CALIFORNIA ISO

California Independent
System Operator

Memorandum

To: The ISO Board of Governors

From: Frank A. Wolak, Chairman, Market Surveillance Committee of ISO

cc: Marcie Edwards, Interim CEO; Charlie Robinson, Vice President & General Counsel

Date: September 9, 2004

Re: ***Summary of the Market Surveillance Committee Meeting of September 7, 2004***

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

The Market Surveillance Committee (MSC) held a public meeting on September 7, 2004 at the Hilton Garden Inn in Folsom. All MSC members were present. Brad Barber called the meeting to order and asked for public comments.

Public Comment

Jeffrey Nelson of Southern California Edison (SCE) stated that SCE had serious concerns with the ISO allowing virtual bidding. He also stated that SCE did not believe that the Federal Energy Regulatory Commission (FERC) had the jurisdictional authority to order the ISO to implement virtual bidding, because this amounted ordering the ISO to implement a derivatives markets. He also noted that SCE had made this point and expressed other objections to virtual bidding in a recent filing to FERC that he would make available to the MSC.

Market Update

Doug Bergman, Economist/Market Monitor in the Department of Market Analysis, provided an update of market performance for the months of July and August 2004. The major highlights were: (1) the record system peaks in July and August with moderate growth in total energy consumption relative to July and August of 2003, (2) the increased amount of out-of-sequence incremental, and to a lesser extent, decremental real-time energy procurement in July and August, (3) the largest ever monthly intrazonal congestion costs of $15.3 million for August, and (4) the increased frequency of bid insufficiency in the ancillary services market following the implementation of zonal procurement of ancillary services.

There was a discussion among the MSC members about what the appropriate ancillary services price should be when there is bid insufficiency. Several MSC members argued in favor of setting the price at the price cap, rather than at the last accepted bid to attract suppliers to the ancillary services market and ultimately eliminate the bid insufficiency. There was also a discussion of a possible short-term solution to the large amount of out-of-sequence real-time energy instructions by the ISO designating more RMR units in Southern California.

Honoring ETC Rights under MTRU

David Withrow of the Policy Office discussed the ISO's methodology for honoring Existing Transmission Rights (ETCs) under the ISO's proposed full network model (FNM) design. Withrow estimated that there are approximately, 4,700 MW existing capacity reservation rights that would impacted by this change in the treatment of ETCs. Specifically, there would be no day-ahead reservations for ETCs, but there would continue to be scheduling priority for ETCs in the day-ahead and hour-ahead markets. The ISO would re-dispatch resources as needed to accommodate ETC schedule changes in real-time. The ETC holders would be held financially harmless by this process. Withrow said that ISO would be making a filing to FERC demonstrating that the ETC rights are not diminished relative to their contractual rights by this change. He said that the ISO would like an opinion from the MSC on this issue before the filing.

There was a discussion among the MSC members and ISO staff of a number of related issues. One MSC member stated that the ISO could continue to honor ETC reservations in the day-ahead market, but allow market participants to virtual bid at any node in the ISO network in order to anticipate how much transmission capacity the ETC the holders will ultimately use in the real-time market. For example, a market participant may expect an ETC holder with a 100 MW ETC to only use 60 MW. If this 100 MW (instead of 60 MW) is held out of the day-ahead market, then the market participant could create the additional 40 MW of transmission capacity in the day-ahead market by virtual bidding to inject at one end of the interface and withdraw at other and it could then use that capacity to schedule actual energy in the day-ahead market. The ISO staff felt that this was a higher risk approach than the ISO's proposed solution because of potential market power concerns with permitting virtual bidding at all nodes in the system.

The discussion also touched on the incentives faced by ETC holders under the ISO proposal versus the existing approach that reserves the entire ETC capacity in the day-ahead market. One MSC member argued that the ISO's proposed approach would provide incentives for ETC holders to submit day-ahead schedules closer to their real-time expected use, because the ETC holders would have fewer opportunities to procure and deliver to the California border inexpensive energy between the day-ahead and real-time markets. The discussion then turned to how the ISO would handle making the ETC holders financially harmless with respect to schedule changes between the day-ahead and real-time markets. Several MSC members stated that there was a significant financial risk to the ISO associated with determining the appropriate amount of Congestion Revenue Rights (CRRs) for it to hold to hedge this risk and that further study of this issue would be very helpful for making the case to FERC for this modification. Finally, several MSC members expressed an interest in getting more details on how the ETCs were handled by the three investor-owned utilities before the formation of the ISO. The felt that a better understanding of how the ETCs were honored during the pre-ISO regime would help them in assessing whether the ISO's proposed methodology was acceptable from the perspective of fully honoring the ETCs holder's contractual rights.

Ziad Alaywan, Director of Market Operations, briefed the MSC on the WesTTrans proposal for allocating saleable transmission rights among Western Electricity Coordinating Council (WECC) market participants. Specifically, Alaywan discussed how the WesTTrans web-site could be used as a mechanism for a number of transmission-owning entities in the WECC to buy and sell transmission rights in and outside of California. The major question discussed by Alaywan was how WesTTrans might interact with the ISO in terms of allocating transmission capacity within and into the ISO control area. For example, one proposal would have WesTTrans become a scheduling coordinator (SC) and schedule transmission capacity on behalf of those entities that trade capacity through the WesTTrans web-site. There is an internal ISO team that is working with WesTTrans to consider options for WesTTrans interacting with the ISO. Several MSC members urged the ISO not to give any special rights or privileges to WesTTrans beyond those of a typical scheduling coordinator because they felt its needs could be accommodated within the existing market rules.

Executive Session

During the lunch hour, the MSC had an executive session where bidding behavior by specific market participants in the real-time energy and day-ahead ancillary services markets was discussed. The major issues addressed were the magnitude of out-of-sequence incremental energy calls and bid insufficiency in the ancillary services markets.

Virtual Bidding

Lorenzo Kristov of the Policy Office discussed the issue of how the ISO might allow virtual bidding under the proposed LMP market design. He reviewed how virtual bidding takes place in the eastern ISOs. Specifically, in PJM virtual bidding can take place at any node in the network, whereas in New York virtual bidding can only take place any one of the eleven demand zones. Kristov outlined the ISO's straw proposal which would allow virtual bidding the day-ahead market only at designated trading hubs, specifically the existing SP15, NP15 and ZP26 load aggregation points (LAPs). The virtual bids would distributed to nodes within those LAPs using to the same distribution factors for loads and generation. The virtual bids would not be subject to system-wide or local market power mitigation, but they would be subject to the ISO's damage control price cap. In addition, Kristov stated that all virtual demand and supply bids would have be price sensitive. Inelastic demand or supply virtual bids would not be permitted.

There was an extended discussion among the MSC members and the ISO staff about ways to limit the risks associated with virtual bidding while capturing the market efficiency benefits of virtual bidding at the start of the LMP market. Several MSC members argued for position limits on the amount of virtual bidding beyond the financial margin requirements associated with virtual bidding. For example, a virtual bidder could be required to post a bond on with the ISO for some fraction of the outstanding dollar magnitude of their virtual position each day. In addition, the virtual bidder would also be prohibited from having the sum of the absolute values of its MWh virtual positions being less than some pre-specified value. Consequently, as well as insuring (through the bond posted with the ISO) that the ISO would be paid for all gambles market participants take on the difference between day-ahead and real-time prices, the ISO would also know that firms could not take large enough gambles to influence the market price though their own actions.

The MSC also urged the ISO to give careful considerable to how would bill market participants for virtual transactions. Several MSC members made the case that virtual transactions should not be subsidized by physical transactions. In addition, these MSC members emphasized the need to apply cost-causation principles to making this determination and they expressed an interest in providing further input into the process of determining the ISO charges for processing virtual transactions.

Jeffrey Nelson of SCE reiterated his concerns with virtual bidding, as did Mike Werner of the State Water Project. Nelson stated that if virtual bidding was going to be implemented, it should be confined to a few pre-specified trading hubs. He was also concerned about the fact that because FERC had exempted these bids from review for the exercise of unilateral market power, suppliers might attempt to raise market prices through their virtual bids. He also supported position limits on virtual bidding.

Keith Casey raised the very important point that different local market power mitigation (LMPM) measures would be needed for different virtual bidding regimes. Specifically, allowing virtual bidding at a node in the network would require a more stringent LMPM mechanism than would allow virtual bidding at pre-specified trading hubs. A supplier can make itself pivotal at node or small group of nodes by virtual bidding if there is not countervailing virtual bidding response from loads at those locations. There was also discussion of the logic underlying the requirement that all virtual bids be price-sensitive. Several MSC members pointed out that requiring virtual bids to be price-takers could be construed as a market power mitigation mechanism and may even be preferable to allowing price-

sensitive bids. The discussion closed with several MSC members asking for more analysis of how the ISO should charge for virtual transactions and how it should modify the LMPM mechanism to deal with virtual bidding. Several MSC members also expressed their willingness to participate in these analyses.

Trading Hubs

Keith Casey, Manager Market Analysis and Mitigation in the Department of Market Analysis, discussed the design of trading hubs within the ISO's proposed LMP market design. The primary goal of defining these trading hubs is to provide a mechanism for resolving the current seller's choice forward contract problems. A secondary goal is to provide trading hubs for market participants to use for future hedging arrangements. Casey discussed a number of dimensions of the design of trading hubs including how to determine which nodes to include in a hub, how frequently the weights associated with included nodes change, how the residual congestion charge risk to generators or loads associated with delivering energy at these hubs can be managed in the ISO's CRR allocation process.

A number of issues relating to the design of trading hubs were raised in the subsequent discussion. Several MSC members expressed the view that there was little need for the ISO to devote much effort to the formation of trading hubs for future transactions. Market participants could decide how to define trading hubs for that purpose, as long as the ISO made the necessary component prices and nodal quantities publicly available. The major focus of the trading hub design process should therefore be on the satisfactory resolution of the seller's choice contract problem--specifically, leaving the sellers of these forward contracts financially harmless relative to the ISO's current market design under the ISO's proposed LMP market design. Several MSC members emphasized that the relevant standard for comparison holding the sellers harmless should be the current ISO market design, not the proposed LMP market design with the seller's choice option, because the ISO could always decide to wait to implement the LMP market until these contracts expired. So the option to exploit the seller's choice fully under the proposed LMP market design is not the relevant option.

There was broad support among the MSC members for fixing weights used to construct the existing zone trading hubs for a least one year. In addition, one MSC member emphasized the benefits of coordinating the choice of weighting schemes across the ISO's methods for allowing virtual bidding, constructing trading hubs and constructing the current load aggregation points. This coordination of these weighing schemes was thought to increase the liquidity at the trading hub relative to a scheme that used different weights for constructing the hubs were virtual bidding would be permitted and/or different weights for the load aggregation points.

Transitional Alternative Pricing and Settlement (TAPAS) Approach to LMP

Keith Casey, Manager Market Analysis and Mitigation in the Department of Market Analysis discussed the ISO's proposal to implement a Transitional Alternative Pricing and Settlement (TAPAS) approach in the event that the ISO Board decided the liability associated with the seller's choice contracts was too large to move forward with an LMP market. This proposal would entail adopting many of the scheduling and operating aspects of the ISO's proposed LMP market without adopting LMP pricing in the day-ahead market. Specifically, the ISO would still mitigate local market power and construct day-ahead energy schedules for market participants using same procedure as in the ISO's proposed LMP market design. The only difference is that LMPs would not be set in the day-ahead market. Instead, either a zonal price using a zonal pricing setting process, or a zonal price that is the quantity-weighted average of the LMPs in that zone would be set, depending on the LMPM mechanism that the ISO receives from FERC.

Several members of the MSC felt there was a far less costly approach to formulating an alternative transitional market design that did not require a significant investment in new software and operating procedures. This

alternative approach would rely on the current ISO market design and require the ISO operators to enter into more Reliability Must-Run (RMR) contracts to deal with any unaddressed reliability problems. In this discussion of this proposal, one MSC member noted that during the first two years of the operation of the California market, the ISO operators had significantly more generation capacity under RMR contracts and were able to operate the system reliably and keep average energy prices in the range of $35/MWh. The argument was made that because of the substantial amounts of forward contracting by California load-serving entities, the risk to California consumers of high spot prices was significantly less than it was during the first four years of operating the California market. Consequently, if the ISO could solve its current grid reliability problems by signing up more generation capacity to RMR contracts, the existing market design could be used into the near future, assuming that the California Public Utilities Commission would enact a procurement policy for the three investor-owned utilities that gave them strong incentives to purchase energy at locations in the WECC were it can be delivered to final consumers. A more detailed discussion of this proposal and the issues surrounding it are given in an August 25, 2004 memorandum written by Frank Wolak. It should be emphasized that the viability of this approach is conditional on the California ISO operators' stating that their reliability concerns can be addressed within the existing market design if more generation units are designated as RMR units.

Modifications to Market Power Mitigation

Jeff McDonald of the Department of Market Analysis briefed the MSC on the ISO's proposed modifications to its local market power mitigation mechanisms under the proposed LMP market design. Specifically, he discussed the ISO's proposal to implement system AMP for imports under the proposed LMP market design and the proposed local market power mitigation mechanism for Residual Unit Commitment (RUC) capacity because of the FERC order to pay RUC capacity a market-clearing price and not rescind the RUC payment in the event the capacity is taken for energy.

The consensus of the MSC was that the ISO should not implement system-wide AMP for imports. There were a number of reasons for this recommendation. First, it is likely that by applying AMP to imports this would be likely to drive them away from California at precisely the time that California needs them to meet demand. Second, even if the importers were able to charge California very high prices because of their ability to set prices under the proposed LMP market design, the current level of forward contracting by loads in California and that level proposed by the CPUC into the future would be sufficient to limit the spot market exposure of California consumers and provide strong incentives for WECC suppliers to participate fully in the California market. Finally, the MSC expressed general discomfort with AMP in a market with a $250/MWh bid cap, because the associated reference prices are set as a function of accepted in-sequence bids. In particular, this mechanism for setting AMP reference levels effectively imposes a cost on market participants for bidding low, because this can lower their AMP reference level and therefore limit their ability to raise prices during high demand periods. For this reason, AMP could be raising off-peak prices, and, because of the $250/MWh bid cap, it has little impact on peak prices, so the overall impact of AMP is to raise average prices. For this reason, the MSC even favored the elimination of system AMP if in return the IS could get a more stringent local market power mitigation mechanism, similar to the cost-based-bid--mitigation mechanism currently in place in the PJM market.

On the issue of local market power mitigation for RUC capacity, there was general support among the MSC for the ISO's method for determining whether a unit's RUC capacity would be mitigated. The major topic for discussion was what to set the RUC capacity bid at for units that were mitigated because they possessed local market power. The MSC did not favor the ISO's current approach of using a function of accepted in-sequence RUC bids for the reasons described above. Several proposals were given. The first was to freeze a supplier's RUC capacity bid for the entire year. Under this scheme a unit would bid its RUC capacity at the start of the year and it would be unable to change that bid for the entire year. Another proposal was to have mitigated bids for RUC capacity treated as

price-takers in the market clearing process. In particular, mitigated RUC capacity would be netted against RUC demand at that location and the price paid by that capacity would be set by the remaining non-mitigated RUC bids.

Brad Barber adjourned the public meeting at 5:00 pm.