

## Memorandum

**To:** Energy Imbalance Market Governing Body

**From:** Keith Casey, Vice President, Market & Infrastructure Development

**Date:** April 17, 2018

**Re: Decision on authority for EIM balancing areas to make imbalance conformances**

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***This memorandum requires EIM Governing Body action.***

### EXECUTIVE SUMMARY

When ISO and EIM balancing area operators observe that the load forecast input into the market is not consistent with actual system conditions, they must manually adjust the load forecast input into the market to align with system conditions. The ISO refers to these load forecast adjustments as “imbalance conformance.” Operators also use imbalance conformance for other reasons, such as supply deviations.

Because operator imbalance conformances are relatively imprecise, the ISO market includes an imbalance conformance limiter that limits the adjustments in the event they would result in inappropriate price spikes. Management proposes various enhancements to the imbalance conformance limiter to help ensure appropriate prices are set by the market when balancing area operators make conformance adjustments.

In the interest of transparency, Management also proposes to make tariff revisions to clarify ISO and EIM balancing area operators’ ability to make imbalance conformance adjustments. Similarly, Management proposes to make the rules for using the imbalance conformance limiter explicit in the tariff.

The tariff revisions clarifying EIM balancing area operators’ ability to make imbalance conformances fall within the primary authority of the EIM Governing Body. The imbalance conformance limiter rules fall under the EIM Governing Body’s advisory role, as these elements are generally applicable to the ISO’s real-time market and are severable for decisional purposes from EIM operators’ ability to make imbalance conformances.

Management proposes the following motion for the decision on the element in the EIM Governing Body's primary authority:

***Moved, that the EIM Governing Body approves the tariff clarifications authorizing EIM balancing areas to make imbalance conformance adjustments for their balancing area, as described in the memorandum dated April 17, 2018, including any revisions that implement the overarching enhancements but contain discrete revisions to incorporate Federal Energy Regulatory Commission guidance in any initial ruling on the proposed tariff amendment.***

## **DISCUSSION AND ANALYSIS**

The following describes Management's proposal to enhance the imbalance conformance limiter and to clarify ISO and EIM balancing area operators' ability to make imbalance conformances.

### ***Imbalance Conformance***

The ISO real-time market dispatches supply to be in balance with the load forecast input into the market. Currently, ISO and EIM balancing area operators manually adjust the calculated load forecast when they observe it will not result in the market accurately reflecting actual system conditions. These manual adjustments are termed "imbalance conformance." Besides accounting for load forecast error, balancing area operators may also adjust the load forecast to account for factors such as generator deviations from dispatch, anticipated variable energy resource output changes, intertie schedule deviations, or supply outages. Imbalance conformance adjustments enable operators to dispatch a supply quantity that matches actual system needs.<sup>1</sup>

### ***Imbalance Conformance Limiter Enhancements***

The ISO's imbalance conformance limiter is a feature in the ISO market software designed to prevent unwarranted price spikes caused by imbalance conformance adjustments. The limiter helps ensure that operator conformance adjustments, which are typically coarse, conservative estimates, do not result in the market attempting to dispatch more supply than is available in a particular dispatch interval. The operators insert coarse adjustments because it is not practical for an operator to determine the ramping capacity available in each dispatch interval and make smaller adjustments in each market run, similar to what the market would do. Instead, the operator will make one large adjustment coinciding with one market run.

The market sets energy prices based on a \$1,000/MWh pricing parameter, equal to the energy bid cap, when there is insufficient upward ramping capability available to meet

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<sup>1</sup> The ISO also performs imbalance conformances in the day-ahead market's residual unit commitment process to more accurately reflect forecast system needs.

the forecast load for a particular interval. Similarly, the market sets energy prices based on a -\$150/MWh pricing parameter, equal to the energy bid floor, when there is insufficient downward ramping capability available to meet the forecast load. The imbalance conformance limiter works by limiting operator load forecast adjustments in the market's pricing run to the amount of available energy bids. This avoids triggering administratively set prices based on the \$1,000/MWh or -\$150/MWh pricing parameters.

Management proposes to enhance the logic used to trigger the imbalance conformance limiter. The existing logic considers the current market interval in isolation and triggers the limiter whenever the imbalance conformance adjustment is greater than the amount of ramping capacity available through energy bids. This is inappropriate at times because it can trigger the limiter and limit prices when there is supply scarcity, or alternatively, over-supply, that persists for a number of intervals. This approach fails to reflect that the ISO's intent for the limiter is to avoid artificial price spikes triggered by the coarseness of operator imbalance conformance adjustments.

Management also proposes to enhance the limiter logic to focus on addressing the coarseness of operator imbalance conformance adjustments. Under the proposed enhancements, the limiter will consider changes between intervals rather than only considering the current interval. The limiter will analyze the change in the imbalance conformance amount between multiple market intervals to determine when the imbalance conformance exceeds the available bid in capacity. These enhancements increase the accuracy of the limiter and will decrease the frequency with which the limiter triggers.

### ***Tariff Clarifications Authorizing Imbalance Conformance***

Management proposes to make tariff revisions to clarify ISO and EIM balancing area operators' ability to make imbalance conformance adjustments. The tariff currently gives the ISO discretion to create a load forecast it deems appropriate to maintain grid reliability. However, Management believes the tariff language can be clarified to provide additional transparency. The tariff changes will specify the reasons for imbalance conformance adjustments, and explicitly authorize conformance by the balancing area operator.

Similarly, Management proposes to make the imbalance conformance limiter rules explicit in the tariff.

### **POSITIONS OF THE PARTIES**

Stakeholders generally support the imbalance conformance limiter enhancements described above, agreeing the enhancements will more appropriately trigger the limiter.

Southern California Edison believes the proposed limiter logic enhancements should be implemented in addition to old limiter logic, stating the limiter is necessary for price

stability in the real-time market. Management believes the revised logic more appropriately addresses the coarse adjustments provided by operators. The previous logic would continue to suppress prices during imbalance conformances that are not changing but lasting over many intervals. In this case, sustained supply dispatch, for which economic bids are not available, likely reflects actual scarcity, making price spikes the correct economic signal.

Powerex maintains that the proposed imbalance conformance limiter logic enhancements may inappropriately suppress price spikes when the coarseness of an operator adjustment is not a factor. They point out that not all imbalance conformance adjustments are coarse adjustments, and the limiter may limit prices when there is true energy scarcity. Powerex states the limiter should be removed from the real-time market immediately.

Management acknowledges that the limiter may occasionally suppress prices when there is actual scarcity, but believes the majority of time the limiter will work to limit artificial price spikes caused by operators' coarse adjustments. However, because it is important to not suppress legitimate price signals, Management has committed to removing the imbalance conformance limiter in two years after it develops improved operational tools that will avoid the need for operators to make coarse adjustments.

All stakeholders support the proposed tariff clarifications as valuable measures to increase transparency.

Attachment A presents a summary of stakeholder comments.

## **CONCLUSION**

Management requests the EIM Governing Body approve the tariff clarifications authorizing conformance by EIM operators, as they provide greater transparency. Management also requests the EIM Governing Body support the ISO Board of Governor's approval of the imbalance conformance limiter enhancements and associated tariff changes.