

Memorandum

To: ISO Board of Governors

From: Steve Berberich, President and Chief Executive Officer

Date: March 15, 2012

Re: **Decision on Market Surveillance Committee Appointments**

This memorandum requires Board action.

EXECUTIVE SUMMARY

The Market Surveillance Committee is an advisory committee to the ISO Board of Governors that provides independent expertise and recommendations on market design and monitoring issues to ISO Management and the Board. The tariff requires that the Chief Executive Officer nominate members to the Board for appointment.

This year, I am nominating an existing member and nominating one new member for the MSC: Dr. James Bushnell and Dr. Shmuel Oren. Both of these candidates are nationally recognized experts in electricity market design with considerable experience in energy economics.

Dr. Bushnell has been a valued member of the MSC for 10 years and is currently an Associate Professor in the Department of Economics at University of California, Davis. He previously served as a member of the Economic Assessment and Allocation Committee for the California Air Resources Board and also a member of the Market Monitoring Committee for the California Power Exchange. Dr. Bushnell is an expert in the field of the energy policy with an emphasis on the market incentives and impact of market power.

Dr. Oren has over 30 years of experience providing consulting and expert testimony in energy related matters. He is currently a Professor in the Department of Industrial Engineering and Operations at the University of California.

Both of these individuals are highly qualified to serve as members of the MSC. Therefore I request that the Board re-appoint Dr. Bushnell and appoint Dr. Oren as members of the MSC and authorize execution of contracts with Dr. Bushnell and Dr. Oren for three-year terms from April 1, 2012 through March 31, 2015

Motion 1:

Moved, that the ISO Board of Governors re-appoints Dr. James Bushnell to the Market Surveillance Committee for a three-year term beginning April 1, 2012 through March 31, 2015; and

Moved, that the Chief Executive Officer is authorized and directed to enter into an appropriate consulting agreement with Dr. James Bushnell to compensate him for participation on the Market Surveillance Committee.

Motion 2:

Moved, that the ISO Board of Governors appoints Dr. Shmuel Oren to the Market Surveillance Committee for a three-year term beginning April 1, 2012 through March 31, 2015; and

Moved, that the Chief Executive Officer is authorized and directed to enter into an appropriate consulting agreement with Dr. Shmuel Oren to compensate him for participation on the Market Surveillance Committee.

DISCUSSION AND ANALYSIS

The tariff requires that the Market Surveillance Committee be comprised of three or more experts whose combined professional experience encompasses the following:

- Economics, with an emphasis on antitrust, competition, and market power issues in the electricity industry;
- Operational aspects of generation and transmission in electricity markets;
- Antitrust or competition law in regulated industries; and
- Financial expertise relevant to energy or other commodity trading.

The tariff also outlines strict criteria for independence that require each member of the MSC to have no material affiliation, through employment, consulting or otherwise, with any market participant or affiliate thereof, and to have no material financial interest in any market participant or affiliate thereof. The MSC has a specific tariff-assigned role to provide independent external expertise in monitoring the ISO's market and to provide independent expert advice and recommendations to Management, the Board and the

Federal Energy Regulatory Commission on market performance and design. The MSC is currently comprised of three members:

- James Bushnell (Member), term expires on March 31, 2012
- Benjamin Hobbs (Chairman), term expires on March 31, 2013
- Scott Harvey (Member), term expires on March 31, 2014

The tariff authorizes MSC members to develop and publish opinions and reports at the request of Management, the Board, or independently, when deemed appropriate by the Committee. Formal reviews and recommendations by the MSC are provided in written opinions to Management, the Board, and, when appropriate, filed with FERC. MSC opinions are also available to the public through the ISO website. While MSC processes do not constitute a stakeholder process, Committee meetings provide an additional forum for stakeholder input and discussion, and Committee members have shown a keen interest in listening to stakeholder concerns.

Historically, the MSC has served as an impartial source of information on market issues, primarily for the ISO, but also for FERC and state policymakers. The MSC has been consistently recognized by the industry and the public as being useful and effective, due in large part to the stature of its members as nationally recognized experts as well as their independence.

The tariff provides that the MSC shall be comprised of three or more members. With the appointment of both Dr. Oren and Dr. Bushnell, the MSC would have four serving members.

Dr. James Bushnell

Dr. James Bushnell, a member of the MSC since 2002, is currently an Associate Professor of Economics at the University of California, Davis. Previously he was an Associate Professor of Economics at Iowa State University, where he held the Cargill Chair in Energy Economics and was the Director of the Biobased Industry Center. He was also a member of the California Air Resources Board's Economic Assessment and Allocation Committee. Dr. Bushnell served as a Research Scientist for over 15 years and as Research Director over 10 years at the University of California Energy Institute, Berkeley, CA. He is a former member of the Market Monitoring Committee of the California Power Exchange. 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. Shmuel Oren

Dr. Oren is currently a Professor in the Department of Industrial Engineering and Operations at the University of California, Berkeley. He also holds the Earl J. Isaac Endowed Chair in the Science and Analysis of Decision Making. He has over 30 years of experience providing consulting and expert testimony for many organizations including Electric Power Research Institute, New England Electric System, the Texas Public Utility Commission, and the California ISO.

His research interests include: pricing strategies and market mechanisms, electric power economics, decision analysis and risk management and optimization.

Dr. Oren earned his Bachelor of Science in Mechanical Engineering (Summa Cum Laude) and Master of Science in Material Engineering from Technion, Israel. He also received a Master of Science and Ph.D in Engineering Economic Systems from Stanford University, Stanford, California.

Other MSC Members

The backgrounds of Dr. Bushnell and Dr. Oren would make an excellent complement to the skills and talents of the two other MSC members with whom they would serve, Dr. Dr. Benjamin Hobbs and Dr. Scott Harvey. A summary of these other MSC members' biographies is included in Attachment A.

MANAGEMENT RECOMMENDATION

For these reasons, I request that the Board re-appoint Dr. James Bushnell and appoint Dr. Shmuel Oren as members of the Market Surveillance Committee and authorize execution of a consulting agreement with Dr. Bushnell and Dr. Oren for three-year terms effective April 1, 2012 through March 31, 2015.

Attachment A

Summary Biographies of MSC Members Dr. Benjamin Hobbs and Dr. Scott Harvey

Dr. Benjamin F. Hobbs, a member of the MSC since 2002, is the Theodore & Kay Schad Professor of Environmental Management in the Whiting School of Engineering at Johns Hopkins University, where he has been since 1995. He also holds a joint appointment in the Department of Applied Mathematics and Statistics. During 2009-2010, he was a visiting Senior Research Associate in the Electricity Policy Research Group in the Department of Economics and Judge Business School at the University of Cambridge, UK. He is a former Professor of Systems Engineering and Civil Engineering at Case Western Reserve University. He has previously held positions at Brookhaven National Laboratory and Oak Ridge National Laboratory. He is a member of the Public Interest Advisory Committee for the Gas Technology Institute.

His research interests include stochastic electric power planning models, including transmission planning; power systems operations and economics; multi-objective and risk analysis; ecosystem management; and mathematical programming models for simulating imperfect energy markets. Dr. Hobbs has published numerous journal articles and magazine articles on these topics and has co-authored two books. Dr. Hobbs has a Ph.D. in Environmental Systems Engineering from Cornell University, and is a Fellow of the IEEE.

Dr. Hobbs's current 3-year term expires on March 31, 2013.

Dr. Scott Harvey a member of the MSC since 2011, has over 23 years of experience as an energy consultant, including extensive consulting experience since 1996 working in the restructuring of the PJM, New York, and New England Power Pools, the development of the Midwest ISO, and development of the California ISO's new nodal market design.

Dr. Scott Harvey has served as Director in the Cambridge Massachusetts office of LECG since 1998. In this capacity, Dr. Harvey has consulted on market design and performance issues for the New York ISO since its start up, including overseeing the price validation and correction process for the New York market through 2008. He has also consulted on a variety of market design and performance issues for the Midwest ISO, including the development of the Midwest ISO congestion pricing system. Dr. Harvey has been an external member of the Midwest ISO's Market Advisory Committee since 2008. He has also worked on a variety of market design issues on behalf of the ISO New England, PJM Interconnection, and the Ontario IESO.

Dr. Harvey served as a consultant to the California ISO from 2004 through implementation of its new nodal market design in 2009. In this capacity, Dr. Harvey provided valuable expertise and advice to the Board of Governors, Management and staff on numerous market issues relating to market design, implementation readiness and future market enhancements.

Prior to joining LECG, Dr. Harvey was a consultant for 11 years with Putnam, Hayes & Bartlett, Inc. In addition to his consulting experience in the electricity industry, he has been actively involved in antitrust analysis in the oil and gas industries, particularly the review by the antitrust agencies of mergers, acquisitions and joint ventures. Before joining PHB, he was with the Bureau of Economics of the Federal Trade Commission from 1977 to 1987 where he concentrated on antitrust issues in the oil and gas industries.

Dr. Harvey earned his B.A. in Economics from the University of Illinois Champaign, Urbana, and his Ph. D. in Economics from the University of California, Berkeley.

Dr. Harvey's current 3-year term expires on March 31, 2014.