UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Increasing Market and Planning Efficiency   Docket No. AD10-12-007
through Improved Software

SUPPLEMENTAL AGENDA NOTICE

(May 20, 2016)

As announced in the Notice of Technical Conference issued on February 29, 2016, in the above captioned proceeding, Federal Energy Regulatory Commission (Commission) staff will convene a technical conference on June 27, 28, and 29, 2016 to discuss opportunities for increasing real-time and day-ahead market efficiency through improved software.

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[1] prior to the event.

Kimberly D. Bose,
Secretary.

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[1] http://www.ferc.gov/industries/electric/indus-act/market-planning/2016-conference.asp.

Monday, June 27, 2016

8:45 AM	Introduction (Meeting Room 3M-2)
	Richard O'Neill, Federal Energy Regulatory Commission (*Washington, DC*)
9:00 AM	Session M1 (Meeting Room 3M-2)
	SPP Market and Software Overview
	Sam Ellis, Southwest Power Pool (*Little Rock, AR*)
	Improving Market Efficiency Through Modeling Improvement
	Hong Chen, PJM Interconnection (*Audubon, PA*)
	Improving Market Clearing Software Performance to Meet Existing and Future Challenges – MISO's Perspective
	Yonghong Chen, Jeff Bladen, Alan Hoyt, David Savagea, Robert Marring, Midcontinent Independent System Operator (*Carmel, IN*)
10:30 AM	Break
10:45 AM	Session M2 (Meeting Room 3M-2)
	Use of Online Cascading Analysis for Reducing the Risk of Blackouts
	Slava Maslennikov, Xiaochuan Luo, Eugene Litvinov, ISO New England (*Holyoke, MA*)
	NYISO Comprehensive Scarcity Pricing
	Ethan Avallone, Thomas Golden, Michael DeSocio, Robert Pike, New York Independent System Operator (*Rensselaer, NY*)
	Hedayatollah Etemadi, Peng Peng, Khosrow Moslehi, ABB (*Santa Clara, CA*)
	Scarcity Pricing in ERCOT's Real-Time Market
	Resmi Surendran, Hailong Hui, Electric Reliability Council of Texas (*Taylor, TX*)
	William W. Hogan, Harvard University (*Cambridge, MA*)
	Chien-Ning Yu, ABB Inc. (*San Jose, CA*)
12:15 PM	Lunch
1:30 PM	Session M3 (Meeting Room 3M-2)
	Ramp Capability Modeling in MISO Dispatch and Pricing
	Congcong Wang, Dhiman Chatterjee, Rober Merring, Juan Li, Sen Li, Midcontinent Independent System Operator (*Carmel, IN*)
	Proposal for Integrating DER into ERCOT (ISO) Operations - Addressing Reliability and Wholesale Market Impacts
	Sainath Moorty, Oladiran Obadina, Electric Reliability Council of Texas (*Taylor, TX*)
	Khosrow Moslehi, ABB (*Santa Clara, CA*)
	Demand Curves in Forward Capacity Market
	Feng Zhao, ISO New England (*Holyoke, MA*)
3:00 PM	Break
3:15 PM	Session M4 (Meeting Room 3M-2)
	Economic Selection and Dispatch of Spinning Reserves
	Akshay Korad, Jeff Bladen, Dhiman Chatterjee, Oluwaseyi Akinbode, Midcontinent Independent System Operator (*Carmel, IN*)
	NYISO Hybrid GT Pricing
	Guangyuan Zhang, New York Independent System Operator (*Rensselaer, NY*)
	Limited Fuel Resource Optimization
	Cuong Nguyen, New York Independent System Operator (*Rensselaer, NY*)
	Optimal Flow Control Resource Dispatch
	Beibei Li, Midcontinent Independent System Operator (*Carmel, IN*)
5:15 PM	Adjourn

Tuesday, June 28, 2016

8:45 AM	Arrive and welcome (Meeting Room 3M-2)

9:00 AM	Session T1 (Meeting Room 3M-2)
	 Optimal Power Flow Competition Design Considerations
	     Timothy Heidel, ARPA-E, U.S. Department of Energy (*Washington, DC*)
	     Feng Pan, Stephen Elbert, Pacific Northwest National Laboratory (*Richland, WA*)
	     Chris DeMarco, University of Wisconsin - Madison (*Madison, WI*)
	     Hans Mittlemann, Arizona State University (*Tempe, AZ*)
	 Data Repository for Power System Open Models With Evolving Resources (DR POWER)
	     Stephen Elbert, Pacific Northwest National Laboratory (*Richland, WA*)
	 From Deterministic Economic Dispatch to Secure Stochastic Unit-Commitment/Optimal Power
	     Flow with MOST, the New MATPOWER Optimal Scheduling Tool
	     Ray Zimmerman, Daniel Muñoz-Álvarez, Cornell University (*Ithaca, NY*)
	     Carlos E. Murillo-Sánchez, Universidad Nacional de Colombia (*Manizales, Colombia*)
	     Alberto J. Lamadrid, Lehigh University (*Bethlehem, PA*)

10:30 AM	Break

10:45 AM	Session T2-A (Meeting Room 3M-2)
	 A Strong Semidefinite Programming Relaxation of the Unit Commitment Problem
	     Javad Lavaei, Alper Atamturk, Morteza Ashraphijuo, University of California, Berkeley
	     (*Berkeley, CA*)
	 Visualizing the Feasible Spaces of Challenging OPF Problems
	     Daniel Molzahn, Argonne National Laboratory (*Lemont, IL*)
	 Power System State Estimation with a Limited Number of Measurements
	     Javad Lavaei, Ramtin Madani, Morteza Ashraphijuo, University of California, Berkeley
	     (*Berkeley, CA*)
	     Ross Baldick, University of Texas-Austin (*Austin, Texas*)

	Session T2-B (Meeting Room 3M-4)
	 Intra-day Co-optimization of the Natural Gas and Electric Networks: The GECO Project
	     Aleksandr Rudkevich, Newton Energy Group (*Boston, MA*)
	     Scott Backhous, Anatoly Zlotnik, Los Alamos National Laboratory (*Los Alamos, NM*)
	 Hidden Power System Inflexibilities Imposed by Traditional Unit Commitment Formulations
	     Germán Morales-España, Delft University of Technology (*Delft, Holland*)
	     Benjamin F. Hobbs, Johns Hopkins University (*Baltimore, MD*)
	 Power-Capacity and Ramp-Capability Reserves for Wind Integration in Power-Based Unit
	     Commitment
	     Germán Morales-España, Delft University of Technology (*Delft, Holland*)
	     Ross Baldick, University of Texas (*Austin, TX*)
	     Javier García González, Andres Ramos, Universidad Pontificia Comillas (*Madrid, Spain*)

Tuesday, June 28, 2016

12:15 PM	Lunch

1:30 PM	**Session T3-A (Meeting Room 3M-2)**

Robust Risk-Constrained Unit Commitment with Large-scale Wind Generation: An Adjustable Uncertainty Set Approach

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

Generating Cuts from the Ramping Polytope for the Unit Commitment Problem

 James Ostrowski, Bernard Knueven, University of Tennessee (*Knoxville, TN*)

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

Strengthened MILP Formulation for the Edge-based Combined-Cycle Unit Model

 Yongpei Guan, Kai Pan, University of Florida (*Gainesville, FL*)

 Yonghong Chen, Midcontinent Independent System Operator (*Carmel, IN*)

 Xing Wang, Alstom (*Redmond, WA*)

 Lei Fan, GE (*Schenectady, NY*)

Session T3-B (Meeting Room 3M-4)

Incentive Compatible Pricing Mechanisms For Meeting Expected Ramp Capability In Real-Time Markets

 Erik Ela, EPRI (*Palo Alto, CA*)

 Mark O'Malley, University College Dublin (*Dublin, Ireland*)

Dual Pricing Algorithm for Cost Allocation in Non-Convex Electricity Markets

 Robin Hytowitz, Johns Hopkins University/Federal Energy Regulatory Commission (*Washington, DC*)

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

 Anya Castillo, Sandia National Laboratories (*Albuquerque, NM*)

Modelling and Solving Security Constrained Optimal Power Flow in Parallel

 Cosmin Petra, Mihai Anitescu, Argonne National Laboratory (*Lemont, IL*)

3:00 PM	Break

3:15 PM	**Session T4-A (Meeting Room 3M-2)**

Comparing the Performance of Explicitly Vs. Implicitly Scheduled Operating Reserve

 Erik Ela, Eamonn Lannoye, Robert Entriken, Aidan Tuohy, EPRI (*Palo Alto, CA*)

Locational Resource Adequacy Assessment - Methodology and Case Study of the ISO New England System

 Evgeniy Goldis, Alex Rudkevich, Alex Beylin, Newton Energy Group (*Boston, MA*)

 Russ Philbrick, Polaris Systems Optimization (*Seattle, WA*)

 Andrei Kharchenko, FOM Instituut voorAtoom en Molecuul Fysica (AMOLF) (*Amsterdam, The Netherlands*)

Europe: Benefits of Integrating Regions and Energies to the Security of Supply

 Guillaume Tarel, Artelys (*Montreal, Quebec*)

Session T4-B (Meeting Room 3M-4)

Dynamic Thermal Ratings in Real-Time Dispatch Market Systems

 Kwok Cheung, Jun Wu, GE (*Redmond, WA*)

Transmission Topology Optimization Impacts in Day-Ahead Markets - Simulations in PJM

 Pablo Ruiz, Xiao Li, NewGrid, Inc (*Somerville, MA*)

 Michael Caramanis, Boston University (*Boston, MA*)

 John Goldis, Aleksandr Rudkevich, Newton Energy Group (*Boston, MA*)

 T. Bruce Tsuchida, The Brattle Group (*Cambridge, MA*)

 Keyurbhai Patel, PJM Interconnection (*Audubon, PA*)

 C. Russell Philbrick, Polaris Systems Optimization (*Shoreline, WA*)

Using the National Energy with Weather System (NEWS) Simulator to Highlight and Address Upcoming Changes to the Electric Power System

 Christopher Clack, Melinda Marquis, National Oceanic and Admospheric Administration (*Boulder, CO*)

4:45 PM	Adjourn

Wednesday, June 29, 2016

8:45 AM	Arrive and welcome (Meeting Room 3M-2)

9:00 AM	Session W1-A (Meeting Room 3M-2)

Modeling and Solving Battery Operation Problems
Daniel Bienstock, Shuoguang Yang, Columbia University (*New York, NY*)
Carsten Matke, Next Energy (*Oldenburg, Germany*)

Profitability of Merchant Investments in Battery Energy Storage
Daniel Kirschen, Yury Dvorkin, Ricardo Fernandez-Blanco, University of Washington (*Seattle, WA*)
Hrvoje Pandzic, University of Zagreb (*Zagreb, Croatia*)
Jean-Paul Watson, Cesar Silva-Monroy, Sandia National Laboratories (*Albuquerque, NM*)

Risk-Constrained Look-Ahead Strategic Energy Storage Bidding
Yishen Wang, Daniel Kirschen, Yury Dvorkin, Ricardo Fernández-Blanco, University of Washington (*Seattle, WA*)

Session W1-B (Meeting Room 3M-4)
A Bundle Method for On-Line Transient Security Constrained Dispatch
Mihai Anitescu, Argonne National Laboratory (*Argonne, IL*)

Development of Fast Real-time Online Dynamic Security Assessment System
Mike Zhou, State Grid EPRI China (*Northville, MI*)
XueWei Shang, Lin Zhao, Nari Beijing KeDong Com (*Beijing, China*)
JianFeng Yang, DongYu Shi, EPRI China (*Beijing, China*)
Ying Chen, Tsinghua University (*Bejing, China*)

Fast and Accurate Calculation of Dynamics Sensitivities Using a Discrete-Adjoint Approach
Emil Constantienescu, Abhyankar, Shrirang G., Mihai Anitescu, Hong Zhang, Cosmin Petra, Argonne National Laboratory (*Argonne, IL*)

10:30 AM	Break

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

A Multiscale Optimization Framework for Economic Assessment of Emerging Market Participants
Alexander Dowling, Victor Zavala, University of Wisconsin-Madison (*Madison, WI*)

Optimal Participation of an Electric Vehicle Aggregator in Day-Ahead Energy and Reserve Markets
Miguel Ortega-Vazquez, Yury Dvorkin, Mushfiqur Sarker, University of Washington (*Seattle, WA*)

Coupling Pumped Hydro Energy Storage with Unit Commitment
Daniel Kirschen, Yury Dvorkin, University of Washington (*Seattle, WA*)
Kenneth Bruninx, Erik Delarue, William Dhaeseleer, KU Leuven (*Leuven, Belgium*)
Hrvoje Pandzic, University of Zagreb (*Zagreb, Croatia*)

Session W2-B (Meeting Room 3M-4)
Towards Continuous-time Optimization Models for Power Systems Operation
Masood Parvania, University of Utah (*Salt Lake City, UT*)

Market Provision of Flexible Energy/Reserve Contracts
Wanning Li, Leigh Tesfatsion, Iowa State University (*Ames, IA*)

Towards a Price-Based Optimization Formulation in RTO Markets
Shangyou Hao, PA Consulting (*Walnut, CA*)

12:15 PM	Adjourn