

7. Market Surveillance Committee

7.1 Market Surveillance Committee

Historically, the Market Surveillance Committee (MSC or Committee) has served as an impartial voice on market issues primarily for the CAISO as well as for state policymakers, the FERC and the media. CAISO management and the FERC have adopted a number of Committee recommendations since its inception. The MSC has been recognized consistently by the industry and the public as successful, due in large part to the stature of its members as nationally recognized experts as well as their perceived independence. Both characteristics have led to the MSC being shown considerable deference by state and federal regulators.

7.1.1 The Current Members

In 2004, the Committee had the following members: Frank Wolak of Stanford University, Benjamin Hobbs of Johns Hopkins University, Jim Bushnell of University of California Energy Institute at Berkeley and Brad Barber of University of California, Davis Graduate School of Management. Frank Wolak of Stanford University served as the chairman of the Committee.¹ The following is a brief description of each member's background.

Dr. Frank A. Wolak, the chairman of the MSC since its inception in 1998, is a Professor of Economics at Stanford University. His fields of research are industrial organization, regulatory economics, econometric theory, and health economics. He specializes in the study of methods for introducing competition into infrastructure industries – telecommunications, electricity, water delivery and postal delivery services – and on assessing the impacts of these competition policies on consumer and producer welfare. Dr. Wolak is a visiting scholar at University of California Energy Institute and a Research Associate of the National Bureau of Economic Research (NBER).

Dr. Benjamin F. Hobbs, a member of the MSC since 2002, is a Professor of Geography and Environmental Engineering and Chairman of the Department of Geography and Environmental Engineering at the Johns Hopkins University, Baltimore, Maryland with a joint appointment in the JHU Department of Mathematical Sciences. Dr. Hobbs has published widely on environmental and water resources systems and on electric power market economics, regulation, and systems analysis. This area of expertise includes use of engineering economic models to simulate imperfectly competitive energy markets, and decision analysis of alternatives under uncertainty and multiple objectives. He teaches courses on microeconomics, decision analysis, and optimization, with emphases on environmental and power sector applications. He also serves as Scientific Advisor to the ECN Policy Studies Unit and on the Public Interest Advisory Committee of the Gas Technology Institute. Dr. Hobbs is on the editorial boards of the ASCE Journal of Infrastructure Systems; Energy, The International Journal; and The Electricity Journal. He is also Area Editor for Energy, Natural Resources, and the Environment for Operations Research. He is a Senior Member of IEEE and Member of ASCE.

¹ More information available at <http://www.caiso.com/surveillance/overview/Committee.html#Members>

Dr. James Bushnell, a member of the MSC since 2002, serves as the Director of the California Energy Institute at Berkeley. He also serves as Lecturer at the Haas School of Business, Berkeley on Policies and Strategies in the Energy Markets. He is a former member of the Market Monitoring Committee of the California Power Exchange (CALPX). His research interests include game theoretic optimization models, industrial organization and regulatory economics, energy policy, and environmental economics. He has published numerous articles on the economics of electricity deregulation and has testified extensively on energy policy issues. Much of his research has focused on examining the market incentives in particular; market rules and structures created and in developing empirical methods for measuring the impact of market power on deregulated electricity markets.

Dr. Brad M. Barber, a member of the MSC since 2002, is a Professor of Finance at the UC Davis Graduate School of Management. His recent research focuses on analyst recommendations and investor psychology. He is a regular speaker at academic and practitioner conferences. He currently also serves on the Investment Advisory Committee for Mercer Global Advisors.

7.1.2 Accomplishments

During 2004, the MSC completed a significant amount of work in the areas of market design, market participant behavior, and market performance. Some of the accomplishments of the current four-member MSC are listed below:

- Issued seven opinions on pertinent MD02/MRTU issues filed with FERC, such as locational marginal pricing, alternatives to LMP, and market power mitigation;
- Produced several white papers that provided technical advice for MD02/MRTU policy decisions;
- Reviewed and commented upon a number of different transmission studies undertaken by the CAISO and participated in the stakeholder process;
- Provided expert advice to CAISO management on potential behavior harmful to system reliability and efficiency in the market design and made suggestions to improve CAISO protocols to reduce incentives or loopholes that may cause behavior harmful to system reliability and market efficiency and/or manipulation of the market;
- Attended numerous FERC technical conferences on market monitoring techniques, MD02/MRTU design issues, and market power mitigation mechanisms. They contributed significantly to the discussions with the stakeholders, provided technical support in resolving pending issues, and suggested changes to the Real Time Market Application (RTMA), formerly known as MD02 Phase 1B;
- Visited FERC and state legislators on behalf of CAISO to discuss several MD02/MRTU issues; and
- Continued to provide expert advice to the CAISO's DMA in the development of tools used to assess the benefits of transmission expansion, the design of market power mitigation measures, and the development of economic indices for market monitoring.

7.1.3 MSC Opinions

The following is a list of opinions provided by the Committee during 2004 that were filed at FERC and with other regulators.²

1. *FERC proposals for “Cost recovery of transmission upgrades necessitated by the interconnection of new large generation facilities.”* January 7, 2004

In this opinion, the Committee commented on the FERC proposals for cost recovery of transmission upgrades necessitated by the interconnection of new large (greater than 20 MW) generation facilities. They concluded that the refunding mechanisms could create perverse incentives for site choices by new generation units and could introduce market inefficiencies and increase the market prices. They recommended that these refund mechanisms should only be a stopgap measure for ensuring sufficient transmission capacity to serve demand reliably. Therefore, they urged the CAISO to use a conservative definition of what constitutes a necessary upgrade for a new generation unit to interconnect. Over the longer term, they recommended that the CAISO move away as quickly as practicable from an approach that uses new generation entry decisions as a primary driver of transmission upgrades.

2. *Managing Congestion Costs in the Miguel-Imperial Valley Region.*

January 13, 2004

In this opinion, the Committee discusses the CAISO’s process for managing transmission congestion in the southeastern corner of the state (the Miguel-Imperial Valley Region). The Committee identified the reasons for the situation as the result of the confluence of several factors:

- i. A physical congestion bottleneck;
- ii. The entry of new generation units along the southern boundary of the CAISO control area with no accompanying increase in transmission capacity to deliver the energy produced by these units to southern California load centers;
- iii. State of California long-term contracts that give these producers little or no incentive to submit feasible schedules in the forward market; and
- iv. An ineffective local market power mitigation mechanism.

They acknowledged the CAISO operators’ difficulty in managing this congestion through a process of accepting a substantial quantity of decremental energy (DEC) bids in real-time that significantly de-grades grid reliability.

The committee recommended many methods of addressing these issues for resolution. They specifically highlighted the need for two further changes that would help to reduce the costs of intra-zonal congestion in the future:

- i. Modifying the CAISO’s current local market power mitigation mechanism under the three-zone market design; and
- ii. Clarifying what constitutes delivering energy under long-term contracts settled by the CAISO.

² These opinions are available at <http://www.caiso.com/docs/2000/09/14/200009141610025714.html>.

3. *CAISO's Proposal of "Defining 'Workable Competition' with Respect to the Creation of New Zones."* Feb 19, 2004

The CAISO tariff calls for the board of governors to adopt criteria for assessing whether existing or proposed congestion zones are "workably competitive." The DMA prepared a white paper that proposes specific criteria for making this assessment. In this opinion, the Committee generally supported the ten criteria given in the January 29, 2004 DMA document entitled "Proposed Criteria for Defining 'Workable Competition' with Respect to the Creation of New Zones." However, they wanted the CAISO to specifically address, in deciding whether to create a new zone, not whether it is workably competitive but whether its creation will increase the overall efficiency of California's energy and ancillary services markets. In particular, they believe that a new zone should be created only if it is expected to improve overall market efficiency. In addition, they also described their major concerns with the DMA's proposed criteria. In particular, their concerns included considering a radial network in the creation of new zones, as proposed by the CAISO. The Committee urged the CAISO to consider a looped network as well in the analysis. They also described situations in which the creation of a new zone can increase or decrease market efficiency, and proposed recommendations to alleviate the inefficiencies.

4. *CAISO's Transmission Expansion Assessment Methodology (TEAM)*

June 1, 2004

In this opinion, the Committee commented on the CAISO's TEAM. They specifically commented that the CAISO has made significant progress on this very important and challenging task, though there are a number of directions for refinement of the current version of the methodology.

5. *The CAISO proposal of "Honoring existing transmission contracts (ETCs) under its Market Re-design and Technology Upgrade (MRTU)."* November 16, 2004

In this opinion, the committee commented on the CAISO's proposed approach to honoring existing transmission contracts under its Market Redesign and Technology Upgrade and assess the market efficiency implications of this market rule. They discussed the rationale for this treatment of ETCs and the important features of the CAISO's proposed approach. They also discussed whether the CAISO's proposed approach actually fully honors the ETC holders' contractual rights. The opinion closes with a description of possible complications that could arise when the CAISO implements this change in treatment of ETCs.

6. *CAISO proposal of "Alternatives to Implementing a Locational Marginal Pricing Market."* November 16, 2004

In the past two years, the committee has fully endorsed and supported the CAISO's proposal of a full nodal pricing system, the LMP market. However, the Committee acknowledged that the seller's choice long-term contracts (SCC) signed by the California Department of Water Resources had the potential to create significant liability for California consumers under LMP, and understood that there were policy issues related to having an alternate to address the SCC. The CAISO staff prepared a white paper on the alternatives, titled, "Transitional Alternative Pricing and Settlement (TAPAS)." The Committee considered three alternatives to an LMP market design and ultimately concluded that they prefer them in the following order:

- i. The current market design with more RMR units and an improved pre-dispatch process,
 - ii. TAPAS without constrained down payments, and
 - iii. TAPAS with constrained down payments.
7. *CAISO proposal of “Local and system-wide market power mitigation mechanisms under Locational Marginal Pricing (LMP).” November 23, 2004*

In this opinion, the Committee commented on the CAISO’s proposed local and system-wide market power mitigation mechanisms under the locational marginal pricing design. They emphasized that an effective local market power mitigation (LMPM) mechanism is essential for the realization of any net benefits from adopting a wholesale market with LMP for California consumers, even if the seller’s choice long-term contracts issue is successfully resolved. They also foresaw that the lack of an effective LMPM mechanism that applies to all generation units in California is a major shortcoming of the current market design. They recommended a comprehensive package of market power mitigation mechanisms specifically designed to balance the competing goals of protecting consumers from the harmful exercise of unilateral market power and limiting the inefficiencies associated with intervening with market mechanisms. They believe this is the most crucial component of the MRTU process.

In addition to these opinions, the committee members individually and collectively produced many white papers to support the CAISO’s MRTU efforts. They also contributed significantly to the technical transmission studies and methodology development that the CAISO conducted during the year 2004.

7.1.4 MSC Meetings

During the year, the MSC conducted several bi-monthly meetings at the CAISO offices in Folsom. Generally, the committee discussed current market issues and market design issues. The meetings provided a forum for stakeholders to take part in discussions with the MSC and allowed the MSC to understand the opinions and concerns of the stakeholders.

7.1.5 Other MSC Activities

In addition to providing opinions and participating in discussions at its bi-monthly meetings, the MSC was very active in supporting the CAISO in its cause at Capitol Hill and with other regulators during the year. The MSC chairman, Frank Wolak, and Jim Bushnell attended meetings with the Electricity Oversight Board (EOB), and the legislative staff of senators to discuss various market design issues. They also collectively and individually attended several CAISO and FERC stakeholder meetings on MRTU market design and the transmission methodology and studies.