



**Staff-Led Reliability Technical Conference  
On Geomagnetic Disturbances of the Bulk-Power System  
AD12-13-000**

**April 30, 2012  
11:00 p.m. – 4:00 p.m.**

**Agenda**

**11:00 a.m. Opening Remarks**

**11:10 a.m. Panel I: Assessment of Geomagnetic Disturbances (GMD) Risks**

**Presentations:** Panelists will address:

1. The North American Electric Reliability Corporation's (NERC) GMD Interim Report; other related assessments, e.g., Oak Ridge Study; and the differences between these reports and assessments.
2. The potential risks from geomagnetically induced currents (GIC)
  - a. Damage to transformers
  - b. Instability and System Blackout Costs and Damages
  - c. Incompatibility of Spare Equipment
3. Potential affects on equipment other than transformers (e.g. relays, breakers)

**Panelists**

- Scott Pugh – Interagency Programs Office, Science & Technology Directorate, U. S. Department of Homeland Security
- Mark Lauby – Vice President and Director of Reliability Assessment and Performance Analysis, North American Electric Reliability Corporation
- Frank Koza – Executive Director, Support Operations, PJM Interconnection LLC
- John Kappaman – Storm Analysis Consultants
- Dr. Ben McConnell – Research Scientist, Lecturer University of Tennessee
- John Houston – Division Senior Vice President, High Voltage Delivery & Compliance, CenterPoint Energy

**1:30 p.m. Break**

**1:45 p.m. Panel II: Moving Forward on GMD**

**Presentations:** Panelists will address

1. What, if any, actions should the Commission, NERC, or industry undertake in response to the NERC report or other related assessments?
  - a. Further scientific or technical studies?
  - b. Assessment of:
    - i. Technical specifications for new transformers
    - ii. Vulnerability and retrofit assessments for existing transformers
  - c. Additional operating rules and training?
  - d. Review of adequacy of spare transformers?
  - e. Development of reliability standards addressing any of the above?
2. What are the costs of potential mitigation options considered to date?
  - a. Operational procedures
  - b. System Protection Hardware/Software for new and existing transformers
  - c. Warning Hardware/Software
3. Wrap-up and next steps

**Panelists**

- William Murtagh – Program Coordinator, Space Weather Prediction Center, National Oceanic and Atmospheric Administration
- Singh Matharu – Senior Electrical Engineer Nuclear Reactor Regulation, Nuclear Regulatory Commission
- Michael Cousins – Head of Energy Resilience, UK Department of Energy and Climate Change
- Gerry Cauley – President and CEO, North American Electric Reliability Corporation
- Dr. Peter Vincent Pry – Executive Director, Task Force on National and Homeland Security
- Michael Heyeck – Senior Vice President of Transmission, American Electric Power Company
- Steven T. Naumann – Vice President, Transmission and NERC Policy, Exelon Corporation

**3:50 p.m. Closing Remarks**