

# Memorandum

**To:** ISO Board of Governors

**From:** Mark Rothleder, Vice President – Market Quality & Renewable Integration

**Date:** September 5, 2013

**Re:** Decision on revisions to price correction requirements

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***This memorandum requires Board action.***

## EXECUTIVE SUMMARY

Management proposes to revise the day-ahead market timeline and three of the ISO's price correction processes to streamline and refine the ISO's price correction processes. Specifically, Management proposes to: 1) adjust the closing time of inter-scheduling coordinator trades; 2) revise the time horizon for price corrections; 3) clarify the types of processing and publication issues that may require changes in posted prices beyond the typical time horizon; and 4) provide additional communications regarding price corrections. The proposed changes will improve the accuracy and certainty of ISO market prices.

***Moved, that the ISO Board of Governors approves the proposed tariff change to implement the enhancements to the ISO price correction processes as described in this memorandum dated September 5, 2013; and***

***Moved, that the ISO Board of Governors authorizes Management to make all the necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.***

## DISCUSSION AND ANALYSIS

Through its price correction process, the ISO corrects invalid prices consistent with a set of criteria defined in the tariff and in the business practice manual for market operations. The intent of the price correction process is to ensure appropriate prices are used in settlements based on the best assessment of system and market conditions. Under the current tariff provisions, prices can be corrected for three reasons, including 1) market prices were

produced with a data input error, 2) a hardware or software failure renders the prices erroneous, and 3) the prices reflect an inconsistency with the tariff.

The ISO has gained three years of market experience since it last evaluated its price corrections procedures. With this additional market experience and through a stakeholder process conducted over the last three months, Management has identified specific refinements to the price corrections processes that will increase the accuracy and certainty of market prices. After careful consideration of input from stakeholders and ISO evaluation of its businesses processes, Management recommends the following four revisions:

1. *Adjust the closing time of inter-scheduling coordinator trades.* Management proposes to change the closing time for inter-scheduling coordinator trades from 12:00 hours to 11:00 hours. This new closing time will still provide sufficient time for participants to revisit their inter-scheduling coordinator trade bids after the day-ahead market is closed but will have the added benefit of no longer limiting the ISO to publishing day-ahead results prior to 12:00 hours. Currently, the ISO publishes its day-ahead market results, which includes the integrated forward market and the residual unit commitment process, by 13:00 hours.

2. *Revise the time horizon for price corrections.* Under the current tariff, the ISO corrects prices for applicable markets and intervals within five calendar days after the applicable trading day. The ISO will not make any price corrections after this price correction window has expired except as otherwise directed by the Federal Energy Regulatory Commission. These requirements apply to both day-ahead and real-time market prices. Management has determined, with the implementation of a robust validation process for the day-ahead market, that it can reduce the time horizon window for price corrections for the day-ahead market to provide for greater price certainty without compromising the validation effort to ensure prices are valid and accurate. Management proposes to reduce the time horizon for price corrections of the day-ahead market from five (5) calendar days to three (3) business days. In the case of the real-time market, Management has instead found that the current calendar-day based timeline poses a challenge when the fifth day falls on weekends or holidays. Therefore, Management proposes to modify the existing five (5) calendar days to five (5) business days. Using business days will allow the ISO to handle more efficiently the validation of the high volume of prices of the 5- and 15-minute real-time markets. This modification would also reduce the number of processing and publication issues that may occur during such times.

3. *Clarify the types of processing and publication issues.* Under the current tariff, the ISO is authorized to rectify price corrections publication and processing errors within 20 business days after the applicable trading day. Earlier in 2013, after a series of processing issues led to a large number of changes to published prices after the five day window, stakeholders raised a concern that there was insufficient visibility into what would constitute a price processing and publication issue. The tariff does not specify what exactly constitutes processing and publication issues. In response, Management proposes to include additional details regarding four categories of issues that might warrant correcting posted prices beyond the applicable time horizon. These four categories are based on the ISO's experience with price corrections processing and publication issues that warranted changes to posted prices after the price

correction time horizon over the past three years. Management proposes to retain the current practice of rectifying processing and publication issues within twenty business days after the affected trading day. The four categories are as follows:

- a) Volumetric issue. In these instances the ISO identifies the need for a price correction within the price correction time horizon, but the issue touches a large number of market intervals that cannot be processed within the price correction time horizon, even if the issue touches only a few nodes.
- b) Hardware or software issues. In these instances, the ISO identifies the need for a price correction within the price correction time horizon, but a software or hardware issue impedes the processing of corrections by the end of the price correction time horizon. In some instances, a hardware or software issue may impede the timely publication of prices that were corrected within the price correction time horizon.
- c) Business process issues. In these instances, the ISO identifies the need for and implements a price correction within the price correction time horizon, but a limitation, failure or error in implementing the business process causes the publication of an incorrect price.
- d) Complex manual corrections. For the most part, price corrections are implemented using pre-prepared scripts and are readily implementable. In some instances, the ISO identifies the need for a price correction within the price correction time horizon, but to correct the prices, the ISO needs to develop specifically tailored methodologies because of the complexity of the issue, which in some cases may span across the ISO markets. The implementation of these complex manual price corrections at times cannot be processed within the price correction time horizon, even if the issue touches only a few nodes.

For price corrections from any of these four groups, if the ISO identifies these issues within the price correction time horizon and the ISO expects these price corrections to be processed beyond the price correction time horizon, the ISO will identify the market intervals to be corrected. The ISO then queues these for processing, identifies the affected market intervals, and inform market participants of the time frame in which it expects to complete the processing of the price corrections, as discussed below.

4. *Provide timely communication about price corrections.* Management seeks to provide market participants greater visibility into the ISO's price correction instances. Currently, the ISO publishes a price correction report with details of the market and intervals corrected, including the reason for the correction. This report, however, is posted after the five-day window for corrections. Management proposes to provide, programmatically, more timely communication of price corrections in both the day-ahead and real-time markets. Management also proposes to communicate to the market when the ISO is experiencing processing and publication issues described above that may impact the timely posting of price corrections or may result in the modification of posted prices to rectify the processing and publication issues.

## **POSITION OF PARTIES**

The proposed revisions to price correction requirements received wide support from stakeholders. One concern raised in the process was that by reducing the time horizon for day-ahead price corrections, the ISO might be compromising the quality of the validation. As explained during the stakeholder process, Management's proposal strikes a balance between ensuring accurate prices and improving certainty. This change is enabled by the ISO's adoption of an enhanced pre-publication market validation process starting in 2013 through which the ISO is able to validate prices and identify possible issues prior to posting the day-ahead market results. This process has already led to fewer price corrections for the day-ahead market and Management anticipates that going forward, the bulk of issues potentially impacting the day-ahead market prices will be identified and resolved prior to publication of market results. Management proposes a post-publication three business day window to ensure that there is a time window to correct any issues that may still impact the day-ahead market results that were not identified or corrected through the pre-publication market results validation process.

A concern was also raised regarding whether to include detail in the tariff about the four categories of publication and processing issues for which the ISO will rectify beyond the price correction time horizon. Management concluded that given that the tariff already contemplated that these types of changes are possible, and given the concerns raised with the visibility on the actions the ISO took this past year, adding this detail in the tariff is preferred as it will provide greater visibility into what issues can lead to such changes.

At the start of the stakeholder process on this policy initiative, staff and stakeholders discussed the possible expansion of the reasons for which prices may be corrected to include calibrations to actual market conditions. Stakeholders' feedback was mixed on this item. Management proposes not to expand the scope of reasons for prices corrections at this time. Rather, Management commits to continue its efforts to enhance its market functioning and modeling, which will narrow the uncertainty that might affect the accuracy of prices. Management believes that addressing the root causes that lead to discrepancies in market input relevant to actual market conditions will lead to better market signals which will negate the need to explore the expansion of the scope for price corrections to start with. Modifications to the scope of price corrections should be considered only after evaluating the results of the current efforts that are in place to enhance market functioning and modeling.

## **MANAGEMENT RECOMMENDATION**

Revisions to price correction requirements and processes designed to improve the accuracy and certainty of prices in the market place are needed. Management's proposal is based on more than three years of market experience and addresses the primary issues that will lead to more accurate pricing and timely information. For these reasons, Management recommends that the Board approve the revisions to price corrections requirements described above.