

Memorandum

To: ISO Board of Governors

From: Laura Manz, Vice President of Market and Infrastructure Development

Date: March 18, 2009

Re: **Briefing on 2009 ISO Transmission Plan**

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The purpose of this memorandum is to provide the ISO Board of Governors (the Board) with an overview of the *2009 ISO Transmission Plan* (Transmission Plan). The Transmission Plan consists of four major components:

- A summary of the results of various technical studies conducted by the ISO during the planning cycle;
- A detailed discussion of the contingency conditions and the mitigation plans proposed by the ISO;
- A description of the new projects and study proposals submitted through the request window, as well as the projects approved by ISO Management that represent more than \$390 million in transmission infrastructure investment; and
- A roadmap to the 2010 annual study and planning cycle, including a discussion of the key initiatives that will shape the upcoming planning process.

The 2009 Transmission Plan will also serve to demonstrate how the ISO is ensuring the reliability of the ISO Controlled Grid through its assessment of the North American Electric Reliability Corporation's (NERC) planning standards with which the ISO is obligated to demonstrate compliance. Finally, this Transmission Plan has been structured to meet the transmission process requirements described in the ISO's *Business Process Manual for Transmission Planning* (BPM) developed to comply with the transmission planning principles outlined by the Federal Energy Regulatory Commission in Order 890.¹

¹ *Preventing Undue Discrimination and Preference in Transmission Service*, 72 Fed. Reg. 12,266 (Mar. 15, 2007), FERC Stats. & Regs., ¶ 31,241 (2007), *order on reh'g and clarification*, Order No. 890-A, 73 Fed. Reg. 2,984 (Jan. 16, 2008), FERC Stats. & Regs., Regs. Preambles ¶ 31,261 (2007); *order on reh'g and clarification*, Order No. 890-B, 73 Fed. Reg. 39,092 (July 8, 2008), 123 FERC ¶ 61,299 (2008).

The planning process is a collaborative effort among the ISO, participating transmission owners and other stakeholders. During 2008, the ISO sponsored three stakeholder meetings to collect input on the transmission plan:

- The first was held on March 10, 2008, where the overall study plan was presented, including the unified planning assumptions that were to be used in the studies;
- The second was held on November 20, 2008, where ISO staff presented and discussed all study results and presented new transmission projects identified as appropriate solutions to system needs; and
- The third was held on February 27, 2009, where ISO staff presented the *Draft 2009 Transmission Plan* to stakeholders.

Based on comments received from stakeholders at the February 27, 2009 meeting, ISO staff made clarifying revisions to draft plan presented at that meeting and prepared a *Final Draft 2009 ISO Transmission Plan*. Due to the size of the document, a copy is available upon request. Please refer to Attachment A for the detailed stakeholder matrix.

FINDINGS AND TRANSMISSION PROJECTS

The reliability studies necessary to ensure compliance with NERC planning standards are the foundation of the Transmission Plan. During 2008, ISO staff performed a comprehensive assessment of the ISO controlled grid to ensure compliance with NERC reliability standards TPL-001 through TPL-004. The analysis was performed across a ten-year planning horizon using summer on-peak/off-peak system models. As a result of this analysis, over 200 criteria violations were identified across a voltage bandwidth of 60kV to 500kV; for which the ISO proposed over 160 mitigation plans to address these violations.

It is ISO's responsibility to lead and manage the transmission planning process to ensure coordinated planning across the ISO controlled grid. As such, the ISO is uniquely positioned to perform, or cause to be performed, all necessary studies required to meet NERC reliability standards. Thus, the ISO performed an exhaustive analysis of the ISO controlled grid, identified future needs, and proposed mitigation plans to address these identified needs. The ISO posted and presented its results to stakeholders in November 2008. All stakeholders were invited to submit, into the 2008 request window, alternative proposals to those developed by the ISO. This is a necessary action as FERC's Order 890 comparability standard requires that the ISO's planning process only consider projects submitted through its request window.

At the close of the 2008 Request Window, the ISO had received 134 proposals for consideration in the ISO's planning process. The following table provides a description of how the ISO handled the Request Window proposals.

Disposition of Request Window Submittals

Proposals Received	ISO Screening Result
45	Approved by ISO Executive Management
2	Approved by ISO Executive Management for Board consideration in 2009
11	Study requests for analysis in the 2009 transmission planning process
31	Conceptual
33	Require additional information and evaluation
12	Withdrawn or rejected

It is important to note that the 45 proposals approved by ISO Management were submitted in response to the ISO’s determination of reliability needs of the ISO Controlled Grid. In total, these proposals represent an investment of more than \$390 million in infrastructure additions to the grid.

While the transmission plan has a predominate focus on reliability compliance, ISO staff was also involved in a number of other key initiatives during the year. In some cases, these initiatives required advanced and/or specialized studies to complete.

- Preliminary renewable transmission plans for meeting 20% and 33% RPS goals;
- Transmission impacts due to regulations regarding once through cooling power plants;
- 2010 probabilistic planning reserve margin study in conjunction with the California Public Utility Commission’s rulemaking proceeding process using GE’s multi-area reliability simulation program²;
- Small signal stability analyses for the ISO and WECC areas using Powertech Labs Inc. dynamic security assessment software;
- Optimizing dynamic and static reactive support for the Tehachapi transmission project; and
- Preliminary locational marginal pricing study using Western Electricity Coordinating Council Transmission Expansion Planning Policy Committee’s 2017 base case.

On balance, this transmission plan formulates the backdrop for a system expansion plan that benefits all Californians within the ISO footprint. Future iterations of the transmission plan will reflect market drivers such as nodal prices and long-term transmission rights as a consideration for grid enhancement.

² Order Instituting Rulemaking to Consider Revisions to the Planning Reserve Margin for Reliable and Cost-Effective Electric Service R.08-04-012.