

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Increasing Market and Planning Efficiency through Improved Software Docket No. AD10-12-004

SUPPLEMENTAL AGENDA NOTICE

(May 20, 2013)

Take notice that Commission staff will convene a technical conference on June 24, 25, and 26, 2013 to discuss opportunities for increasing real-time and day-ahead market efficiency through improved software. A detailed agenda with the list of times for the selected speakers and presentation abstracts will be published on the Commission's website¹ after May 13, 2013.

This conference will bring together diverse experts from public utilities, the software industry, government, research centers and academia and is intended to build on the discussions initiated in the previous Commission staff technical conferences on increasing market and planning efficiency through improved software.

The agenda for this conference is attached. If any changes occur, the revised agenda will be posted on the calendar page for this event on the Commission's web site (www.ferc.gov) prior to the event.

Kimberly D. Bose,
Secretary.

¹ <http://ferc.gov/industries/electric/indus-act/market-planning/2013-conference.asp>

Monday, June 24, 2013

8:15 AM	Arrive and welcome (3M-2) Richard O'Neill , Federal Energy Regulatory Commission (<i>Washington, DC</i>)
8:45 AM	Session M1 (Meeting Room 3M-2) Hybrid Approach for Incorporating Uncertainty in CAISO's Market Operations Khaled Abdul-Rahman, Hani Alarian, Clyde Loutan, California ISO (<i>Folsom, CA</i>) Applying Robust Optimization to MISO Look Ahead Unit Commitment Yonghong Chen, MISO (<i>Carmel, IN</i>) Xing Wang, Alstom Grid (<i>Redmond, WA</i>) Yongpei Guan, University of Florida (<i>Gainesville, FL</i>) Mixed Integer Programming (MIP) for Faster and More Optimal Solutions: The NYISO Proof of Concept Experience Matthew Musto, Muhammad Marwali, NYISO (<i>Rensselaer, NY</i>) Preventive-Corrective control for contingency modeling in AC PF based SCUC Petar Ristanovic, California ISO (<i>Folsom, CA</i>) James Frame, Siemens (<i>Minneapolis, MN</i>)
10:45 AM	Break
11:00 AM	Session M2 (Meeting Room 3M-2) External Network Model Expansion and Energy Imbalance Market at CAISO Mark Rothleder, George Angelidis, James Price, California ISO (<i>Folsom, CA</i>) Modeling, Simulation, and Computational Needs for RTOs: A PJM Perspective Paul Sotkiewicz, PJM Interconnection, LLC (<i>Norristown, PA</i>) Co-optimization of Congestion Revenue Rights in ERCOT Day-Ahead Market Chien-Ning Yu, Vladimir Brandwajn, Show Chang, ABB/Ventyx (<i>Santa Clara, CA</i>) Sainath M. Moorthy, ERCOT (<i>Taylor, TX</i>) Pricing Mechanism for Time-Coupled Multi-interval Real-Time Dispatch Tengshun Peng, Dhiman Chatterjee, MISO (<i>Carmel, IN</i>)
1:00 PM	Lunch
1:45 PM	Session M3 (Meeting Room 3M-2) Practical Experience Developing Software for Large-Scale Outage Coordination John Condren, James David, Boris Gisin, PowerGEM (<i>Clifton Park, NY</i>) Automated Transmission Outage Analysis Using Nodal Based Model Nancy Huang, Dan Moscovitz, PJM Interconnection (<i>Norristown, PA</i>) John Condren, PowerGEM (<i>Clifton Park, NY</i>) Pricing Scheme for Two-Stage Market Clearing Model Jinye Zhao, Eugene Litvinov, Tongxin Zheng, Feng Zhao, ISO New England (<i>Holyoke, MA</i>) Stochastic Unit Commitment with Intermittent Distributed Wind Generation via Markovian Analysis and Optimization Yaowen Yu, Peter B. Luh, Mikhail A. Bragin, University of Connecticut (<i>Storrs, CT</i>) Eugene Litvinov, Tongxin Zheng, Feng Zhao, Jinye Zhao, ISO New England (<i>Holyoke, MA</i>)
3:45 PM	Break
4:00 PM	Session M4 (Meeting Room 3M-2) Multi-Area Security Constrained Economic Dispatch Raquel Lim, Muhammad Marwali, New York Independent System Operator (<i>Rensselaer, NY</i>) External Network Model Expansion at CAISO Mark Rothleder, George Angelidis, James Price, California ISO (<i>Folsom, CA</i>) An Application of High Performance Computing to Transmission Switching Zhu Yang, Shmuel S. Oren, University of California, Berkeley (<i>Albany, CA</i>) Anthony Papavasiliou, Catholic University of Louvain Kory Hedman, Pranavamoorthy Balasubramanian, Arizona State University (<i>Tempe, AZ</i>)
5:30 PM	Adjourn

Tuesday, June 25, 2013

8:15 AM Arrive and welcome (3M-2)

8:30 AM Session T1-A (Meeting Room 3M-2)

SMART-ISO: Modeling Uncertainty in the Electricity Markets

Hugo Simao, Warren Powell, Boris Defourny, Princeton University (*Princeton, NJ*)

Multifaceted Solution for Managing Flexibility with High Penetration of Renewable Resources

Nivad Navid, MISO (*Carmel, IN*)

Secure Planning and Operations of Systems with Stochastic Sources, Energy Storage and Active Demand

Ray Zimmerman, C. Lindsay Anderson, Robert J. Thomas, Cornell University (*Ithaca, NY*)

Carlos Murillo-Sánchez, National University of Colombia (*Manizales, Caldas, Colombia*)

Clustering-Based Strategies for Stochastic Programs

Victor M. Zavala, Argonne National Laboratory (*Lemont, IL*)

Session T1-B (Meeting Room 3M-4)

Profit Maximizing Storage Allocation in Power Grids

Anya Castillo, Dennice Gayme, John's Hopkins University (*Baltimore, MD*)

Application of Semidefinite Programming to Large-scale Optimal Power Flow Problems

Michael Ferris, Daniel Molzhan, Bernie Leseutre, Chris De Marco, University of Wisconsin (*Madison, WI*)

AC-Nonlinear Chance Constrained Optimal Power Flow

Daniel Bienstock, Columbia University (*New York, NY*)

Michael Chertkov, Russell Bent, Los Alamos National Lab (*Los Alamos, NM*)

A Novel Parallel Approach to Solving Constrained Linear Optimization Problems

Stephen Elbert, Kurt Glaesemann, Karan Kalsi, Pacific Northwest National Laboratory (*Richland, WA*)

10:30 AM Break

10:45 AM Session T2-A (Meeting Room 3M-2)

Unified Stochastic and Robust Unit Commitment

Yongpei Guan, Chaoyue Zhao, University of Florida (*Gainesville, FL*)

Robust and Dynamic Reserve Policies

Kory Hedman, Joshua Lyon, Fengyu Wang, Muhong Zhang, Arizona State University (*Tempe, AZ*)

Stochastic Programming for Improved Electricity Market Operations with Renewable Energy

Audun Botterud, Canan Uckun, Argonne National Laboratory (*Argonne, IL*)

John Birge, University of Chicago (*Chicago, IL*)

Compact Stochastic Unit Commitment Formulation

Germán Morales-España, Andres Ramos, Universidad Pontificia Comillas (*Madrid, Spain*)

José M. Arroyo, Universidad de Castilla la Mancha (*Ciudad Real, Castilla la Mancha, Spain*)

Session T2-B (Meeting Room 3M-4)

Computational Performance of Solution Techniques Applied to the ACOF

Anya Castillo, John's Hopkins University (*Baltimore, MD*)

Richard P. O'Neill, Federal Energy Regulatory Commission (*Washington, DC*)

Modeling of Hardware- and Systems-Related Transmission Limits: The Use of AC OPF for Relaxing Transmission Limits to Enhance Reliability and Efficiency

Marija Ilic, Jeffrey Lang, NETSS (*Sudbury, MA*)

Low-Rank Solution for Nonlinear optimization over AC Transmission Networks

Javad Lavaei, Ramtin Madani, Somayeh Sojoudi, California Institute of Technology (*Pasadena, CA*)

Valid Inequalities for the Alternating Current Optimal Power Flow Problem

Chen Chen, Shmuel Oren, Alper Atamturk, UC Berkeley (*Berkeley, CA*)

Richard O'Neill, Federal Energy Regulatory Commission (*Washington, DC*)

12:45 PM Lunch

Tuesday, June 25, 2013

1:30 PM Session T3-A (Meeting Room 3M-2)
Assessing the Flexibility Requirements in Power Systems
 Daniel Kirschen, Yury Dvorking, University of Washington (*Seattle, WA*)
Incorporating variability and uncertainty into reserve requirement methodologies
 Erik Ela, Michael Milligan, Bri-Mathias Hodge, Brendan Kirby, Ibrahim Krad, Mark OMalley,
 National Renewable Energy Laboratory (*Golden, CO*)
Optimal Unit Commitment under Uncertainty in Electricity Markets
 Fernando Alvarado, Rajesh Rajaraman
Large-scaled Optimal Power Flow with No Guarantee on Feasibility
 Manuel Ruiz, Girardeau, Artelys (*Paris, France*)
 Maeght, Fliscounakis, Panciatici, RTE (*Paris, France*)

Session T3-B (Meeting Room 3M-4)
Scalable Strategies for Large-scale AC-SCOPF Problems
 Nai-Yuan Chiang, Victor M. Zavala, Argonne National Laboratory (*Lemont, IL*)
 Andreas Grothey, University of Edinburgh (*Edinburgh, United Kingdom*)
An AC-Feasible Linear Approximation Approach to Finding the Optimal Power Flow
 Paula Lipka, UC Berkeley (*Albany, CA*)
**Security Constrained AC Optimal Power Flow (SC-OPF): Current Status, Implementation
 Issues and Future Directions**
 Guorui Zhang, Quanta Technology (*Raleigh, NC*)
 Xiaoming Feng, ABB USCRC (*Raleigh, NC*)
Decomposition Approaches to Transmission Switching under N-1 Reliability Requirements
 John Sirola, Jean-Paul Watson, Sandia National Laboratories (*Albuquerque, NM*)

3:30 PM Break

3:45 PM Session T4-A (Meeting Room 3M-2)
**Price Responsive Demand for Operating Reserves in co-optimized Electricity Markets with
 Wind Power**
 Zhi Zhou, Audun Botterud, Argonne National Laboratory (*Argonne, IL*)
Multi-Settlement Simulation of Stochastic Reserve Determination
 Robert Entriken, EPRI (*Palo Alto, CA*)
 Taiyou Yong, Eversource Consulting (*Folsom, CA*)
 Russ Philbrick, Power System Optimization (*Shoreline, WA*)
**An Affine Arithmetic Method to Solve Stochastic Optimal Power Flow Problems with
 Uncertainties**
 Mehrdad Pirnia, University of Waterloo (*Waterloo, Canada*)
**A Synergistic Combination of Surrogate Lagrangian Relaxation and Branch-and-Cut for MIP
 Problems in Power Systems**
 Peter Luh, University of Connecticut (*Storrs, CT*)
 Joseph Yan, Gary Stern, Southern California Edison (*Rosemead, CA*)
N-1-1 Contingency-Constrained Grid Operations
 Richard Chen, Jean-Paul Watson, Sandia National Laboratories (*Livermore, CA*)
 Neng Fan, University of Arizona (*Tucson, AZ*)

Session T4-B (Meeting Room 3M-4)
Optimal Feeder Reconfiguration
 Steven Low, Qiuyu Peng, Caltech (*Pasadena, CA*)
Correcting Optimal Transmission Switching for AC Power Flows
 Clayton Barrows, NREL (*Golden, CO*)
 Seth Blumsack, Penn State University (*University Park, PA*)
 Paul Hines, University of Vermont (*Burlington, VT*)
Advances in Topology Control Algorithms (TCA)
 Pablo Ruiz, T. Bruce Tsuchida, The Brattle Group (*Cambridge, MA*)
 Michael C. Caramanis, Justin M. Foster, Evgeniy A. Goldis, Xiaoguang Li, Boston University
 (*Boston, MA*)
 C. Russ Philbrick, Polaris Systems Optimization (*Shoreline, WA*)
 Aleksandr M. Rudkevich, Newton Energy Group (*Newton, MA*)
 Richard D. Tabors, Across The Charles (*Cambridge, MA*)
Inclusion of Post-Contingency Actions in Security Constrained Scheduling
 Peng Peng, Show Chang, ABB/Ventyx (*Santa Clara, CA*)

5:45 PM Adjourn

Wednesday, June 26, 2013

8:15 AM Arrive and welcome (3M-2)

8:30 AM Session W1-A (Meeting Room 3M-2)

Study of Transmission Switching Under Contingencies: Formulations and Algorithms

Bo Zeng, Long Zhao, Wei Yuan, University of South Florida (*Tampa, FL*)

Security-Constrained Optimal Power Flow with Sparsity Control and Efficient Parallel Algorithms

Dzung Phan, IBM T.J. Watson Research Center (*Yorktown Heights, NY*)

Andy Sun, Georgia Institute of Technology (*Atlanta, GA*)

Candidate Selection for Transmission Switching in Large Power Networks

Kwok Cheung, Jun Wu, Alstom Grid (*Redmond, WA*)

Transmission Switching for Improving Wind Power Utilization

Feng Qiu, Jianhui Wang, Argonne National Laboratory (*Argonne, IL*)

Session W1-B (Meeting Room 3M-3)

Stochastic Unit Commitment: Scalable Computation and Experimental Results

Jean-Paul Watson, Sandia National Laboratories (*Albuquerque, NM*)

Sarah Ryan, Iowa State University (*Ames, IA*)

David Woodruff, University of California Davis (*Davis, CA*)

MIP Based System Flexible Capacity Requirements Determination

Alex Papalexopoulos, ECCO International (*San Francisco, CA*)

Decomposition Methods for Stochastic Unit Commitment Problems

Suvtrajeet Sen, University of Southern California (*Los Angeles, CA*)

Stochastic Unit Commitment: Stochastic Process Modeling for Load and Renewables

David Woodruff, University of California Davis (*Davis, CA*)

Sarah Ryan, Iowa State University (*Ames, IA*)

Jean-Paul Watson, Sandia National Laboratories (*Albuquerque, NM*)

10:30 AM Break

10:45 AM Session W2-A (Meeting Room 3M-2)

Smart Wire Grid: Providing Advanced Power Flow Control for the Grid

Stewart Ramsay, Smart Wire Grid, Inc. (*Oakland, CA*)

HVDC Grid Technology - Benefits of Hybrid AC/DC Grids and Optimal Power Flow Modeling Considerations

Xiaoming Feng, ABB (*Raleigh, NC*)

Tres Amigas: Uniting the Electric Power Grid

Kenneth Laughlin, Tres Amigas, LLC. (*Santa Fe, NM*)

Beyond Real Time: the Computational Challenges of Forecasting Dynamic Line Ratings

Eric Hsieh, Nexans (*Bethel, CT*)

Stuart Malkin, Nexans (*Portland, OR*)

Implementing DLRs in the control room at PacifiCorp - Technology Successes and Challenges

TBD, Pacificorp (*Portland, OR*)

Session W2-B (Meeting Room 3M-3)

Scalable Parallel Analysis of Power Grid Models Using Swift

Ketan Maheshwari, Victor M Zavala, Justin Wozniak, Mark Hereld, Michael Wilde, Argonne

National Laboratory (*Argonne, IL*)

Improving Market Planning and Efficiency Software Through Dynamic Integration of High Quality Data

Christopher Vizas, Nicholas Lagakos, Anjan Deb, Chris Vizas, Jack Barker, Victor Kaybulkin,

SmartSenseCom, Inc. (*Washington, DC*)

Highly Dispatchable and Distributed Demand Response for the Integration of Distributed Generation

Amit Narayan, AutoGrid Systems (*Palo Alto, CA*)

Solving MPEC Models with the KNITRO Nonlinear Solver

Richard Waltz, Jorge Nocedal, Ziena Optimization LLC (*Evanston, IL*)

Arnaud Renaud, Sylvain Mouret, Artelys (*Paris, France*)

New methods for measuring voltage stability limits utilizing HELM tools

Jason Black, Battelle (*Columbus, OH*)

2:00 PM Adjourn
