

Memorandum

To: ISO Board of Governors
From: Frank A. Wolak, Chairman, ISO Market Surveillance Committee
Date: March 18, 2008
Re: *Market Surveillance Committee Activities from January 14, 2008 to March 7, 2008*

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

The Market Surveillance Committee (MSC) held a joint meeting with stakeholders on February 8, 2008. The MSC has also worked with ISO staff on several issues and participated in stakeholder conference calls and meetings during the past two months. This memo summarizes these activities.

1. Market Surveillance Committee/Stakeholder Meeting on February 8, 2008

Five topics were discussed were discussed at the February 8, 2008 meeting.

Cost Allocation for Convergence Bids

The MSC and stakeholders discussed the factors that must be balanced in determining the appropriate charges to apply to convergence bids. Setting these charges too high can lead to systematic differences between the day-ahead and real-time prices because the market participants will only submit convergence bids to exploit the difference between the day-ahead and real-time prices when they expect to earn more from this transaction than the cost they pay to the ISO for their accepted convergence bids. Alternatively, setting the charges for accepted convergence bids too low is likely to recover insufficient revenues from market participants to pay for the costs that the ISO incurs for processing convergence bids and managing real-time system operation with convergence bids. A major topic for discussion among stakeholders and the MSC was how to determine the magnitude of the market operation and system reliability costs associated with convergence bids. One MSC member argued that in order to maximize the market efficiency benefits of convergence bidding the ISO should limit the magnitude of costs allocated to convergence bids.

Relaxing the DEC Bidding Rule on Final Day-Ahead Schedules

MRTU has a rule that requires decremental energy bids submitted to the hour-ahead scheduling procedure (HASP) and real-time market to be above the bid curve submitted to the day-ahead market. The intent of this rule is to prevent the so-called "DEC game" under MRTU, where a supplier might over-schedule in the day-ahead market and then sell this energy back in the HASP or real-time market at a lower price. Because MRTU uses a full network model for the day-ahead scheduling process, the opportunities for this DEC Game to occur are confined to periods when transmission constraints change after the day-ahead market closes and before the real-time market starts. Because of concerns that this requirement on DEC bids might cause suppliers to not submit decremental energy bids, several MSC members argued that the

costs of imposing this restriction on decremental energy bids was not justified by the market efficiency benefits that would result from keeping it in place. These MSC members urged the ISO to start MRTU without these restrictions in place, and only impose them if market outcomes justified their imposition.

Pricing Logic under Flexible Modeling of Constrained-On Generation Units

MRTU will model all generation units as flexible in the day-ahead scheduling process. This means units that can only be run at full capacity or turned-off, such as combustion turbine units, will be modeled as flexible in the sense that the day-ahead market can accept any amount of output from the unit between zero and its capacity. The ISO is reevaluating its current rules for how to model these constrained-output generation (COG) units as flexible and allow them to set the market-clearing price in the real-time market. **Ben Hobbs** gave a presentation providing guidance for determining the conditions under which the ISO should model COG units as price-setting in the real-time market. **Hobbs** argued that to the extent that a market has a significant amount of capacity in COG units and dispatches a significant number of units within an hour, as is the case in several eastern US markets, it makes more sense to allow these units to set the market-clearing price. To the extent that a market has very few COG units and these units are infrequently dispatched in real-time, as is the case in California, it makes less sense to allow COG units to set the price in the real-time market.

Demand Response Functionality in Market Release 1A

Jim Price of Market and Product Development gave a presentation on working group and stakeholder activity on the protocols for final demand to participate actively in the ISO's markets. He clarified the roles of participating and non-participating loads. Participating loads can offer into the ISO's ancillary services markets and the ISO's real-time energy market. Non-participating load can simply reduce or increase their demand, but cannot offer into the ancillary services or real-time energy market, but can submit a price-responsive bid into the day-ahead energy market. **Price** reviewed the technical requirements that a customer must satisfy to qualify as a participating load. The central message of **Price's** presentation was that technical requirements for participating load each had a parallel technical requirement for a generation unit owner. Several MSC members commented that the ISO should do all it can to set these technical requirements to maximize the amount of participating load, without compromising the ability of these loads to provide the ancillary services and real-time "nega-watts" that they are certified as able to provide.

Scarcity Pricing: Interaction with Demand Response and Virtual Bidding

Frank Wolak gave a presentation on the design of a scarcity-pricing mechanism that does not interfere with the development of active participation of final demand in the wholesale market and market-efficiency-enhancing convergence bidding. Wolak clarified the distinction between economic scarcity-pricing and administrative scarcity-pricing. Any time the willingness of the final demand to curtail its purchases sets the market-clearing price, there is economic scarcity pricing. He distinguished this from administrative scarcity pricing, where the ISO sets a high price when there are "true scarcity" conditions in the market. Wolak emphasized that true scarcity conditions only exist when the ISO's demand for energy plus its demand for reserves exceeds the amount of available generation capacity. By this definition, scarcity conditions can occur in both the day-ahead and real-time market. However, because the ISO clears the day-ahead market relative to bid-in load, rather than forecast load, and there are opportunities for convergence bidding, scarcity conditions are unlikely to arise in the day-ahead market.

During the periods when real-time scarcity conditions are likely to occur less demand is bid into the day-ahead market or convergence bids are submitted to accomplish the same thing. Wolak noted that scarcity conditions, if they arise, will occur in the real-time market and take the form of the ISO reducing the amount of operating reserves it holds to ensure the real-time energy demand can be met. A properly functioning convergence bidding process should insure that economic, not administrative, scarcity conditions occur in the day-ahead market. Wolak noted that in order for MRTU to operate in this manner the California Public Utilities Commission (CPUC) and ISO must work to increase the amount of load that can actively participate in the ISO's ancillary services and energy markets and eliminate the requirement that demand response resources can only be called if the ISO declares a system emergency. Wolak noted that if the ISO eliminated this requirement on demand-response resources, this would allow the ISO to set real-time prices that are consistent with real-time system conditions. Specifically, when the ISO is at or near scarcity conditions and a system emergency has been declared, the real-time price of energy will be very high, reflecting the need for consumers to reduce their demand and suppliers to provide more energy.

2. Integrated Balancing Authority Areas

The final topic considered by the MSC was not discussed at the February 8, 2008 meeting. This is the ISO's Integrated Balancing Authority Areas (IBAA) proposal. **Frank Wolak** attended the March 6, 2008 stakeholder meeting on this topic at the ISO. The ISO's IBAA proposal is designed to achieve more accurate day-ahead schedules at the interties of neighboring control areas to the ISO. Under this proposal, the ISO will model the looped nature of the transmission network outside of the ISO control area in order to account for the loop flows into the ISO control area in real-time. The strength of the ISO proposal is that it manages to model the network outside of the ISO control area more accurately without requiring the details of generation unit operating behavior outside of the ISO control area. The downside of the ISO proposal, from the perspective of stakeholders in these neighboring control areas, is that different prices will be set to inject into the ISO control area depending on where these entities state that they are sourcing their injections into California. The MSC is currently in the process of reviewing this proposal and plans to issue an opinion on this topic before it is presented to the ISO Board for their consideration.