



Integrating Renewable Resources Into the Wholesale Electric Grid

AD09-4-000

March 2, 2009

Agenda

9:00 – 9:20 a.m. Opening Statements by Acting Chairman Wellinghoff and Commissioners

9:20 – 10:00 a.m. Keynote Remarks

The Honorable Lauren Azar, Commissioner, Wisconsin Public Service Commission and President, Organization of MISO States

Richard P. Sergel, President and Chief Executive Officer,
North American Electric Reliability Corporation

10:00 a.m. - Noon Transmission and System Planning to Enhance Integration of Renewable Energy

The Commission seeks information on how it should move forward with transmission and system planning. Panelists are encouraged to address:

- Whether the Order No. 890 planning processes in their particular regions of the country are enabling the development of transmission to interconnect renewable resources.
- Whether existing planning efforts are sufficient for the integration of resources that are (a) variable and distant from load centers, and (b) locally distributed.
- What are the barriers to interconnection-wide planning?
- What considerations are unique to the Eastern and Western interconnections? How does, or should, planning accommodate them?

- How resources in general and variable renewable resources in particular are currently being accounted for in system planning (e.g., assessment of capacity and energy contributions, accounting for whether resources are dispatchable; system and resource flexibility; types of resources that are useful to manage variability); whether the current approach(es) enhances the integration while also maintaining Bulk Power System reliability.
- Elizabeth Moler, Executive Vice President, Exelon Corporation
- Clair Moeller, Vice President, Transmission Asset Management, Midwest ISO (Mr. Moeller's prepared remarks will be presented by Stephen Kozey, General Counsel, Midwest ISO)
- Michael J. Kormos, Senior Vice President Operations, PJM Interconnection, LLC
- Lisa Barton, Vice President, Transmission Strategy, AEP, and President, Electric Transmission America
- Pedro Pizarro, Executive Vice President, Power Operations, Southern California Edison, representing the Edison Electric Institute
- Joseph Welch, CEO, ITC Holdings Corp.
- Gordon van Welie, President and Chief Executive Officer, ISO New England Inc.
- Nick Brown, CEO, Southwest Power Pool

Noon – 1:00 p.m. Lunch

1:00 – 2:45 p.m. Operational challenges and innovative solutions to integrating renewable resources into wholesale electric markets while maintaining bulk power system reliability

The Commission seeks to understand how it can improve operational efficiency as renewable resources increase. Panelists are encouraged to address, among other things:

- Strategies and tools now in use for managing variable generation, lessons learned, and best practices.
- Technical factors surrounding variable generation (e.g., effects on frequency variations, reactive power effects on voltage profile, assessment of operating reserves).
- The impacts of wind forecasting and improvements in wind forecasting.
- The impact on day-ahead, hour-ahead, and real-time operations and whether more flexibility is needed from resources, e.g., ramping and scheduling.

- Bradley Nickell, Renewable Integration Director, Western Electricity Coordinating Council
- Clark Gellings, Vice President, Technology, Electric Power Research Institute
- Hamid Elahi, General Manager, Energy Applications and System Engineering, GE Energy
- Rick Gonzalez, Vice President of Operations, New York ISO
- Don Furman, Senior Vice President for Development, Transmission and Policy, Iberdrola Renewables, and Chairman of the American Wind Energy Association Transmission Committee (Mr. Furman's comments will be presented by Rob Gramlich, Policy Director, American Wind Energy Association)
- Brian Parsons, Project Leader, Grid Integration, National Wind Technology Center of the National Renewable Energy Laboratory
- Ross Guttromson, Manager, Renewables Integration, Pacific Northwest National Laboratory
- Robert Kahn, Executive Director, Northwest & Intermountain Power Producers Coalition
- Brian Silverstein, Senior Vice President of Transmission Services, Bonneville Power Administration

2:45 – 3:00 p.m. Break

3:00 – 4:30 p.m. Examination of operational or dispatch provisions of wholesale tariffs and market rules

The Commission seeks input on the suitability of current and new tariffs and rules as renewables increase. Panelists are encouraged to, among other things:

- Explain any particular operational or dispatch aspects of renewable resources that tariffs and market rules may not now directly address and whether it may be necessary to revise tariffs with the integration of large amounts of renewable resources.
- Identify any additional products/markets that could be added to wholesale tariffs to better accommodate the integration of renewable energy, including new technologies or better integration of existing technologies, including demand side technologies.
- Address whether the integration of renewable resources otherwise causes additional unit specific costs (e.g., ramping) and/or operational system costs (e.g., ancillary services), what these costs are, how they are currently being assessed and recovered; and how best to manage any additional costs.

- What lessons can we take from regions that are already incorporating large amounts of wind and what is the best way to share those lessons?

- Hon. Alan Schriber, Chairman, Public Utilities Commission of Ohio
- Brendan Kirby, Consultant, on behalf of the American Wind Energy Association
- Mike Grable, General Counsel, ERCOT
- John Lucas, GM Transmission Policy and Services, Southern Company Transmission
- Udi Helman, Principal Economist, California ISO
- Marguerite Wagner, Director, Regulatory and Market Policy, PSEG Texas, L.P.
- Praveen Kathpal, Director of Market Affairs, Grid Stability and Efficiency Group, AES Corporation

4:30 – 4:45 p.m. Wrap-Up Acting Chairman Jon Wellinghoff