



## Memorandum

**To:** The ISO Board of Governors  
**From:** Frank A. Wolak, Chairman, Market Surveillance Committee of ISO  
**cc:** Terry Winter, CEO; Charlie Robinson, VP, Legal and Regulatory  
**Date:** May 21, 2004  
**Re:** *Summary of the Market Surveillance Committee Meeting of May 17, 2004*

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**This is only a status report. No Board action is requested.**

The Market Surveillance Committee (MSC) held a public meeting on May 17, 2004 at the ISO's Folsom headquarters. All MSC members were present. The primary task of this meeting was to brief the MSC on the ISO's Transmission Expansion Assessment Methodology (TEAM) in preparation for filing this methodology (applied to the proposed Path 26 upgrade) with the California Public Utilities Commission (CPUC) on June 2, 2004. The MSC is also preparing an opinion on the methodology that will accompany this filing. Brad Barber called the meeting to order and asked for any public comment.

### Public Comments

There were several public comments on the transmission expansion assessment methodology. Brad Barber asked each party to summarize their positions and the MSC would then ask for further input throughout the day as these topics were dealt with.

Brett Franklin of the Electricity Oversight Board (EOB) expressed concern with the ISO using market share to allocate mark-ups under the RSI methodology to determine market prices. He also requested that ISO present the modified societal test of the benefits of the transmission expansion, rather than only present a single aggregate societal benefit number.

Mike Evans of Coral Power provided written comments before the May 17 meeting and summarized these over the phone. He encouraged the ISO to quantify the impacts of the extremes of market participant behavior and rare events on the expected benefits calculation. He warned against an excessive focus on base case fuel price, hydrologic, or other system conditions scenarios, but instead urged the ISO to concentrate on assessing the insurance value of a transmission line by assessing the benefits of the upgrade under extreme but plausible input fuel, demand growth, hydrologic and other system conditions.

Jim Filippi of Pacific Gas and Electric (PG&E) argued that the benefits to California ratepayers should be of primary importance in assessing the benefits of an upgrade. He agreed with Mike Evans that accounting for the uncertainties in future system conditions is important and that transmission capacity provides insurance against extreme events, but it also urged the ISO not to over-value them. He also argued that a stakeholder process should be used to decide whether an upgrade should be undertaken, and that transmission should be part of integrated resource planning process at the state level.

Richard Lauckhart of Henwood Energy Services previously provided written comments which he summarized. He argued for the use of a zonal transmission model appropriately tailored to the specific upgrade being modeled as

opposed to the DC Optimal Power Flow (OPF) model used in the current version of the ISO's transmission expansion assessment methodology. Lauckhart felt that because a zonal model tailored to the specific circumstances could be solved more quickly this could allow a richer model of uncertainty about future system conditions to be considered in the benefits measurement process. He also argued that because the ISO planned to use an AC-OPF to operate the system under the locational marginal pricing market proposed as part of MD02, there was also an approximation involved in using a DC-OPF model in the transmission expansion methodology.

In response to these public comments, the MSC asked Jeff Miller, Regional Transmission Manager, to give a presentation of the ISO's position on the necessity of using a DC-OPF model in the transmission expansion assessment methodology. One MSC member asked Miller whether he believed there were significant differences between DC-OPF solutions and AC-OPF solutions for the California ISO control. His assessment was that the differences were typically very small, except for a small fraction of possible system conditions.

Ben Hobbs, MSC member, then gave a presentation of his views on the necessity of using a full-network model to assess the benefits of a proposed transmission upgrade. He argued in favor of using a full network model as the default, but allowing the use of a simplified zonal network model in those instances when it could be demonstrated the full network model could be adequately approximated by a suitably modified zonal network model. Several other MSC members expressed their support for Hobbs' position.

## **Public Session**

During the public session of the meeting the following items were acted on or discussed.

### **1. Market Update**

Doug Bergman, Economist/Market Monitor, summarized the performance of the California market during April and early May of 2004. The major highlights were load spikes were similar to those that occur in the summertime on April 27 and May 3, 2004. These load spikes did not lead to adverse market outcomes because of the significant amount of forward contracting between suppliers and load-serving entities and the increased supply of energy that has resulted from new generation capacity in NP15, Arizona, Nevada and Mexico. Another important factor is the persistent load growth relative to the same month in the previous year across all but one month from May 2003 to April 2004. Because of unseasonably hot weather during the early spring there has been a pre-mature runoff of water, which resulted in California hydroelectric production during March and April above the levels during the same months of 2003. There have been slightly less net imports from the Pacific Northwest during March and April relative to the same two months in 2003 due to low reservoir levels in the Northwest. Intrazonal congestion costs have fallen relative to the levels that existed in March of 2004, largely because of the increased DEC bid reference levels for the Mexican generation units. However, total intrazonal congestion costs thus far for 2004 are \$5.6 million, with approximately 2/3 of these costs the result of incremental intrazonal congestion.

Average real-time INC and DEC prices during April and early May have remained close to the levels of these variables in January and February of 2004. The price-cost margins in March and April of 2004 were at the levels observed for these two months in 2003, indicating no significant change in the competitiveness of the ISO's real-time market. Finally, the frequency of bid insufficiency in the ISO's ancillary services market declined significantly in March and April of 2004, relative to previous months.

There appear to be no major problems in the ISO's energy and ancillary services market. The previous problems with intrazonal congestion and bid insufficiency in the ancillary services markets seem to have improved. Hydro conditions in both California and the Pacific Northwest appear to be somewhat tighter for 2004 than they did at the same time in 2003.

### **3. The ISO's Transmission Economic Assessment Methodology (TEAM)**

With the exception of one issue, the remainder of the public session was devoted to discussing aspects of the ISO's transmission expansion assessment methodology. Anjali Sheffrin, Director of the Department of Market Analysis summarized goals of the process and the activities accomplished to date. She outlined five key principles underlying the ISO's methodology: (1) utilizing a consistent framework to evaluate benefits of an expansion, (2) treating uncertainty in manner that explores the full range of possible benefits associated with a long-term investment such as transmission capacity, (3) utilizing market-based bids rather than variable costs to set locational prices, (4) utilizing a full network model to determine locational prices, and (5) evaluating generation /demand side program alternatives to transmission expansion.. She then discussed the timeline for preparing to file the methodology with the CPUC on June 2, 2004.

Steven Broad of the Department of Market Analysis then gave an overview of the input assumptions to the transmission expansion assessment methodology. He noted that although only 500 kV transmission line limits were enforced in the network model, a total of 112 interfaces were enforced with more than 13,000 buses being modeled. He discussed the details of the transmission expansion of Path 26 being considered. He then described how new generation facilities, including renewable resource investments made under the State of California's renewable resource standard, were located within the ISO control area. Other topics discussed included CEC demand growth, gas price and other input fuel scenarios, and generation planning margin and how it was enforced in the analysis.

Anna Geevarghese and Jing Chen of the Department of Market Analysis then discussed the implementation of this methodology for the Path 26 upgrade, and computed the benefits for one set of future system conditions for both 2008 and 2013. Both cost-based prices and market pricing results were presented for comparison purposes. A detailed benefits calculation for each type of market participant was reported.

Throughout all of these discussions several MSC members asked questions about specific aspects of the methodology. Often as part of this interaction, the MSC would solicit input from the stakeholders present at the MSC meeting with specific knowledge of these issues. The basic goal of this questioning was for the MSC members to become sufficient familiar with the details of the ISO's transmission expansion methodology in order to prepare its opinion.

### **4. Zonal Ancillary Services Procurement**

Jeff McDonald of the Department of Market Analysis discussed the ISO's proposal to resume zonal procurement of ancillary services. The desire to resume zonal procurement of ancillary services, something that occurred routinely during the first two years of the market, is motivated by the fact that the ISO is often unable to procure sufficient ancillary services in SP15. McDonald noted that in 80 percent of the hours less than 25 percent of total ancillary services are procured in SP15 because of low offerings in SP15 and lower priced bids in NP15. During Quarter 1 of 2004, only 15 percent of ancillary services requirements are met by resources in SP15. Moreover, during certain hours ancillary services in NP15 are very likely not deliverable to SP15, which could have adverse reliability consequences. McDonald noted that additional capacity is expected to be offered in the Day-Ahead ancillary services markets this summer as a result of entry by units denied a must-offer waiver.

The ISO is considering zonal procurement if unconstrained purchasing results in something that does not meet 45-55 split across the two zones. This means that if amount of ancillary services that would be procured from an unconstrained procurement would result in less than 45 percent of the ISO's total ancillary services requirements coming from units in SP15 or more than 55 percent of the ISO's total ancillary services requirements coming from

units in SP15, the ISO will split the market and procure the amount need to satisfy these locational constraints from each congestion zone.

The Department of Market Analysis was asked to assess the competitive impacts of this procurement policy. In response, McDonald has computed a duration curve of the hourly zonal RSIs for the peak hours of the third quarter of 2003 using a variety of techniques for computing the RSI. Based on this analysis McDonald expressed some concern with zonal procurement unless the ISO received approval from the Federal Energy Regulatory Commission (FERC) for its filing to allow suppliers whose units are denied must-off waivers to keep their minimum load cost payments if they decide to sell ancillary services. McDonald stated that for this reason the ISO would wait until it received approach from FERC not to rescind the minimum load costs for must-offer waiver denial units that sell ancillary services.

It is the position of one MSC member that the ISO should instead immediately implement zonal procurement of ancillary services. This would avoid the added expense of having to pay for the minimum load operating cost of must-off waiver denied units that subsequently sell ancillary services. If as a result of zonal procurement of ancillary services prices in SP15 rise relative to those in NP15, this is likely to trigger increase in the supply of ancillary services from units in SP15, which would reduce the frequency of bid insufficiency in the ancillary ISO's services markets without the accompanying cost of having to pay these suppliers for their minimum load operating costs if they receive a must-offer waiver denial. This MSC member based his recommendation on McDonald's RSI analysis using available generation capacity in SP15 for each hour of Quarter 3 of 2003 and the fact that there has been significant new generation entry into SP15 since the first two years of the operation of market relative to the load growth in SP15 since early 2000 when the ISO last purchased ancillary services on a zonal basis.

The immediate implementation of zonal procurement of ancillary services has the added advantage that the ISO can learn whether it is necessary to allow suppliers to keep their minimum operating costs payments if they receive a must-offer waiver-denial and subsequently sell ancillary services. As has been noted at previous MSC meetings there is no reason to believe that higher ancillary services prices in SP15 will not attract sufficient ancillary services capacity to meet the ISO's reliability demand to have at least 45 percent of its total ancillary services requirements come from SP15.

The public meeting was adjourned at 3:45 pm.

### **Administrative Session**

From 4:00 pm to 5:00 the MSC had an administrative session where scheduling details were discussed.