

# Memorandum

**To:** ISO Board of Governors

**From:** Greg Cook, Manager, Market Design and Regulatory Policy  
Anjali Sheffrin, Chief Economist / Director of Market and Product Development

**Date:** May 13, 2008

**Re:** *Decision on Dropping the DEC Bidding Rule*

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*This memorandum requires Board action.*

## EXECUTIVE SUMMARY

CAISO Management is recommending eliminating a bidding rule that was originally included in the MRTU Tariff to protect against a potential gaming opportunity. Questions concerning the actual efficacy of the rule combined with the recognition of potential unintended ramifications of the rule have led Management to conclude that retaining the rule would result in more potential harm than benefit and should be eliminated prior to MRTU start-up.

The "DEC Bidding Rule" as currently specified in the MRTU Tariff prohibits a Scheduling Coordinator from submitting offers to reduce generation output (decremental or DEC Energy Bids) in the Real-Time Market at offer prices lower than the cleared offer prices that they had previously submitted in the Day-Ahead Market. The rule was included in the MRTU Tariff filed in February 2006 for the purpose of preventing gaming opportunities that might arise if transmission outages or derates occurred that rendered an accepted Day-Ahead Schedule infeasible between the close of the Day-Ahead Market and the close of the Real-Time Market.

As part of its overall review of the MRTU design in 2005, the consulting firm LECG first questioned the effectiveness of the rule. Although the CAISO recognized at that time that changing the rule would result in increased market efficiencies, Management did not believe that enacting this change was absolutely necessary for operational reliability under MRTU. Upon further stakeholder input as part of a stakeholder process, the CAISO has recognized the market benefits for eliminating the rule and concluded that the rule can be disabled without requiring any additional software changes on the part of the CAISO or Market Participants. Thus, Management recommends eliminating the DEC Bidding Rule in time for MRTU start-up. Management will continue the stakeholder process to considering what other changes for Real-Time Energy bid offers might be appropriate, but are not feasible for implementation as part of MRTU start-up. Any additional modifications could be included as part of the Markets and Performance (MAP) software release that is scheduled to be implemented within a year after MRTU start-up.

## **MOTION**

***Moved, that the ISO Board of Governors approves the policy to drop the DEC Bidding Rule by MRTU start-up as outlined in the memorandum dated May 13, 2008, and related attachments; and***

***That the ISO Board of Governors authorizes Management to make all the necessary and appropriate tariff filings with the Federal Energy Regulatory Commission to implement this policy.***

## **BACKGROUND**

The DEC Bidding Rule currently prohibits a Scheduling Coordinator from submitting Energy Bids in the HASP or Real-Time Markets that are lower than any cleared Bid price submitted by that Scheduling Coordinator in the Day Ahead Market. This rule does not apply to Ancillary Service or Residual Unit Commitment Bids that cleared the Day-Ahead Market or Bids that did not clear the Day-Ahead Market.

The Real Time DEC bidding rule was put in place early in the MRTU policy process to prevent a limited version of what has been referred to as the “DEC game” in the CAISO’s current market design. The DEC game occurs when a scheduling coordinator strategically submits an infeasible energy schedule (schedule that exceeds known transmission constraints) in the Day-Ahead Market knowing that the CAISO will be forced to dispatch their Real-Time decremental energy bids to manage transmission constraints created by their Day-Ahead schedule. The DEC game enables a Scheduling Coordinator to exercise market power by submitting very low (negative) decremental energy bids that when dispatched by the CAISO would result in excessive profits. Successfully playing the “DEC game” allows these Scheduling Coordinators to be paid for their day-ahead schedule and then be further compensated by the CAISO, in the case of a negative real-time decremental energy bid, to reduce their generation output in real-time.

Infeasible day-ahead energy schedules were a major consideration in the development of the MRTU market design following the 2000-2001 electricity crisis. MRTU’s nodal market design structure incorporates a full network model to ensure that schedules resulting from the day-ahead market run are feasible. While the creation of the full network model and the Day-Ahead Market process under MRTU largely mitigate the threat of the “DEC game,” the currently established rule prevents similar gaming opportunities in those infrequent situations where a transmission outage occurs after the Day-Ahead Market but before the Real-Time Market closes.

In its 2005 report “Comments on the California ISO MRTU LMP Market Design,” the consulting firm LECG pointed out unintended consequences that could result from this particular rule. LECG warned the rule could discourage Scheduling Coordinators from submitting DEC bids, and a dearth of DEC bids in the Real-Time Market could require the CAISO to resort to uneconomic adjustments of schedules in Real-Time.<sup>1</sup> Thus, to the extent there are insufficient economic DEC bids in the Real-Time Market, the CAISO would be adjusting resources that were scheduled in the Day-Ahead Market uneconomically by paying entities a default Real-Time offer price of -\$30/MWh, which is the bid cap for decremental bids.

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<sup>1</sup> Day-Ahead schedules are assigned a level “x” priority to minimize the possibility they may be economically selected in Real-Time. This lower bound “penalty price” is (-\$30)/MWh. Thus, uneconomic adjustments are dispatched according to the priorities established in Section 34.10.2 of the MRTU Tariff and settled at this (-\$30)/MWh price.

Although, the CAISO recognized that some change to the DEC Bidding Rule would be beneficial for market efficiencies, it did not believe, initially, that such change was absolutely necessary for MRTU startup. There are no significant operational problems due to this rule potentially leading to insufficient DEC bids in Real-Time because the Real-Time optimization will automatically determine an optimal dispatch, even if non-economic adjustments are necessary. Thus, this market enhancement was deferred beyond the MRTU startup, identified on the CAISO's Market Initiatives Roadmap and recently prioritized as a component for MAP.

In addition, to LECG's concerns, there are other reasons for relaxing this DEC Bidding Rule. First, relaxing the prohibition on DEC bids below those bids that cleared in the Day-Ahead Market would increase the likelihood for a sufficient amount of DEC Bids at prices higher than the \$-30 that would otherwise apply, thereby enhancing the efficiency of the Real-Time Market. A DEC market with ample moderate DEC bids could be even more important when convergence bidding is implemented because generating units are more likely to be decremented in Real-Time to account for virtual load that clears in the Day-Ahead Market, which would then be subsequently liquidated in the Real-Time Market. Second, relaxing the DEC bidding rule would also provide increased flexibility for market participants. Market participants would be able to adjust their resources in light of changing plant conditions after the close of the Day-Ahead market, or to alter the mix of MWs they offer for sale in the Real-Time markets. For example, the Scheduling Coordinator who offered 250 MW that cleared the Day-Ahead Market at \$50 may, for its own business or maintenance reasons, seek to re-bid only 100MW of energy at \$45 as well as 150MW for A/S in the Real-Time market. The current DEC Bidding Rule would prevent such flexibility. Modifying this rule could give added flexibility for generation to re-bid in response to changing conditions for its resources.

## **OPTIONS TO SOLVE PROBLEM OR DEAL WITH THE ISSUE**

Given the limited time before MRTU start-up, the options for addressing this issue in time for MRTU were significantly limited to minimize any impact on the MRTU implementation schedule. The options considered included either leaving the DEC bidding rule in place or eliminating it. Potential market design enhancements related to DEC bids are being addressed in the MAP policy development process.

## **ATTRIBUTES FOR COMPARING OPTIONS**

In considering the options, the CAISO sought input on whether the DEC bidding rule as originally proposed would 1) result in the desired protection from "DEC game" like market participant behavior and 2) whether it was likely to reduce the liquidity of the Real-Time decremental energy market.

## **PROS AND CONS OF ELIMINATING THE DEC BIDDING RULE**

Through the stakeholder process, it became clear that stakeholders along with the Market Surveillance Committee (MSC) agreed that the original rule as filed as part of the MRTU tariff does not serve, and actually undermines the intended purpose of eliminating the DEC game, since cleared Day-Ahead Schedules turn into "self-schedules" in the Real-Time Market with a \$-30 price. By removing the bidding rule, Scheduling Coordinators would have the opportunity to re bid cleared amounts at a price higher than \$-30. Elimination of the DEC bidding rule does not, however, eliminate the potential for DEC game like behavior in instances where transmission derates that occur after the close of the Day-Ahead Market result in infeasible Day-Ahead Market Schedules. The CAISO will closely monitor for this type of behavior under the MRTU market structure and continue to work with stakeholders to identify potential solutions within the MAP timeframe (one year after MRTU implementation).

## **POSITIONS OF THE PARTIES**

Stakeholders provided unanimous support for switching off this DEC Bidding Rule among all the entities who submitted written comments. Please see Attachment A for a summary of stakeholder comments.

## **MANAGEMENT RECOMMENDATION**

Management recommends that the Board of Governors approve eliminating the DEC bidding rule as described in the memorandum and authorize Management to file the conforming tariff provisions.

## **DMM / MSC FEEDBACK**

The CAISO's Department of Market Monitoring supports switching off this DEC Bidding Rule upon MRTU start-up.<sup>2</sup> The MSC supports Management's proposal. Please see Attachment B for the MSC opinion.

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<sup>2</sup> "See Memo from Keith Casey to CAISO Board, re: *Market Monitoring Report*, dated May 13, 2008".