

Memorandum

To: ISO Board of Governors

From: Steve Berberich, Vice President and Chief Operating Officer

Date: December 7, 2010

Re: Acceptance of the 2010 Operations Review

This memorandum requires Board action.

EXECUTIVE SUMMARY

PricewaterhouseCoopers, LLC completed the 2010 Operations Review of the California Independent System Operator Corporation and issued their report on December 6, 2010. The review was completed with four exceptions noted. One exception was during the initial audit period and three exceptions were noted during a Management-requested scope expansion to look at a day where difficult operating conditions existed. Management recommends that the Board accept the report as submitted and proposes the following motion:

Moved, that the Board accepts the report issued on December 6, 2010 by PricewaterhouseCoopers LLC for the testing of the 2010 Operations Review, as attached to the memorandum dated December 7, 2010.

BACKGROUND

In accordance with tariff section 22.1.2.2, Management engaged PwC to perform the annual independent operations review. As discussed in the May 2010 ADR/Audit Committee meeting, Management selected the transmission conformance process for the scope of the 2010 operations review. Transmission conformance is a process used in real-time to compensate for the differences between actual transmission flows and scheduled or market-calculated flows where binding market or actual system overload conditions exist or are projected. It also accounts for the differences in flows between the day-ahead market and real-time market that are caused by changes in load forecast, generation and transmission. The process of transmission conformance is, therefore, a necessary operational tool for ensuring that the market produces schedules and real-time dispatches that more accurately reflect expected real-time flows, respect actual flow limits and support reliable grid operation.

Key reasons to implement transmission conformance are:

- To align market limits with actual system limits, and therefore control actual flows to actual limits;
- To accommodate mismatch due to inherent design differences of day-ahead market, real-time market unit commitment and the real-time dispatch runs;
- To allow reliability margins for certain flow gates; and
- To adjust margins for flowgates impacted by telemetry issues.

System Operations implemented procedures to ensure consistency across shifts, review of transmission conformance by engineering staff, and to provide guidance on the reasons for transmission conformance. The original audit period was September 20 – 24, 2010. However, Management elected to expand the audit period to include September 27 because that day represented a challenging operating environment with an exceptionally high amount of transmission conformance due to fires and high load. On September 27, the ISO issued a restricted maintenance notice early in the morning due to high temperatures throughout the state (Los Angeles Department of Water and Power issued a similar notice). Later in the afternoon, two of the three 500kV lines in the California Oregon Intertie (COI) relayed when smoke from a brush fire caused insulators to flash over. This initiated the WECC-1 remedial action scheme which correctly dropped about 1,500 MW of generation in the Pacific Northwest, inserted fast AC reactive resources in Northern California, and tripped 1,005 MW of pump load. By mid afternoon, with area load increasing toward peak and COI flow above post-event limit, the ISO declared a Transmission System Emergency and initiated interruptible load reduction, which resulted in dropping 532 MW of AC Cycling and 63 MW of Agricultural Pump load in the Southern California Edison's service area. The emergency was terminated that evening once the transmission lines were restored. The peak demand for that day was 45,629 MW. Because of the conditions of that day, Management requested that PwC expand the scope to see how well the processes worked under extreme conditions.

During the audit, PwC performed the review by using agreed-upon procedures to review:

- The actual operations activities associated with the performance of a transmission conformance; and
- The validation of the information provided in the operators logs.

RESULTS

The review focused on the occurrences of transmission conformance in the pre-dispatch of the real-time market (RTPD), and in the real time market (RTD). The evaluation compared the logging requirement to the actual market save cases for RTPD and RTD. The operator's standard process is to update their logs as soon as possible after the action is taken. Then at the end of shift, each operator and the shift supervisor is required to review his or her log to ensure its completeness.

The initial audit period was September 20-24, and during that five day period there were 22 real-time transmission conformances and 13 pre-dispatch transmission conformances for a total of 35 conformances averaging seven per day. The one exception during that period was that a transmission conformance was initially logged and later taken out of the market application but the log was not updated.

During the September 27 scope expansion, there were 12 real-time transmission conformances and 14 pre-dispatch transmission conformances for a total of 26 conformances in that one day. There were three exceptions during that day:

- One occurrence of transmission conformance was detected in the market application but not logged; and
- Two transmission conforming occurrences where either the new conforming limit or time attributes (start or stop times) differed between the market application and the log.

While there were a total of four exceptions, the ISO has a process in place to review the logs and has reports to determine the amount of transmission conformance. Management has reviewed the process to determine areas for improvement and has re-implemented the end-of-shift log review and has directed the shift managers to ensure that the transmission conformances are specifically checked at the end of each shift.

CONCLUSION

Management recommends that the Board accepts the report issued on December 6, 2010 by PricewaterhouseCoopers LLC for the testing of the 2010 Operations Review.