISO settlement process. EIM entities currently have the option to settle these schedule changes outside of the ISO settlement process, which can result in cost shifting when these changes are associated with energy being wheeled through multiple BAAs.

The second proposed settlement rule change is to modify the price specified for settling imbalance energy resulting from these transfer schedule changes. The price that is currently used is different than what other supply and demand associated with the transfer schedule change are settled at in the real-time market. This can result in inappropriate cost shifting between BAAs on either side of a transfer. Therefore, Management proposes to align the transfer settlement with the settlement of other supply and demand associated with the transfer schedule change.

Management's third proposed settlement rule change modifies the rules for settling an EIM entity's "unaccounted for energy." Unaccounted for energy is the difference

between the metered demand in a service area and the energy delivered into a service area. Under the current rules this results in a charge or credit to the EIM entity, and can lead to cost shifting issues under certain circumstances. Management proposes to allow an EIM entity to elect for the ISO to not settle unaccounted for energy for its BAA if it reports its BAA's demand to the ISO based on supply amounts and a loss amount specified in its open access transmission tariff rather than based on end-use load meters.

Management's fourth proposed settlement rule change is to modify how the ISO allocates costs for real-time market bid cost recovery uplift payments. The current settlement rule is to allocate a portion of these costs between BAAs to account for bid cost recovery costs incurred to support energy transfers between BAAs. Management proposes to modify this allocation so that it is based on each BAA's load, exports, and transfers out, which is consistent with the ISO's methodology for allocating real-time market bid cost recovery costs in the ISO BAA.

The proposed tariff rules to implement the first three changes are EIM-specific and are under the EIM Governing Body's primary approval authority. The fourth change is under the EIM Governing Body's advisory role as it is generally applicable to the ISO's real-time market.

Management proposes the following motion:

Moved, that the EIM Governing Body approves the proposal for (1) require that these transfer schedule changes be settled in the ISO settlement process, (2) the price at which imbalance energy resulting from changes to EIM energy transfers scheduled as base schedules is settled, and (3) allow an EIM entity to elect that the ISO settlement process will not settle unaccounted for energy for its BAA if it reports its BAA's demand to the ISO not based on end-use load meters, as described in the memorandum dated November 25, 2020; and

Moved, that the EIM Governing Body authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal described in the memorandum, 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.

PROPOSAL

EIM Transfer Schedule Change Imbalance Energy Settlement

The first two changes Management proposes are to the ISO settlement rules that apply when EIM entities make a change, after the hourly deadline for submitting EIM base schedules, to an energy transfer between BAAs scheduled in the EIM as a base

schedule. EIM entities typically schedule these transactions to facilitate bilateral energy sales between BAAs.

Management's first proposed rule change is to require that all imbalance energy resulting from these transfer schedule changes be settled in the ISO settlement process. Currently, adjoining BAAs have to agree to have imbalance energy resulting from these transfer schedule changes settled in the ISO settlement process.

Management's second proposed rule change applies to the price the ISO uses to settle imbalance energy resulting from these transfer schedule changes.

These settlement rule changes address inappropriate cost shifting between BAAs that currently can occur in the ISO settlement process. This cost shifting is a particular issue when it involves wheeling energy across multiple EIM BAAs.

Base schedules reflect EIM entities' planned system operation and are the baseline for imbalance energy settlement in the EIM. The ISO real-time market settlement process does not settle the energy produced or consumed that corresponds to a base schedule. Rather, the settlement process settles imbalance energy, which is the difference between the base schedule and the actual energy produced or consumed.

In addition to submitting base schedules for individual supply resources' planned output and for demand, EIM entities also submit base schedules for energy transfers between BAAs, which are typically to facilitate bilateral energy sales between BAAs that settle outside of the ISO settlement process. These can involve a transfer schedule from one BAA to another or a wheeling schedule that transfers energy across multiple EIM BAAs.

As an example of base schedules for energy transfers, assume, BAA 1 enters into a bilateral agreement to sell 100 MW of energy to BAA 2. In this case, the BAAs submit base schedules to the ISO for the 100 MW transfer amount (along with base schedules for the corresponding supply and demand).¹ There is no settlement of these base schedules in the ISO settlements process—settlement occurs in the bi-lateral market. The cost shifting issues arise because EIM entities have the ability to increase or decrease the scheduled energy transfer after the hourly deadline for submitting base schedules. The ISO settlement process settles the difference between the final scheduled transfer and the base schedule for the transfer as imbalance energy.

Continuing the example described above, if BAA 1 and BAA 2 increased their transfer schedule from 100 MW to 125 MW after the base schedule submission deadline, the ISO settlement process would settle 25 MW of imbalance energy. BAA 1 would pay for 25 MW of imbalance energy for the increased transfer out of BAA 1 (because the increased transfer out of its BAA is increased demand). BAA 2 would be paid for 25 MW of imbalance energy because for the increased transfer into BAA 2 (because the

¹ More specifically, BAA1 would submit a 100 MW base schedule for a supply resource (internal supply or import), a 100 MW base schedule for the export to BAA2, and BAA 2 would submit a 100 MW base schedule for the import to BAA2, and a 100 MW demand base schedule (internal demand or export).

increased transfer into its BAA is increased supply). In this situation, although BAA 1 would pay imbalance energy charges for the 25 MW increased transfer out, it would presumably also increase the output of a supply resource by 25 MW to provide the energy that supported the transfer out. In this case, the ISO settlement process would pay it for 25 MW of imbalance energy provided by the supply resource. Similarly, the ISO settlement process would pay BAA 2 for the increased transfer into its BAA and charge it for imbalance energy for its BAA's increased demand.²

The first settlement rule change Management proposes also addresses cost shifting involving changes to transfer schedules that are associated with a wheeling schedule across multiple BAAs. Currently, it is optional for EIM entities to settle the imbalance energy settlement related to the transfer schedule changes through the ISO settlement system. Management proposes that it be mandatory because the current optionality can result in cost shifting between BAAs, particularly a schedule change that involves a transfer that is part of a wheeling schedule across multiple BAAs.

If some EIM entities choose to not settle these transfer base schedule changes through the ISO settlement process, costs may shift between BAAs because the ISO settlements process may pay or charge one BAA for a transfer into or out of its BAA but not pay or charge it for the opposite leg. If all EIM entities are required to settle these transfer base schedule changes through the ISO settlement process, the ISO will appropriately charge and pay for all of the imbalance energy involved in a wheeling schedule change.

Management's second proposed rule change applies to the price the ISO uses to settle imbalance energy resulting from these transfer schedule changes. Ideally, since these transfer schedules and any associated resource output and demand changes are all associated with a bilateral transaction settled outside of the ISO settlement process, each BAA's imbalance energy payments and charges in the ISO settlement process due to a transfer schedule change should net to zero (except appropriately for congestion and losses within a BAA). However, this is not typically the case, because the ISO settlement rules currently specify that the price for imbalance energy at a BAA's point of interconnection with another EIM entity BAA is a ratio of the both the sending and receiving BAAs' energy prices in their respective BAAs (*e.g.*, the average price).³ This is as opposed to the price being the locational marginal prices at the points of interconnection. The imbalance energy for the other schedule changes involved in the transfer schedule change is settled at the resource's or demand's locational marginal price.

² Note that this situation is different from transfers between BAAs that result from ISO market dispatches. The ISO settlements process does not directly settle those exports and imports. Rather, it settles transfers dispatched by the market through an imbalance energy payment to supply resources in the sending BAA and an imbalance energy charge to load or resources in the receiving BAA.

³ The import or export associated with a transfer schedule change is priced at the point of interconnection. The price ratio currently used is a static value adjacent BAAs agree to and is set-up in the ISO's settlement system.

Consequently, the imbalance energy for the sending BAA's resource supplying the energy for the transfer schedule change can be settled at a much different price than the transfer out of its BAA, and the imbalance energy for the receiving BAA's demand can be settled at a much different price than for the transfer into its BAA. This prevents each BAA's imbalance energy settlement for the transfer schedule change from netting to zero (ignoring congestion and losses). As a result, BAAs participating in the transaction are left with costs attributed to this difference in prices, causing the ISO settlement process to inappropriately shift costs between BAAs.

To address this cost shifting issue, Management proposes that all imbalance energy due to transfer schedule changes is settled at the locational marginal price at the schedule change location. This will result in imbalance energy within a BAA associated with a transfer schedule change all being paid at the same price (ignoring congestion and losses).

Unaccounted for Energy Settlement

Management's third proposed settlement rule change addresses potential cost shifting that can currently occur in an EIM entity's "unaccounted for energy" settlement. Unaccounted for energy settlement results in a charge or credit based on the difference between the total metered demand in a service area and the energy delivered into a service area, accounting for transmission losses. In the EIM, these service areas correspond to EIM entity BAAs.

Management proposes to allow an EIM entity to elect that the ISO not settle unaccounted for energy for its BAA if it reports its BAA's demand to the ISO based on an approved load profile that is not based on end-use load meters. These EIM entities calculate their load by subtracting a loss amount specified in their open access transmission tariff (OATT) from their metered supply amounts.⁴

Currently, the ISO cannot accurately account for an EIM entity's losses when it calculates that entity's unaccounted for energy if the EIM entity calculates its load based on supply meters and OATT losses. This is because their OATT-defined losses are used to both schedule supply and demand and to account for losses when reporting demand to the ISO. This is different from entities that report their demand using end-use meters, whose scheduled losses can differ from actual losses that are reflected in their meter readings.

For example, assume an EIM entity that calculates its load based on supply meters and OATT losses submits base schedules for 104 MW of supply and 100 MW of demand because its OATT specifies it calculates its end-use load using a 4 percent loss factor. There should be no unaccounted for energy if the metered supply and metered demand

⁴ Existing EIM entities generally calculate their load in this manner. The cost-shifting issue described for UFE does not exist for load-serving entities in the ISO BAAs.

turn out to be the same as scheduled. There is no revenue shortfall to collect as unaccounted for energy charges.

However, the ISO may inaccurately account for losses if it settles unaccounted for energy for this EIM entity. For example, assume the ISO assumes 3 percent losses in the settlement of the unaccounted for energy, the EIM entity would incur a charge for 1 MW of unaccounted energy in this same situation (104 MW supply – 3 MW losses – 100 MW demand = 1 MW unaccounted for energy).

This can result in cost shifting in two ways. First, since the ISO may collect an unaccounted for energy charge with no corresponding revenue shortfall to pay, the ISO would allocate this revenue to offset cost allocation accounts. An EIM entity's OATT may specify that it allocates offset allocation revenues to different customers than unaccounted for energy charges. Second, because the ISO calculates the unaccounted for energy charges based on energy prices within the BAA, if these prices are influenced by congestion charges resulting from energy transfers from another BAA, the ISO will allocate a portion of the congestion revenue collected as unaccounted for energy to another BAA. A BAA not settling UFE avoids this cost shifting.

Bid Cost Recovery Cost Allocation

Management's fourth proposed settlement rule change addresses how the ISO settlement process allocates costs between BAAs for real-time market bid cost recovery uplift payments to resources. This fourth change is under the EIM Governing Body's advisory role to the ISO Board of Governors as it is generally applicable to the ISO's real-time market.

The ISO guarantees suppliers bid cost recovery to ensure suppliers dispatched by the market recover their bid costs when energy market revenues based on market prices are not sufficient to cover their bid-in costs. For example, energy payments at the locational marginal price may not be sufficient to cover the commitment costs of a resource the market starts. The ISO generally allocates the costs of these real-time market bid cost recovery payments to the BAA in which the resource they are paid to is located.

It also allocates a portion of these costs between BAAs in the EIM to account for bid cost recovery costs incurred to support energy transfers between BAAs. The ISO allocates ISO BAA bid cost recovery costs to load and exports. EIM entities allocate bid cost recovery costs in their BAAs pursuant to their OATTs. In addition to the EIM transfers resulting from the real-time market's dispatch of resources, the ISO currently adjusts the bid cost recovery allocation between BAAs based on uninstructed imbalance energy and unaccounted for energy quantities

Management proposes to no longer consider uninstructed imbalance energy and unaccounted for energy quantities and instead allocate a portion of a BAA's bid cost

recovery costs to transfers out of a BAA in proportion only to the ratio of the transfers out of a BAA to the sum of the BAA's load, exports, and transfers out.

This is consistent with cost causation principles for real-time bid cost recovery. When the ISO can isolate what drives the cost, the ISO will allocate the costs to the identified cause. However, when many factors drive costs, as is the case with real-time bid cost recovery for resources dispatched or commitment the real-time market, the most equitable means of allocating such costs is to the beneficiary, which is load, exports, and the BAA receiving an energy transfer from another BAA.

Uninstructed imbalance energy does not directly result in incurring bid cost recovery costs in one BAA to serve another. Rather, if uninstructed imbalance energy results in the ISO real-time market dispatching a resource to transfer energy from one BAA to another, any associated bid cost recovery costs are proportional to the transfer amount.

Unaccounted for energy does not result in bid cost recovery costs as it does not result in the real-time market committing or dispatching resources. Unaccounted for energy is a post-market accounting of energy that merely accounts for differences in load meters reported to the ISO and the energy dispatched to serve load in a service area.

STAKEHOLDER POSITIONS

Stakeholders generally support management's proposals.

In response to the ISO's initial straw proposal, Powerex maintained that it was not necessary to require imbalance energy resulting from transfer base schedules to always be settled in the ISO settlement process. Management provided an example in its draft final proposal to demonstrate it is necessary to settle this imbalance energy in the market so that costs are not shifted to EIM entities that are intermediate BAAs in an energy wheeling schedule.

Arizona Public Service and Idaho Power both requested additional information to estimate the total dollar impact of not settling unaccounted for energy. In response, Management will provide a market simulation environment to help EIM entities estimate the changes and compare settlement results with and without unaccounted for energy.

The ISO Department of Market monitoring did not submit comments as part of this initiative.

CONCLUSION

Management requests the EIM Governing Body approve this proposal. The four proposals within this real-time settlement review initiative will address instances of inappropriate cost-shifting and provide for more equitable allocation of bid cost recovery costs.