

Memorandum

To: ISO Board of Governors
From: Eric Hildebrandt, Director, Market Monitoring
Date: February 3, 2010
Re: *Market Monitoring Report*

This memorandum does not require Board action.

EXECUTIVE SUMMARY

This report provides comments and recommendations by the Department of Market Monitoring (DMM) on three issues being presented to the ISO Board of Governors by Management at the February 10-11, 2010 meeting.

- **E-tagging Requirements.** DMM was extensively engaged in the development of the ISO's final proposal for new e-tagging requirements, and believes that the proposed rule modifications represent a reasonable trade-off between the reliability and cost of inter-tie transactions. Once implemented, the modifications should provide improved financial incentives for market participants to ensure that inter-tie transactions are appropriately backed by physical resources. In addition, DMM believes the proposed modifications will provide improved clarity of market rules and a level playing field for all participants in the market for both physical energy and virtual bidding.
- **Convergence Bidding Data Information Release Policy.** DMM supports the ISO's proposal to release the net cleared quantities of virtual bids on a nodal level on a daily basis at the close of the real-time market. In DMM's October Board memo, we recommended that the ISO pursue ways to make additional information on convergence bidding publicly available on an accelerated basis as a way of increasing the potential efficiency benefits of convergence bidding and further alleviating the concerns of load serving entities (LSEs) about convergence bidding at a nodal level. DMM believes the ISO's proposal strikes a reasonable balance between providing additional market information to ensure that convergence bidding enhances market efficiency, without disclosing commercially sensitive market data regarding individual participants' physical resources or individual participants' virtual bidding at a nodal level. DMM also notes that additional network data requested by a wide range of participants for ensuring a more efficient and competitive market under nodal convergence bidding are being provided under the ISO's transmission constraint information release proposal, as described below.

- **Transmission Constraints Information Release Policy.** We also support the ISO’s proposal to release a variety of additional data on modeling constraints and modifications on a daily basis and provide periodic reports on a monthly basis. Data to be released under the ISO’s proposal are comparable to data already released in other markets, where release of such data appear to have provided significant benefits in terms of more efficient market performance and transparency. A wide range of participants in the ISO’s market have indicated that release of such data will help them adjust or “self-manage” their scheduling and bidding more quickly and effectively in response to changes in system conditions and transmission constraints. As a result, the ISO’s proposal has virtually unanimous support from all types of stakeholders. Although some stakeholders are requesting additional information, the ISO’s proposal appears to provide the bulk of data that would be most useful to participants and which can be provided at this time on a routine basis given current resource limitations.

A more detailed discussion of each of these issues is provided below. The discussion is designed to provide DMM’s perspective and to supplement information provided in Management’s memos to the Board on each of these items.

E-TAGGING REQUIREMENTS

The ISO is proposing to modify several market rules applicable to import transactions that are scheduled in the day-ahead market that are subsequently “bought-back” by the participant in the hour-ahead scheduling process (HASP).¹ A detailed description of these modifications is provided in a separate memo from Management to the Board on this issue.² The following sections provide additional discussion of this issue that DMM believes is useful in understanding the merits of the ISO’s proposed modifications. DMM provided extensive input to the ISO’s final proposal, and believes that the proposed rule modifications represent a reasonable trade-off between the reliability and cost of inter-tie transactions. Moreover, the proposal should provide improved incentives for market participants to ensure that inter-tie transactions are appropriately backed by physical resources.

Background

The ISO market design allows for day-ahead inter-tie schedules to be modified in the HASP by a “re-clearing” of the entire market in HASP. Market participants with accepted day-ahead inter-tie transactions can either self-schedule these schedules in HASP, or re-bid them at the same or different prices than were initially submitted in the day-ahead market. If a bid for an interchange transaction that was originally scheduled in the day-ahead market does not clear in the HASP, the market participant “buys-back” the import at the HASP price (or “sells-back” an export at the HASP price). It is important to note that day-ahead import schedules that are re-bid in HASP may not clear HASP due to either a change in bid price or a change in market prices. For example, a participant’s day-ahead import schedule may not re-clear HASP if the participant

¹ The rules would also apply to export schedules that are “sold-back” in the HASP.

² Memo from Greg Cook, Re: Decision E-tag Timing Requirements Initiative.

increases the bid price above the price at which the HASP clears. However, even if a participant's HASP import bid is equal to or lower than their bid price in the day-ahead market, the import bid may not clear in the HASP if the HASP clears at a lower price than the day-ahead market. This illustrates how the HASP re-bidding process is designed to promote market efficiency by allowing participants and the ISO to re-optimize the interchange transactions given updated market bids and conditions. However, as discussed in management's memo on this issue, this flexibility also creates some potential concerns about reliability and the potential for participants to engage in "implicit virtual bidding" in the day-ahead market.

Market participants complete physical delivery of inter-tie transactions by submitting e-tags, which are used by the various control areas to validate inter-tie transactions and document the sources, sinks, and transmission path of inter-tie transactions. Consequently, submission of an e-tag is an important indication that a market participant has procured the energy and transmission to deliver an inter-tie schedule. Market participants currently submit e-tags for the majority of day-ahead inter-tie schedules by the time the ISO completes the day-ahead checkout with neighboring control areas at approximately 3 p.m. to 5 p.m. on the day before the operating day.³ However, market participants are not required to submit e-tags for day-ahead inter-tie schedules until as late as 20 minutes prior to the operating hour, which is the final e-tag submission deadline under North American Electricity Reliability Corporation (NERC) requirements. Based on discussions with market participants, there appear to be two general reasons why market participants wait until this final deadline to submit e-tags for some day-ahead inter-tie schedules:

- Some transmission in neighboring control areas does not become available until after the day-ahead checkout is completed. For example, some transmission routinely becomes available later in the evening on the day prior to the operating day.
- In some cases, market participants want to wait until after HASP schedules are available in order to only procure energy and transmission (or arrange a source for an export) for the amount of the final HASP inter-tie schedule. For example, if a market participant submitted a bid to the HASP to buy-back an import that was originally scheduled in the day-ahead market, the market participant might only procure energy and transmission to deliver the day-ahead import in the event the market participant was unsuccessful in buying-back the import in the HASP.

The concern with inter-tie schedules that are not e-tagged prior to the HASP is that market participants that have not yet procured energy and transmission by the time of the HASP may be unable to deliver day-ahead schedules, particularly during periods of very tight regional supply conditions when the ISO may be relying on scheduled imports to meet system demand. In this scenario, a participant may attempt to buy-back their imports in the HASP. However, if supply is tight, the participant's day-ahead import obligation may still clear the HASP, and the participant may be unable to deliver the scheduled energy.

³ As summarized by DMM in comments submitted as part of the e-tag stakeholder initiative a sample of hours indicated that on average 91 percent of net imports that are scheduled in the integrated forward market are tagged in the day-ahead timeframe, with a range of 81 to 97 percent in individual hours. <http://www.caiso.com/2480/2480e27c256a0.pdf>.

The issue of modifying e-tagging requirements has been raised on numerous occasions over the last few years. In this context, DMM has recommended that the ISO carefully consider any change to the timeline for submitting e-tags for day-ahead import schedules, taking into consideration the potential trade-offs between reliability and costs. On the one hand, submission of an e-tag provides an important indication that a market participant has procured physical resources to deliver an inter-tie schedule. On the other hand, imposing an earlier e-tag submission deadline could increase the cost and/or reduce the supply of imports that the ISO procures in the day-ahead market by decreasing market participants' flexibility to procure energy and transmission in neighboring control areas after the day-ahead market.

Proposed E-tagging Requirements

As noted in Management's memo on this issue, the key impetus for the ISO's initiative to modify e-tagging requirements was to ensure that when convergence bidding is implemented, it will not be more economic for participants to submit physical bids rather than virtual bids when the participant intends to liquidate a day-ahead schedule in the HASP and is not prepared to ultimately deliver this physical day-ahead schedule if needed.⁴

To address this issue, the ISO is proposing a settlement rule that will still allow market participants flexibility in the time they submit e-tags for inter-tie transactions, as long as the transactions are ultimately delivered. With this approach, the final e-tag deadline will remain at 20 minutes prior to the operating hour. However, if a schedule is not e-tagged prior to the HASP (i.e. about 2 hours prior to the operating hour), then any profits from a day-ahead import schedule that a market participant buys-back (or an export that the participant sell-back) in the HASP will be reversed. Thus, this proposal will effectively require market participants to submit e-tags for day-ahead intertie schedules prior to the HASP in order to profit from any schedules that are reversed in the HASP.

DMM believes that the final proposed market rules strike a reasonable balance between reliability and costs. In addition, when implemented in conjunction with convergence bidding, the proposed modifications will provide improved clarity of market rules and a level playing field for all participants in the market for both physical and virtual bidding.

CONVERGENCE BIDDING DATA RELEASE POLICY

ISO Proposal

As noted in DMM's October Board memo, during the convergence bidding stakeholder process the state's major load-serving entities (LSEs) identified several types of information that could alleviate some of their concerns about their ability to quickly and effectively adjust their convergence bidding to ensure better price convergence and "defend" against ways in which nodal convergence bidding could raise prices in constrained load pockets, such as if significant

⁴ DMM notes that the proposed revisions could provide similar reliability benefits prior to implementation of convergence bidding, but that the ISO has determined the proposed modifications cannot be implemented in 2010 without delaying other important market enhancements.

amounts of virtual demand bids undermined local market power mitigation (LMPM).⁵ Consequently, DMM recommended that the ISO pursue ways to make such information publicly available on an accelerated basis as a way of increasing the potential efficiency benefits of convergence bidding and further alleviating the LSEs remaining concerns about convergence bidding at a nodal level. However, since the specific data release option that may best meet this objective depends largely on how such data may be actually used by participants, DMM was particularly interested in hearing the views of stakeholders and the Market Surveillance Committee (MSC) on this issue.

Based on further stakeholder discussion of various options for releasing additional convergence bidding data, there appears to be a consensus among LSEs that releasing the net cleared quantities of virtual bids on a nodal level on a daily basis would significantly enhance their ability to quickly and effectively adjust their convergence bidding to ensure better price convergence and respond to ways in which convergence bidding could raise overall costs. The MSC also agrees that this information should increase competition in the convergence bidding market and improve price convergence by allowing LSEs and other participants to more quickly and accurately assess the cause of price divergences and respond in ways that result in more optimal price convergence on a day-to-day basis.

DMM continues to believe that more accelerated release of aggregated virtual bidding data (i.e. before the current 90 day period) may particularly help promote the level of competitively priced virtual supply needed to ensure that current LMPM procedures are not undermined by virtual demand bidding at a nodal level. The approach proposed by the ISO appears to provide information that could quickly identify areas in which additional nodal demand due to virtual bids could be driving up prices above levels that would otherwise result under LMPM procedures within transmission constrained load pockets. This information – along with the resulting LMPs – could help facilitate entry of more competitively priced virtual supply by LSEs or other traders, as illustrated in DMM’s November 2007 whitepaper.⁶

Stakeholders Opposing Proposal

Generation owners generally oppose the ISO’s proposal on the grounds that (1) virtual bids should be treated the same as physical bids (which are released with a 90-day lag without identification of specific nodes), (2) more accelerated release of virtual bids on a more nodal level could reveal hedging strategies of generators, and/or (3) the data released may reveal trading strategies of traders and thereby decrease the likelihood that they would participate in convergence bidding.

DMM believes there are some inherent differences in physical and virtual bids that may warrant different treatment of these bids in terms of the ISO’s information release policy. Physical supply bids can only be placed by entities that control the physical generation located at a node, and the volume of these bids is limited by the actual available capacity this generation. In

⁵ Memo to ISO Board of Governors, from Eric Hildebrandt, Interim Director, Market Monitoring, October 21, 2009, re: Market Monitoring Report, p. 8, <http://www.caiso.com/244f/244f99f1605d0.pdf> (October Board Memo).

⁶ *Convergence Bidding: DMM Recommendations, Attachment A: Examples of Convergence Bidding and Local Market Power Mitigation*, November 2007 <http://www.caiso.com/1c8f/1c8ff4236e8e0.pdf>

addition, the amount of potential capacity at any node is essentially fixed over the short term. This creates concern that release of physical bidding data at a nodal level would reveal commercially or market sensitive information of individual entities controlling generation resources. However, virtual supply and demand bids can be placed by any virtually entity at any node. Assuming that there is indeed a deep and liquid market for convergence bids at a nodal level (as generators and traders have argued will occur), it should not be possible to infer any knowledge of individual participants' virtual bidding based on the aggregated net virtual bid data that would be provided under the ISO's proposal. Thus, while release of such aggregate data may facilitate competition among different entities, it would not appear to reveal hedging or trading strategies of any specific participant.

Although other ISO's have apparently adopted the approach of releasing virtual bidding data with a time lag similar to physical bids, DMM notes that the LMPM mechanism used by other ISO's do not appear to have the same potential limitations as the approach that will be incorporated in the ISO's initial design.⁷ Thus, as noted above, DMM views the more accelerated release of aggregated convergence bidding data as a way to mitigate concerns about the manner in which virtual demand bids at a nodal level could undermine LMPM procedures in the absence of a sufficiently deep and competitive supply of virtual supply bids at a nodal level.

TRANSMISSION CONSTRAINTS INFORMATION RELEASE POLICY

DMM also supports the ISO's proposal to release a variety of additional data on modeling constraints and modifications on a daily basis and provide periodic reports on a monthly basis. DMM notes that much of the data to be released under this proposal was identified by numerous participants as being useful for ensuring a more efficient and competitive market under nodal convergence bidding. Thus, release of this data should further help LSEs and other participants to quickly and effectively adjust their convergence bidding to ensure better price convergence.

More generally, a wide range of participants in the ISO's market have indicated that release of such data will help them adjust or "self-manage" their scheduling and bidding more quickly and effectively in response to changes in system conditions and transmission constraints. Given the extremely high level of generation and imports that continued to be "self-scheduled" in the ISO's new market, the proposal provides a major benefit by providing increased transparency of transmission constraints and periodic modeling modifications made in the ISO market.

Data being released under the ISO proposal are comparable to data already released in other markets, where release of such data appear to have provided significant benefits in terms of more efficient market performance and transparency. DMM believes that the ISO's current market rules, market power mitigation provisions and level of competition among participants are sufficient to mitigate any concern that such information may be used to "game" or manipulate market outcomes.

The potential efficiency benefits of the ISO's proposal is reflected in the fact that it has virtually unanimous support from all types of stakeholders, including generation unit owners, LSEs, importers/exporters, and participants in the ISO financial markets for congestion revenue rights

⁷ The ISO has indicated it will further examine a modification to LMPM procedures proposed by DMM that would address the potential for virtual demand bids to raise prices under the ISO's current LMPM procedures. However, the ISO has determined that this approach could not be implemented in conjunction with virtual bidding in February 2011.

and convergence bidding. Although some stakeholders are requesting release of additional information, the ISO's proposal appears to provide the bulk of data that would be most useful to participants and which can be provided at this time on a routine basis given the range of other important market enhancements being pursued by the ISO at this time.