

# Memorandum

**To:** ISO Board of Governors  
**From:** Keith Casey, Director, Market Monitoring  
**CC:** ISO Officers  
**Date:** March 1, 2007  
**Re:** Market Monitoring Report

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

This month's Market Monitoring Report provides a brief overview and update on two key initiatives that DMM is currently engaged in: 1) preparation of the 2006 Annual Report on Market Issues and Performance and 2) MRTU Market Monitoring Readiness.

## 1. Preparation of 2006 Annual Report on Market Issues and Performance

Each year the Department of Market Monitoring publishes an annual report on the performance of the CAISO markets. The report provides a comprehensive analysis of key market events and identifies and assesses significant market trends relative to performance in prior years. The 2006 report will be completed in early April and in addition to providing a comprehensive review of the market, the 2006 report will also include an in-depth assessment of the July 2006 heat wave and an assessment of the 2006 Resource Adequacy Program.

As part of the process of preparing the annual report, DMM requested stakeholder input on particular topics or issues that they would like to see addressed in the annual report. DMM received a number of comments and requests that are summarized in Attachment A. To the extent practical and appropriate, DMM will try to address these comments in the final report.

DMM also welcomes input from CAISO Board members on any particular issues they would like to see addressed in the report. An electronic copy of the 2005 Annual Report on Market Issues and Performance can be found at <http://www.caiso.com/17d5/17d58bdd1270.html>.

## 2. MRTU Market Monitoring Readiness

DMM has and continues to be engaged in a number of initiatives relating to MRTU Readiness. A brief overview of each of these activities is provided below.

### *MRTU Market Monitoring System*

Ensuring that adequate data and systems are in place to support market monitoring under MRTU continues to be a top priority for DMM. Over the past year and a half, DMM has worked extensively with the MRTU Project Team in identifying and scoping its business requirements for market monitoring under MRTU. However, delays in the MRTU implementation

schedule along with MRTU resources being diverted to other aspects of the project has impeded the development of a market monitoring system. DMM is working very closely with the MRTU Project Team and the IT Division to remedy this and make sure there is an effective implementation strategy in 2007 for addressing the critically needed market monitoring capabilities under MRTU. The development of an adequate market monitoring system under MRTU has been added as an element of the MRTU Readiness Criteria (see Org-3 of the MRTU Readiness Dashboard <http://www.caiso.com/1b77/1b777cfe20370.pdf>). In addition, the CAISO has identified adequate market monitoring capabilities under MRTU as an important risk mitigation strategy for quickly identifying and correcting any potential design deficiencies in MRTU after implementation. Thus, CAISO Management and the MRTU Project Team are aware and understand the importance of addressing the market monitoring requirements under MRTU. DMM will plan to periodically update the Board as efforts proceed to address these requirements.

### ***MRTU Release 1 Studies***

DMM was tasked with two major studies to support MRTU implementation: 1) a study to identify the competitiveness of the market in providing congestion relief on particular transmission paths (Competitive Path Assessment) and 2) a study on the effectiveness of the local market power mitigation procedures under MRTU.

The results of the first study, the Competitive Path Assessment, will be a critical input into the MRTU market systems as it will determine designations of particular transmission paths as “competitive” or “non-competitive” for purposes of running the MRTU market power mitigation procedures. DMM plans to release a draft version of this study to stakeholders this spring, with periodic updates in subsequent months prior to MRTU implementation.

The second study has been completed and the study results and findings were presented to the CAISO Market Surveillance Committee on November 13, 2006. The focus of this study was to examine a particular concern identified by LECG Consulting in their comprehensive review of the MRTU conceptual design. The concern related to a potential deficiency in the proposed local market power mitigation procedures that under certain market conditions would undermine the effectiveness of that mitigation. The DMM study explored the potential for this issue given the particular features (generation ownership, transmission bottlenecks) of the California market and concluded that there was limited potential for the bidding strategy identified by LECG to be effective. The presentation provided to the CAISO Market Surveillance Committee can be found at (<http://www.caiso.com/18a8/18a8e84327380.pdf>)

Results of DMM's analysis found that under the assumption that most generating unit owners elect the cost-based option for determining their Default Energy Bid (DEBs) when dispatched for local reliability, the potential for the specific concern identified by LECG may be relatively limited given the supply and demand conditions in the three major load pockets in the CAISO system (San Diego, Los Angeles Basin and Bay Area). However, the report notes that DEBs for some units may be significantly higher under another option for setting DEBs, under which DEBs for each unit are set by Locational Marginal Prices during previous hours when the unit was in operation. Thus, DMM plans on closely monitoring actual bidding pattern and DEBs once MRTU is in effect in order to quickly assess the actual effectiveness of market power mitigation measures and to be prepared to propose any needed changes.

### ***Continued Analysis and Refinement of Market Rules***

Based on further analysis of MRTU local market power mitigation rules, DMM staff has identified three potential modifications that could provide additional assurance of the effectiveness of these market rules:

- *Upper limits for start-up cost bids.* Current MRTU rules allow generators to have start-up bids based on either cost-based calculations or a fixed bid price submitted for a six month period. The CAISO initially felt that excessively high bids submitted under the bid-based option would be deterred by the fact that such bids would be fixed for a six month period. However, upon further consideration, DMM is considering whether some limit should be established for start-

up cost bids. Without any such limit, generators may be able to exercise local market power through excessively high bids when one or more of their units are needed for local reliability.

- *Upper limits for minimum load cost bids.* Current MRTU rules also allow generators to select between either a cost-based or bid-based option for establishing minimum load bids based on either cost-based calculations or a fixed bid price submitted for a six month period. As with start-up costs, the CAISO initially felt that excessively high minimum load bids would be deterred by the fact that such bids would be fixed for a six month period, but is now considering whether some limit should be established for minimum load bids to protect from the exercise of local market power.
- *Incremental heat rates used to calculate cost-based energy bids used in local market power mitigation.* DMM is also considering some refinements to the way in which heat rates are used to calculate the DEB for each unit under the cost-based option for energy bid price mitigation. The refinements are designed to avoid excessively high incremental heat rates that can result due to a combination of (a) relatively small changes in the operating efficiency of generating units at lower levels of output, and (b) the adjustment that is applied to each unit's incremental heat rate to ensure that DEBs do not decrease at increased levels of output. Under the standard methodology for calculating incremental heat rates based on operational heat rates submitted by generators, these two factors can cause heat rates used to calculate cost-based DEBs to significantly exceed a unit's actual marginal cost for a significant portion of its operating capacity.

DMM has developed a range of options to address each of these issues, and has initiated discussions of these and other options with the MSC and stakeholders.

### ***DMM Market Test Environment***

An important tool for assessing market performance under MRTU is the DMM Market Test Environment, which is an off-line version of the actual MRTU market software. This test environment will allow DMM to conduct "what if" scenarios with regard to individual participant bidding behavior and market constraints (e.g., transmission, ancillary service requirements, etc.).

Currently, the DMM Market Test Environment is being used by the MRTU Project Team for testing the market software. Over the next several months, DMM will be assisting the MRTU team in the testing effort, which will enable DMM to gain familiarity with operating the software. The test environment will be transitioned to DMM later this summer.

### ***Enforcement Protocols***

Under its new role in administering the CAISO Enforcement Protocols, DMM has established an extensive enforcement program that is supported by several business processes involving other CAISO departments and data systems. To ensure a seamless transition of these processes under MRTU, DMM is working closely with the relevant departments in developing a transition plan for the enforcement procedures.