



Technical Conference: Increasing Real-Time and Day-Ahead Market Efficiency through Improved Software

Agenda

**AD10-12-008
June 26 – 28, 2017**

Monday, June 26, 2017

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)
Software and Model Enhancements in CAISO Market
 Khaled Abdul-Rahman, California ISO (*Folsom, CA*)
 George Angelidis, California ISO (*Folsom, CA*)
 Petar Ristanovic, California ISO (*Folsom, CA*)
Experience and Future R&D on Improving MISO Day-Ahead Market Clearing Software Performance
 Yonghong Chen, Midcontinent ISO (*Carmel, IN*)
 David Savageau, Midcontinent ISO (*Carmel, IN*)
 Fengyu Wang, Midcontinent ISO (*Carmel, IN*)
 Robert Marring, Midcontinent ISO (*Carmel, IN*)
 Juan Li, Midcontinent ISO (*Carmel, IN*)
Flexibility Procurement and Reimbursement - a Multi-period Pricing Approach
 Dane Schiro, ISO New England (*Holyoke, MA*)
 Eugene Litvinov, ISO New England (*Holyoke, MA*)
 Tongxin Zheng, ISO New England (*Holyoke, MA*)
 Feng Zhao, ISO New England (*Holyoke, MA*)

10:30 AM Break

10:45 AM Session M2 (Meeting Room 3M-2)
SPP Market Clearing Engine Enhancements and Performance Improvement
 James Gonzalez, Southwest Power Pool (*Little Rock, AR*)
Energy Storage Integration
 Hong Chen, PJM Interconnection (*Audubon, PA*)
Infra-marginal Gas Turbine Logic
 Guangyuan Zhang, New York ISO (*Rensselaer, NY*)

12:15 PM Lunch

1:30 PM Session M3 (Meeting Room 3M-2)
Uncertainty Management in MISO Real-time Systems: Needs, Opportunities and Challenges
 Long Zhao, Midcontinent ISO (*Carmel, IN*)
 Jessica Harrison, Midcontinent ISO (*Carmel, IN*)
 Yonghong Chen, Midcontinent ISO (*Carmel, IN*)
Price Formation with Evolving Resource Mix
 Congcong Wang, Midcontinent ISO (*Carmel, IN*)
 Dhiman Chatterjee, Midcontinent ISO (*Carmel, IN*)
Factors Impacting Large-scale Security Constrained Unit Commitment Performance and Day-Ahead Market Software Design
 Boris Gisin, PowerGEM (*Clifton Park, NY*)
 Qun Gu, PowerGEM (*Clifton Park, NY*)
 James David, PowerGEM (*Clifton Park, NY*)
Improving Power System Reliability and Resiliency through Enhanced Modeling and Advanced Software Tools
 Marianna Vaiman, V&R Energy (*Los Angeles, CA*)

3:30 PM Break

Monday, June 26, 2017

3:45 PM Session M4 (Meeting Room 3M-2)

Forecasting of Dynamic Line Ratings for Market Systems

Kwok Cheung, GE (*Redmond, WA*)

Frédéric Vassort, Ampacimon (*Grâce-Hollogne, Belgium*)

Economic Optimization of Intra-Day Transient Gas Pipeline Flow, Locational Values of Natural Gas and Their Use for Gas-Electric Coordination

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

Anatoly Zlotnik, Los Alamos National Laboratory (*Los Alamos, NM*)

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

Pablo A. Ruiz, Boston University (*Boston, MA*)

Richard D. Tabors, Tabors Caramanis Rudkevich (*Boston, MA*)

Scott Backhaus, Los Alamos National Laboratory (*Los Alamos, NM*)

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

Richard Hornby, Tabors Caramanis Rudkevich (*Boston, MA*)

New Software Stack for Power Systems Modeling, Optimization, and Analysis

Adam Wigington, Electric Power Research Institute (*Palo Alto, CA*)

Tomas Tinoco de Rubira, Swiss Federal Institute of Technology (*Zurich, Switzerland*)

Robert Entriken, Electric Power Research Institute (*Palo Alto, CA*)

Addressing Price Indeterminacy Across Periods in Multi-Period Transmission Congestion

Credit Auctions

Joseph Bright, Nexant, Inc. (*Chandler, AZ*)

Mauro Prais, Nexant, Inc. (*Chandler, AZ*)

Nicole Bouchez, New York ISO (*Rensselaer, NY*)

5:45 PM Adjourn

Tuesday, June 27, 2017

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

9:00 AM Session T1-A (Meeting Room 3M-2)

Scenario-Based Decomposition for Parallel Solution of the Contingency-Constrained

Alternating Current Optimal Power Flow (ACOPF)

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

Carl Laird, Sandia National Laboratories (*Albuquerque, NM*)

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

Characterizing Non-Convexities in the Feasible Spaces of AC OPF Problems

Daniel Molzahn, Argonne National Laboratory (*Lemont, IL*)

Solving the Mixed Integer Non-Linear Programming Problem of Unit Commitment on AC Power Systems

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

Carl Laird, Sandia National Laboratories (*Albuquerque, NM*)

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

Jianfeng Liu, Purdue University (*West Lafayette, IN*)

Continuous-time Optimal Power Flow Problem

Masood Parvania, University of Utah (*Salt Lake City, UT*)

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

An Asynchronous Distributed Algorithm for Solving Stochastic Unit Commitment at an Industrial Scale

Ignacio Andres Aravena Solis, CORE at UC Louvain (*Louvain-la-Neuve, Belgium*)

Anthony Papavasiliou, CORE at UC Louvain (*Louvain-la-Neuve, Belgium*)

The Unit Commitment Problem: Convex Hulls and Strong Valid Inequalities

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

Kai Pan, Hong Kong Polytech University (*Hong Kong, China*)

Robust Unit Commitment Using the Parametric Cost Function Approximation

Raymond Perkins, Princeton University (*Lawrenceville, NJ*)

Warren Powell, Princeton University (*Princeton, NJ*)

Juliana Martins Do Nascimento, Princeton University (*Princeton, NJ*)

Optimization Driven Scenario Grouping for Stochastic Unit Commitment

Deepak Rajan, Lawrence Livermore National Laboratory (*Livermore, CA*)

11:00 AM Break

11:15 AM Session T2-A (Meeting Room 3M-2)

Power System Voltage Stability Using Demand Response

Johanna Mathieu, University of Michigan (*Ann Arbor, MI*)

Mengqi Yao, University of Michigan (*Ann Arbor, MI*)

Daniel K. Molzahn, Argonne National Laboratory (*Lemont, IL*)

Advanced Voltage/VAr Management

Herminio Pinto, Nexant Inc. (*Chandler, AZ*)

Joseph Bright, Nexant Inc. (*Chandler, AZ*)

Brian Stott, Stott Inc. (*Scottsdale, AZ*)

Mauro Prais, Nexant Inc. (*Chandler, AZ*)

Ongun Alsaç, Smart Grid Applications (*Chandler, AZ*)

Fernando Magnago, Nexant Inc. (*Rio Cuarto, Cordoba*)

Linearized Reactive Power and Voltage Constraints for DC OPF and Unit Commitment

Brent Eldridge, Johns Hopkins University/Federal Energy Regulatory Commission

(*Washington, DC*)

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

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

Assessment of Wind Power Ramp Events in Scenario Generation for Stochastic Unit Commitment

Andrea Staid, Sandia National Laboratories (*Albuquerque, NM*)

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

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

Unlocking Flexibility of Distributed Energy Resources for Grid Support Services

Yury Dvorkin, New York University (*Brooklyn, NY*)

Uncertainty in Ramping

Randell Johnson, Aleva Analytics (*Concord, NC*)

Tuesday, June 27, 2017

12:45 PM Lunch

2:00 PM Session T3-A (Meeting Room 3M-2)

Geographic Decomposition of Production Cost Models

Clayton Barrows, National Renewable Energy Laboratory (*Golden, CO*)

Josh Novacheck, National Renewable Energy Laboratory (*Golden, CO*)

Aaron Bloom, National Renewable Energy Laboratory (*Golden, CO*)

Temporal Decomposition of the Production Cost Modeling in Power Systems

Kibaek Kim, Argonne National Laboratory (*Lemont, IL*)

Audun Botterud, Argonne National Laboratory (*Lemont, IL*)

Modeling Nuclear Power as a Flexible Resource for the Power Grid

Zhi Zhou, Argonne National Laboratory (*Lemont, IL*)

Jesse Jenkins, Massachusetts Institute of Technology (*Cambridge, MA*)

Audun Botterud, Argonne National Laboratory (*Lemont, IL*)

Roberto Ponciroli, Argonne National Laboratory (*Lemont, IL*)

Francesco Ganda, Argonne National Laboratory (*Lemont, IL*)

Richard Vilim, Argonne National Laboratory (*Lemont, IL*)

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

Efficient and Incentive-compatible Solutions for Operating Energy Storage in ISO/RTO Markets

Erik Ela, Electric Power Research Institute (*Palo Alto, CA*)

Economic Opportunities for Energy Storage Systems in Electricity Markets: Combining Models, Data, and Large-scale Optimization

Alexander Dowling, University of Wisconsin-Madison (*Madison, WI*)

Victor Zavala, University of Wisconsin-Madison (*Madison, WI*)

Modeling of Storage Technologies in Capacity Expansion Models

Brady Stoll, National Renewable Energy Laboratory (*Golden, CO*)

Elaine Hale, National Renewable Energy Laboratory (*Golden, CO*)

Clayton Barrows, National Renewable Energy Laboratory (*Golden, CO*)

Trieu Mai, National Renewable Energy Laboratory (*Golden, CO*)

3:30 PM Break

3:45 PM Session T4-A (Meeting Room 3M-2)

Convex Formulation of the Optimal Transmission Switching Problem

Javad Lavaei, University of California, Berkeley (*Berkeley, CA*)

Salar Fattahi, University of California, Berkeley (*Berkeley, CA*)

Alper Atamturk, University of California, Berkeley (*Berkeley, CA*)

Danger of Using Local Search Algorithms in Statistical Learning for Power Systems: A General Theory With Case Studies on State Estimation and Bad Data Rejection

Javad Lavaei, University of California, Berkeley (*Berkeley, CA*)

Richard Zhang, University of California, Berkeley (*Berkeley, CA*)

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

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

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

Brent Eldridge, Johns Hopkins University/Federal Energy Regulatory Commission

(*Washington, DC*)

Tuesday, June 27, 2017

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

Energy Storage Optimization Using Distributionally Accurate Stochastic Wind and Price Models

Joseph Durante, Princeton University (*Princeton, NJ*)

Harvey Cheng, Princeton University (*Princeton, NJ*)

Juliana Nascimento, Princeton University (*Princeton, NJ*)

Warren B. Powell, Princeton University (*Princeton, NJ*)

A Multi-period Optimal Power Flow Approach to Improve Optimizing Sensor Type and Location for Rapid Restoration of Power Grids

Lina Al-Kanj, Princeton University (*Princeton, NJ*)

Warren Powell, Princeton University (*Princeton, NJ*)

A Massively Scalable Approach to Power System Scheduling

Ramtin Madani, The University of Texas at Arlington (*Arlington, TX*)

Alper Atamturk, University of California, Berkeley (*Berkeley, CA*)

Ali Davoudi, The University of Texas at Arlington (*Arlington, TX*)

5:15 PM Adjourn

Wednesday, June 28, 2017

Wednesday, June 28, 2017

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

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

A Methodology for the Creation of Geographically Realistic, Synthetic Optimal Power Flow Models

Thomas Overbye, Texas A&M University (*College Station, TX*)

Multipoint Element Models and Sparse Tableau Network Representation for Security Constrained Optimal Power Flow

Christopher DeMarco, University of Wisconsin-Madison (*Madison, WI*)

Grid Research for Good: High-Fidelity Power Systems Data Sets, Format, and Software Tools for Optimal Power Flow

Pascal Van Hentenryck, University of Michigan (*East Lansing, MI*)

10:00 AM Break

10:15 AM Session W2 (Meeting Room 3M-2)

Smart-DS: Synthetic Models for Advanced, Realistic Testing- Distribution Systems and Scenarios

Venkat Krishnan, National Renewable Energy Laboratory (*Golden, CO*)

Claudio Vergara, Massachusetts Institute of Technology (*Cambridge, MA*)

Sustainable Data Evolution Technology (SDET) for Power Grid Optimization

Ruishing Diao, Pacific Northwest National Laboratory (*Redland, WA*)

The ARPA-E Generating Realistic Information for the Development of Distribution and Transmission Algorithms (GRID DATA) Repository

Dariush Shirmohammadi, GridBright (*Alamo, CA*)

DR POWER: a Data Repository for Power system Open models With Evolving Resources

Stephen Elbert, Pacific Northwest National Laboratory (*Richland, WA*)

12:15 PM Adjourn

Document Content(s)

AD10-12-008TCagendaNoFR.DOCX.....1-7