U.S. Department of Energy

Office of Electricity Delivery and Energy Reliability

DOE SynchroPhasor Initiatives and Transmission Reliability Research

North American Synchrophasor Initiative

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Office of Electricity Delivery and Energy Reliability

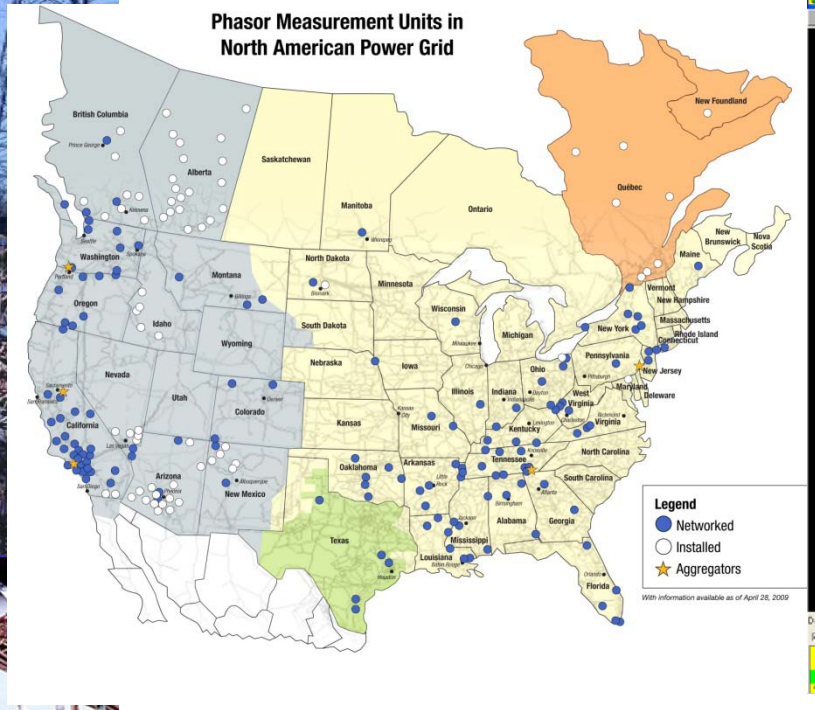
US Department of Energy

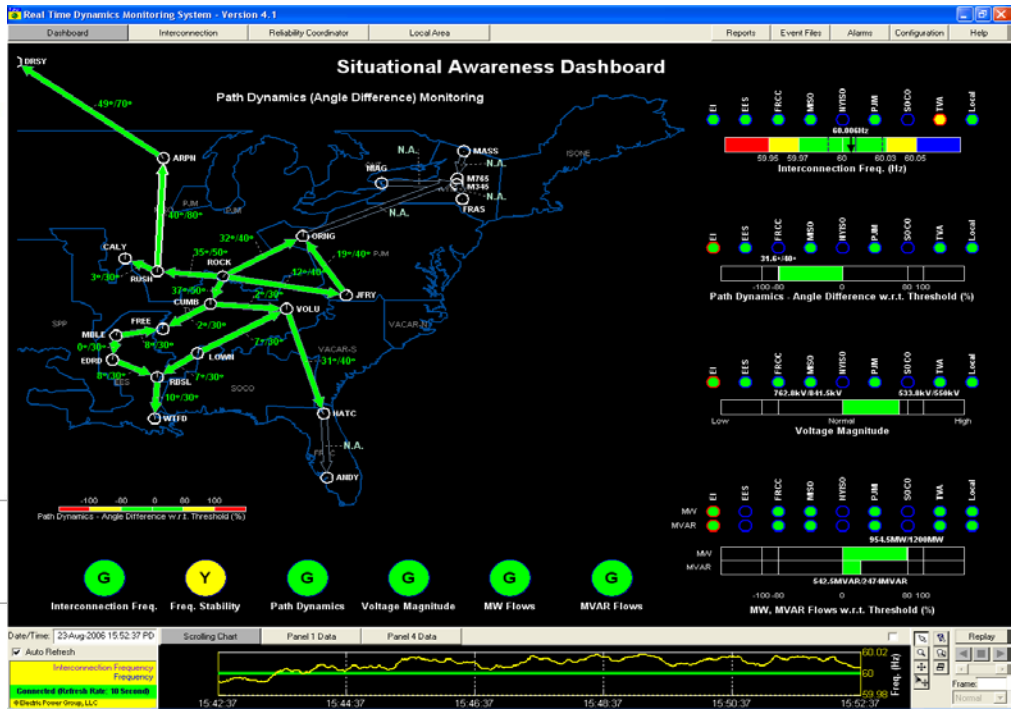
SGIG Electric Transmission Systems Projects

- American Transmission Company, LLC (PMU)
- American Transmission Company, LLC (SCADA)
- Duke Energy Carolinas, LLC
- Entergy Services, Inc.
- Midwest Energy, Inc
- Midwest ISO, Inc
- ISO New England, Inc
- New York ISO, Inc
- PJM Interconnection, LLC
- Western Electricity Coordinating Council

North American SynchroPhasor Initiative

DOE and NERC are working together closely with industry to enable wide area time-synchronized measurements that will enhance the reliability of the electric power grid through improved situational awareness and other applications





“Better information supports better - and faster - decisions.”

NASPI North American SynchroPhasor Initiative

SGIG and NASPI Synergy

- NASPI WG Panels on PMU, PDC, and Systems Specifications
- NASPI Template for PMU Registry
- SGIG Collecting and Disseminating Build and Benefits Metrics
- SGIG Cyber Security Plans
- Interoperability – C37.118 and 61850
- NASPI Task Teams to Address Issues
- NASPI Forum to Report SGIG Progress

DOE Transmission Reliability Program Advanced SynchroPhasor Research Projects

- SynchroPhasor-based Adaptive Relaying
- Implement Synchrophasor-based Three-Phase Tracking State Estimator for Unbalanced Conditions and Adaptive Islanding
- Real-Time Implementation of the Distributed Dynamic State Estimation for On-line Generator Parameter Identification and Wide-Area Transient Stability analysis
- Wide-area, Real-time Visualization of Frequency ,Voltage and Current Contours for Security Monitoring, on-line Identification of Major Events and Event “instant” Replay
- Power Grid Reliability and Security – Analysis and Simulation for a Secure Communication Network from PMU to Synchrophasor Applications
- Modal Analysis for Grid Operations
- New Security Tools for Real-Time Operations
- Adaptive Islanding Demonstration
- Mode Meter Development
- Characteristic Ellipsoid Method
- Reliability Compliance and Monitoring Tools
- PMU Test, Evaluation and Calibration

Contact Information

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Transmission Reliability Peer Review Oct 19-20, 2010
http://events.energetics.com/TRPeerReview/index.html