

Memorandum

To: Audit Committee of the ISO Board of Governors
From: Eric Schmitt, Vice President, Operations
Date: December 10, 2014
Re: **Acceptance of the 2014 Operations Audit**

This memorandum requires Committee action.

EXECUTIVE SUMMARY

PricewaterhouseCoopers, LLP (PwC) completed the California Independent System Operator Corporation Compliance Assessment relating to Specified Control Room Operational Processes and issued its report dated December 5, 2014. The compliance assessment evaluated real-time congestion management processes and was completed with deviations noted. The deviations identified are used for internal tracking purposes, but have no material impact to reliability or market functions. Management recommends that the Committee accept the report as submitted and proposes the following motion:

Moved, that the Audit Committee of the ISO Board of Governors accepts the audit opinion issued on December 5, 2014 by PricewaterhouseCoopers LLP for the testing of specified control room operational processes for 2014, as attached to the memorandum dated December 10, 2014.

BACKGROUND

In accordance with tariff section 22.1.2.2, Management engaged PwC to perform the annual independent review of compliance with the ISO's operations policies and procedures. Management directed that PwC provide an audit opinion conducted in accordance with generally accepted auditing standards as to whether the ISO's operational processes were in compliance with select operations procedures representing generally accepted good utility practice. For 2014, Management selected the real-time congestion management process for the scope of the Operations Audit because of its importance to market participants and its impact on operations.

The real-time congestion management process is a necessary function of ISO operations and determines the transmission limits and unit commitment used to position the system are appropriate to accommodate upcoming real-time conditions. This examination scope affords an independent assessment of whether the processes in place are being

followed, providing valuable feedback for continuous improvement of the ISO's control room processes.

This year's audit was conducted in the Folsom control room. The auditors observed the Real-Time Operations Engineers and Real-Time Transmission/Generation Dispatchers on August 4 - 8, 2014, and September 15 - 19, 2014.

PwC performed the audit based on an attestation examination that results in an audit opinion. The examination included:

- The actual operations activities associated with real-time congestion management
- The validation of the information provided in the operators' logs

RESULTS

The review of real-time congestion management processes are set forth in the following Operating Procedures:

- Transmission Conforming #2220
- System Operating Limit Establishment Procedure for the Operations Horizon #3100
- Normal Operations Planning Process #3200
- Nomograms, Transmission Corridors and Contingency Data #3610

The audit focused on ten operating procedure elements within these four Operating Procedures. The elements of the ISO's Operating Procedures included by Management in its assertion were selected on the basis that they were integral to the real-time congestion management function and could be objectively compared against actual operating practice.

PwC observed the following deviations:

Inconsistent Nomogram "Active Period"

- Procedure 3610 states the "Active Period" for Nomograms that are continuously active should be set to 12/31/2020. The Nomogram that was reviewed as part of the audit had an Active Period set to 7/10/2020 and was therefore inconsistent with the procedure.
- This deviation does not have an impact on any current date market activity. Operations staff has reviewed all Nomogram "Active Period" dates to ensure they conform to the procedure.

Inconsistent Transmission Corridor and Nomogram naming conventions

- Desktop Procedure OES-OEP-016 provides a naming convention template used to identify Transmission Corridors and Nomograms. The procedure was recently changed to standardize the naming convention and to move from a cryptic system type naming convention to a standardized naming convention.

- This naming convention is not used by the reliability or market systems and only used for external clarity of Transmission Corridors and Nomograms in OASIS and CMRI
- This deviation does not have an impact on reliability or market systems. Operations staff will review and train Operations Engineers on the new standardized naming convention.

Inconsistent Conformance logging

- Procedure 2220 requires the System Operator to log changes to market conformance of transmission limits. These logs are for information only for internal purposes to highlight the market transmission limits that are not matching the actual real-time transmission limits. The conformances are reviewed for possible future model changes.
- This deviation does not have an impact on the market or reliability systems. Operations staff will review the logging requirement for current relevance and to the extent relevant the ISO will retrain the Operators on the need for logging the conformances.

The ten-day audit period included a total of 50 hours in which PwC directly observed operator actions. These hours included all hours of the day. Evidence was also collected for hours in which there was no PwC auditor conducting direct observation evidence.

Of the ten operating procedure elements audited, five were validations that occurred every hour. Three elements were daily processes and two were based on database promotion activities. All ten elements occurred within the audit period.

CONCLUSION

Management recommends that the Audit Committee accept the audit opinion issued on December 5, 2014.