

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 useful and effective, 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 2005, the Committee was comprised of the following members: Frank Wolak of Stanford University, Benjamin Hobbs of Johns Hopkins University, James Bushnell of University of California Energy Institute at Berkeley and Brad Barber of University of California, Davis Graduate School of Management. Frank Wolak 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, energy economics and econometric theory. 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 at the Johns Hopkins University with a joint appointment in the JHU Department of Applied Mathematics and Statistics. 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 under uncertainty and multiple objectives. He also serves as Scientific Advisor to the Policy Studies Unit of the Netherlands Energy Research Centre (ECN) 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; The Electricity Journal; and the IEEE Transactions on Power Systems. He is a Senior Member of IEEE and Member of ASCE.

Dr. James Bushnell, a member of the MSC since 2002, serves as the Research Director of the California Energy Institute at Berkeley. He also serves as Lecturer at the Haas School of Business, UC 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

¹ More information available at <http://www.caiso.com/docs/2005/10/04/200510041131538087.html>

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.

7.1.2 Accomplishments

During 2005, 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 MSC are listed below:

- Issued six opinions on pertinent issues such as the economic analysis of the Palo Verde-Devers Line Number 2 transmission network upgrade, the California ISO's Market Redesign and Technology Upgrade (MRTU) conceptual filing, and raising the level of the bid cap on the real-time energy market in California;
- Produced several white papers that provided technical advice for 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, MRTU design issues, and market power mitigation mechanisms. They contributed significantly to the discussions with the stakeholders, and provided technical support in resolving pending issues;
- Visited FERC and state legislators on behalf of CAISO to discuss several MRTU issues; and
- Continued to provide expert advice to the CAISO's DMM 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

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

1. *Assessment of An Economic Analysis of the Palo Verde-Devers Line Number 2 (PVD2) Transmission Network Upgrade - February 22, 2005*

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

In this opinion, the Committee discussed the CAISO's economic analysis of the Palo Verde-Devers Line No. 2 Transmission Network Upgrade. The Committee determined that the Market Analysis and Grid Planning Departments undertook, for the most part, a conservative economic analysis of the expected benefits of this proposed upgrade. The Committee indicated that the CAISO's modeling results implied a wide range of plausible scenarios for future system conditions that yield significant net benefits to California ISO ratepayers from the upgrade. Throughout the opinion, the Committee summarized the reasons why they believe that application of the TEAM methodology provides credible, yet conservative, estimates of the expected benefits of the PVD2 upgrade to California ISO ratepayers and they concluded by recommending that the CAISO Board approve the PVD2 transmission expansion.

2. Opinion on the California ISO's Market Redesign and Technology Upgrade (MRTU) Conceptual Filing - April 26, 2005

In this opinion, the Committee commented on the CAISO's conceptual filing to the Federal Energy Regulatory Commission (FERC) on the Market Redesign and Technology Upgrade (MRTU). There were three main elements of the filing.

(1) The method used to translate Load Aggregation Point (LAP) demand bids into nodal prices in the day-ahead market.

- On this element, the Committee recommended that the CAISO explore adding more LAPs and eventually work toward implementing nodal-bidding and pricing of load and address the issue of higher locational prices to some LSEs through the CRR allocation process.

(2) The structure of the Hour-Ahead Scheduling Process (HASP).

- On this element, the Committee believed that it may be more cost-effective for the CAISO to formulate a long-term solution to the pre-dispatch of inter-tie bids before committing to a design for the HASP.

(3) The policies and mechanisms for managing system-wide and local market power in the CAISO's short-term energy, ancillary services, and residual unit commitment (RUC) markets.

- On this element, the Committee indicated that in order to be effective, an LMPM mechanism must be integrated with the design of the energy and ancillary services market. Although the Committee had a few reservations with some portions of the proposed LMPM mechanism, they believed overall that that proposed mechanism, integrated with the overall energy market design, constituted a major step forward for the California market. For this reason, they strongly advocated that FERC adopt this comprehensive package rather than pick and choose aspects of the proposed market design combined with features from other US ISOs.

3. Addendum to the Opinion on the California ISO's Market Redesign and Technology Upgrade (MRTU) Conceptual Filing - May 6, 2005

In this addendum, the Committee clarified portions of the previous opinion that led to additional questions from stakeholders; specifically, they provided additional commentary regarding managing market power in wholesale electricity markets, and elaborated on features of an effective LMPM mechanism.

4. Medium-Term Solution to Clearing Inter-tie Bids in the Real-Time Energy Market - June 24, 2005

In this opinion, the Committee was asked to provide a recommendation for a medium term solution for settling inter-tie bids under the Real-Time Market Application (RTMA) market design until the Market Redesign and Technology Upgrade (MRTU) is implemented in February of 2007. The Committee strongly supported the current pay-as-bid mechanism as the preferred medium term solution until the MRTU is implemented. They also emphasized that this does not imply that they support a pay-as-bid mechanism for settling inter-ties under MRTU. In fact, a major factor in their preference for maintaining the pay-as-bid mechanism until MRTU is implemented has to do with any medium term solution only being in place for a short period of time, which implies the need to balance the relative expense of any proposed solution against the relative benefits of that solution over the period of time the solution will be in place.

5. Raising the Level of the Bid Cap on the Real-Time Energy Market in California – November 9, 2005

The CAISO management asked the Committee whether recent trends in natural gas prices justified raising the level of the bid cap on the real-time energy market in California. The MSC stated that the new level of the bid cap should be high enough to make it very unlikely that the CAISO will need to increase the cap again before the locational marginal pricing (LMP) market is scheduled to be implemented. If the current \$250/MWh bid cap was appropriate for the natural gas prices that prevailed during 1998 and 1999, the bid cap should be increased to at least \$400/MWh, considering the likely trajectory of natural gas prices in the winter of 2005.

6. Opinion on Aspects of the California ISO's Market Redesign and Technology Upgrade (MRTU) Conceptual Filing - September 30, 2005

In this opinion, the Committee comments on a number of aspects of the California ISO's Market Redesign and Technology Upgrade (MRTU). The specific issues addressed in this opinion are: (1) the use of bid adders for frequently mitigated units, (2) competitive path assessment to implement the CAISO's local market power mitigation (LMPM) mechanism, (3) the formulation of the Hour-Ahead Scheduling Process (HASP), (4) the formation of trading hubs, (5) the rules for allocating Congestion Revenue Rights (CRRs), (6) rules for allocating CRRs to loads located outside of the CAISO control area, and (7) rules for allocating CRRs to merchant transmission owners.

7.1.4 MSC Meetings

During the year, the MSC conducted several bi-monthly meetings. Most were at the CAISO offices in Folsom, while one was held at the California Public Utility Commission (CPUC) headquarters in San Francisco in March 2005. 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 providing independent expert advice on CAISO market issues at Capitol Hill and with other regulators during the year. Members of the Committee attended meetings with the CPUC 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.