Memorandum

To: ISO Board of Governors

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

Date: December 6, 2012

Re: **Decision on Mitigation of Exceptional Dispatch in Real-Time**

This memorandum requires Board action.

EXECUTIVE SUMMARY

The ISO will implement a new dynamic, in-market determination of whether a transmission constraint is competitive in the real-time market in the spring of 2013 as approved by the Board on July 14, 2011. This process will replace the static competitive path assessment that is used in the local market power mitigation process conducted in the hour-ahead market process. The static set of competitive paths is used today for both in-market dispatch and out-of-market exceptional dispatch. While in-market dispatch will utilize the dynamic competitive assessments, these assessments will not be reliable determinations of whether or not a transmission constraint is competitive for purposes of exceptional dispatch. If an exceptional dispatch is needed to manage congestion on a non-competitive constraint, the associated energy is settled using the mitigated exceptional dispatch energy settlement rules. This proposal addresses the gap in mitigation for exceptional dispatch.

Specifically, the proposal leverages the dynamic path competitiveness assessments from recent market outcomes to provide a set of designations that can be used to identify and mitigate local market power for exceptional dispatch. The approach uses two thresholds applied to recent designations that will trigger mitigation. Barring the two exceptions noted below, a transmission constraint for which an exceptional dispatch was made will be deemed uncompetitive, and mitigation applied, unless the following two conditions are met:

- **Significant in-market testing:** The constraint was congested and tested for competitiveness in ten or more hours in the most recent 60 days, and

- **Predominantly competitive:** The constraint was competitive in greater than 75 percent of congested hours.

Data from the real-time market are used to apply these tests for mitigation of exceptional dispatch. An exception to these rules is provided for Path 15 and Path 26 where these paths will be considered competitive if each is congested fewer than ten hours during the 60-day period.

This proposal provides adequate coverage for identifying local market power related to exceptional dispatch, strikes a balance between a highly conservative application of mitigation and under-mitigation of local market power, and incorporates recent system and market conditions through leveraging the new dynamic in-market competitive assessment.

The competitive path designations that are produced daily by this method also will be used as back-up designations for the dynamic in-market process and used in that mitigation process in the event the dynamic assessment of local market power fails.

Management recommends the Board approve the following motion:

> ***Moved, that the ISO Board of Governors approves the proposal regarding mitigation of exceptional dispatch, as described in the memorandum dated December 6, 2012; 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

Filling a Gap within the Existing Framework

With implementation of the new real-time, dynamic, in-market competitive path assessment for local market power mitigation in the spring of 2013, the static competitive path assessment that is currently used for both in-market dispatch and out-of-market exceptional dispatch will no longer exist. While in-market dispatch will utilize the dynamic competitive assessments, these assessments will not be reliable determinations of whether or not a transmission constraint is competitive for purposes of exceptional dispatch.

The ISO may need to issue exceptional dispatches to resources to manage transmission constraints that are modeled in the market software but where the market software is not able to manage the congestion without manual intervention. It is possible, and anticipated, that the associated transmission constraints may not be congested during the same hours as the exceptional dispatch. The dynamic path assessment that will be implemented in the real time market in 2013 performs a

competitive test only for transmission constraints that are congested. This leaves a gap in identifying and mitigating local market power in cases where congestion of a transmission constraint does not coincide with the exceptional dispatch made to manage that constraint. Accordingly, the ISO is proposing an alternative approach to determining whether or not a constraint is competitive for purposes of triggering the mitigated exceptional dispatch settlement.

Exceptional Dispatch for Modeled Constraints and Local Market Power

A primary function of the ISO nodal market is to economically manage congestion on the transmission grid at a sub-zonal level. There are circumstances where the real-time market is unable to do this effectively and so requires manual intervention by ISO system operators. A common characteristic of these circumstances is a discrepancy between the actual flow on a constraint and the flow that is calculated by the ISO market. Some of the more common causes of this type of discrepancy are transmission outages, variation in flow outside the ISO control area that impacts internal constraints, and insufficient or inaccurate telemetry.

There may be reliability issues in cases where the actual flow is higher than the flow perceived by the market and approaches the transmission constraint limit. The market may not adequately manage the constraint in these cases and will, instead, allow the actual flow to exceed the constraint limit, creating a reliability issue. ISO system operators may use a combination of manual intervention tools available to them, including exceptional dispatch, to address the discrepancies.

These modeled transmission constraints may have a limited set of generation resources available to help manage flow with an even more limited set of suppliers who control those resources. This circumstance may result in local market power. Within the market dispatch, local market power is created when a transmission constraint is binding and the supply of energy to relieve that congestion is limited in volume and ownership. There is an automated process for detecting and mitigating in-market local market power. In the case of exceptional dispatch, the congestion that helps create the local market power may be anticipated or perceived by the operator and not actually manifest in the market model. In these circumstances, an exceptional dispatch may be made under uncompetitive conditions despite the lack of market congestion in the dynamic assessment on the constraint that is being manually managed. The proposed exceptional dispatch mitigation rules address this circumstance.

There are also transmission constraints that are not modeled in the market software and consequently are managed through exceptional dispatch. Local market power is created by way of these constraints in a similar fashion: limited volume and ownership of supply to meet the requirement. Unlike modeled constraints, the competitiveness of these non-modeled constraints cannot be evaluated by the automated process in the market model. Further, the requirement or demand for these non-modeled constraints may not be specified in a way that can be easily quantified and used in an ad hoc study for competitiveness. Current rules for exceptional dispatch do trigger mitigation for non-

modeled transmission. The proposal expressed in this memorandum does not alter the existing rules for mitigation of exceptional dispatch that manage non-modeled transmission constraints.

Thresholds to Identify and Mitigate Local Market Power in Exceptional Dispatch

The proposal leverages the dynamic competitiveness path assessments from recent market outcomes to provide a set of designations that can be used to identify and mitigate local market power for exceptional dispatch. The approach uses two thresholds applied to recent designations that will trigger mitigation except in instances where we are reasonably confident that the constraint is predominantly competitive.

The proposal states that a transmission constraint for which an exceptional dispatch was made will be deemed uncompetitive, and mitigation applied, unless the following two conditions are met:

- **Significant in-market testing:** The constraint was congested and tested for competitiveness in ten or more hours in the most recent 60 days, and

- **Predominantly competitive:** The constraint was competitive in greater than 75 percent of congested hours in the most recent 60 days.

Data from the real-time market are used to apply these tests, the results of which will be used to trigger mitigation of exceptional dispatch made to manage modeled transmission constraints.

An exception to these rules is provided for Path 15 and Path 26, where these paths will be considered competitive if the number of congested hours is less than ten during the 60-day period. Otherwise, the second rule that looks at whether the transmission constraint is predominantly competitive is applied in the same fashion as with the other constraints. This exception is included to recognize the largely competitive nature of the zones they connect and to avoid circumstances where these two inter-zonal interfaces trigger mitigation of an exceptional dispatch simply because they have not been sufficiently congested in the past 60 days.

This proposal provides adequate coverage for identifying local market power related to exceptional dispatch, strikes a balance between a highly conservative application of mitigation and under-mitigation of local market power, and incorporates recent system and market conditions through leveraging the new dynamic in-market competitive assessment.

Applying This Framework for Back-up Designations

The primary purpose of the proposed rules is to trigger application of local market power mitigation for exceptional dispatch made to manage modeled transmission constraints. They are also appropriate for providing back-up path designations in the event that the dynamic competitive assessment in the market model fails to produce valid results. In this case, the path designations resulting from the proposed rules also will be used in the mitigation process in the market software. Based on observed market run failures, the likelihood that these back-up designations will be used in the day-ahead market is extremely rare, as no failure has occurred since implementation in the spring of 2012, and failures in the real-time market are very infrequent.

POSITIONS OF THE PARTIES

Stakeholders expressed concern in three general areas. The first area of concern was with the practice of issuing exceptional dispatches for modeled transmission constraints instead of allowing the market to manage these constraints. Stakeholders noted that the ISO frequently issues exceptional dispatches and were concerned that this is likely a less economic solution compared to allowing the market to manage the congestion. As a result, exceptional dispatches do not provide a price signal indicating locational scarcity and the out-of-market energy may be lowering overall prices in the real time market.

The ISO has acknowledged the high frequency of exceptional dispatches in 2012 and has taken steps as part of a corporate goal to reduce the frequency. This effort will continue in 2013 to capture further efficiencies from the existing effort and comply with a FERC order that the ISO file a report on exceptional dispatch, highlighting efforts and results to reduce the need for these out-of-market transactions. The ISO also has ranked highly a market design initiative that will consider additional constraints, processes, or products to reduce exceptional dispatches as part of planning for next year.

Stakeholders also expressed concern regarding the lack of analysis and resulting automatic mitigation of exceptional dispatch made for non-modeled transmission constraints. Because these constraints are not modeled, they are not addressed by the in-market competitive assessment. Further, in many circumstances it may not be possible to perform an assessment of competitiveness.

Finally, stakeholders expressed concern that the basis for the thresholds was not well supported. An alternative approach using a well-established technique for statistical hypothesis testing was developed and presented to stakeholders. The statistical approach produced results consistent with the simple thresholds of the original proposal. The simple threshold approach was retained as the final proposal due to its consistency with the statistical model results and ease of implementation.

The specific threshold values of 10 hours of congestion and 75 percent competitive over 60 days were also questioned by stakeholders. The statistical model provided support for the 10 hour threshold, and the 75 percent observed historical competitiveness strikes a balance between a more conservative approach, which may apply mitigation in cases where it is not appropriate, and a less conservative approach where there is closer to even odds that local market power will go unidentified and unmitigated. Moreover, the rolling 60 day analysis is less than the quarterly review in place now but is long enough to capture seasonal differences and hours of potential congestion.

The Department of Market Monitoring and the Market Surveillance Committee both support the proposed approach for mitigating exceptional dispatches. See the attached Market Surveillance Committee opinion and stakeholder matrix for additional comments.

CONCLUSION

Management recommends that the Board approve the proposal for mitigation of exceptional dispatch as described in this memorandum. Recent observations and a resulting filing by the ISO this past summer highlight the importance of accurately identifying and mitigating local market power in exceptional dispatch. This proposal provides adequate coverage for identifying local market power related to exceptional dispatch, strikes a balance between a highly conservative application of mitigation and under-mitigation of local market power, and incorporates recent system and market conditions through leveraging the new dynamic in-market competitive assessment.