

Wisconsin PSC Chair Ellen Nowak

Cross-Border Electricity Security

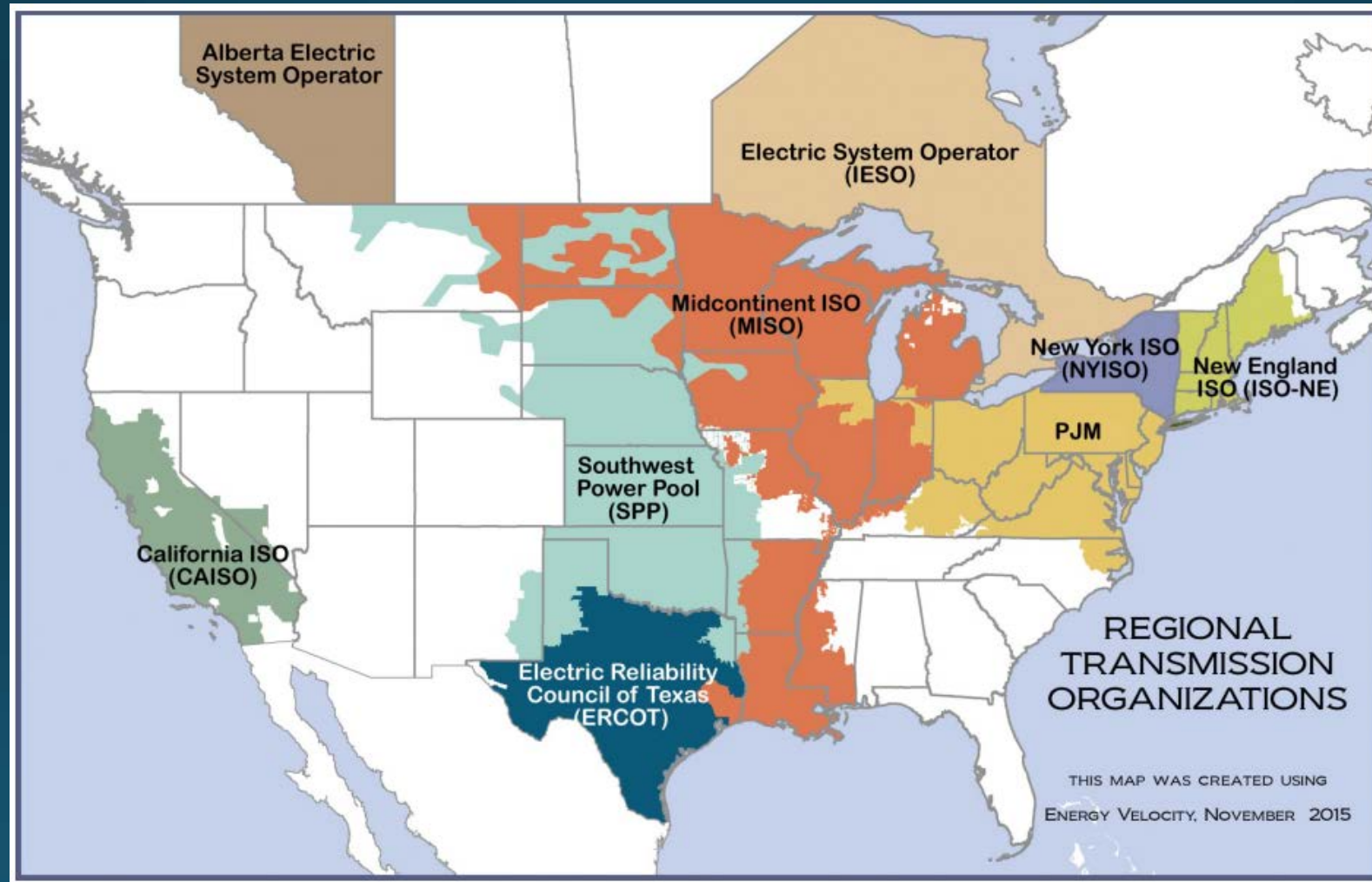
International Electricity Security Panel
and the Council of European Energy Regulators

April, 2016

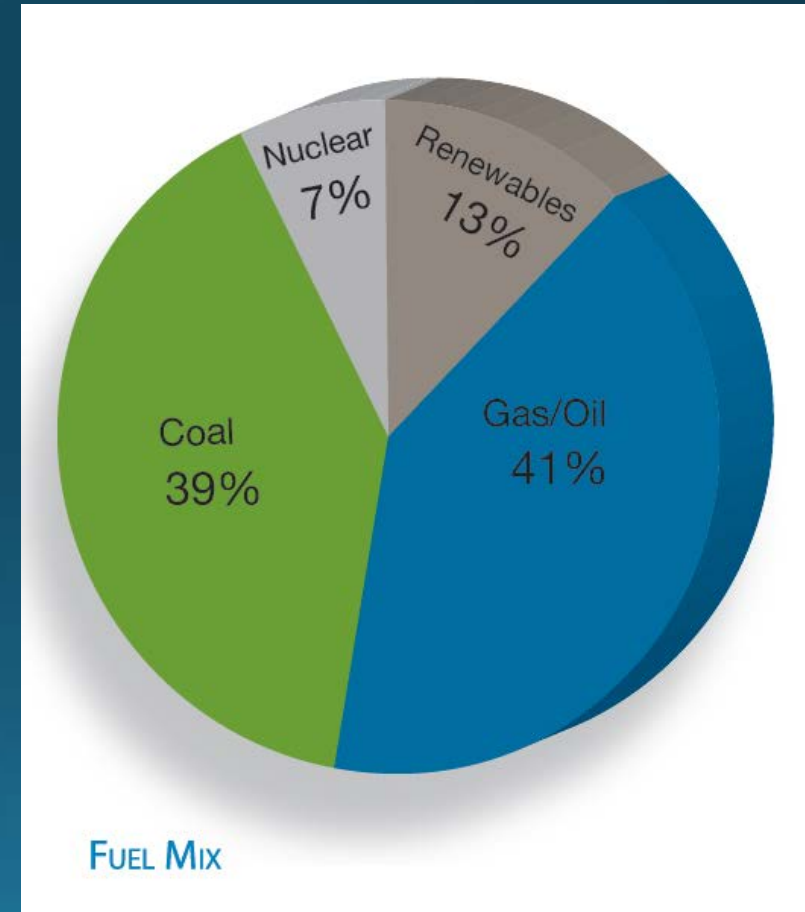
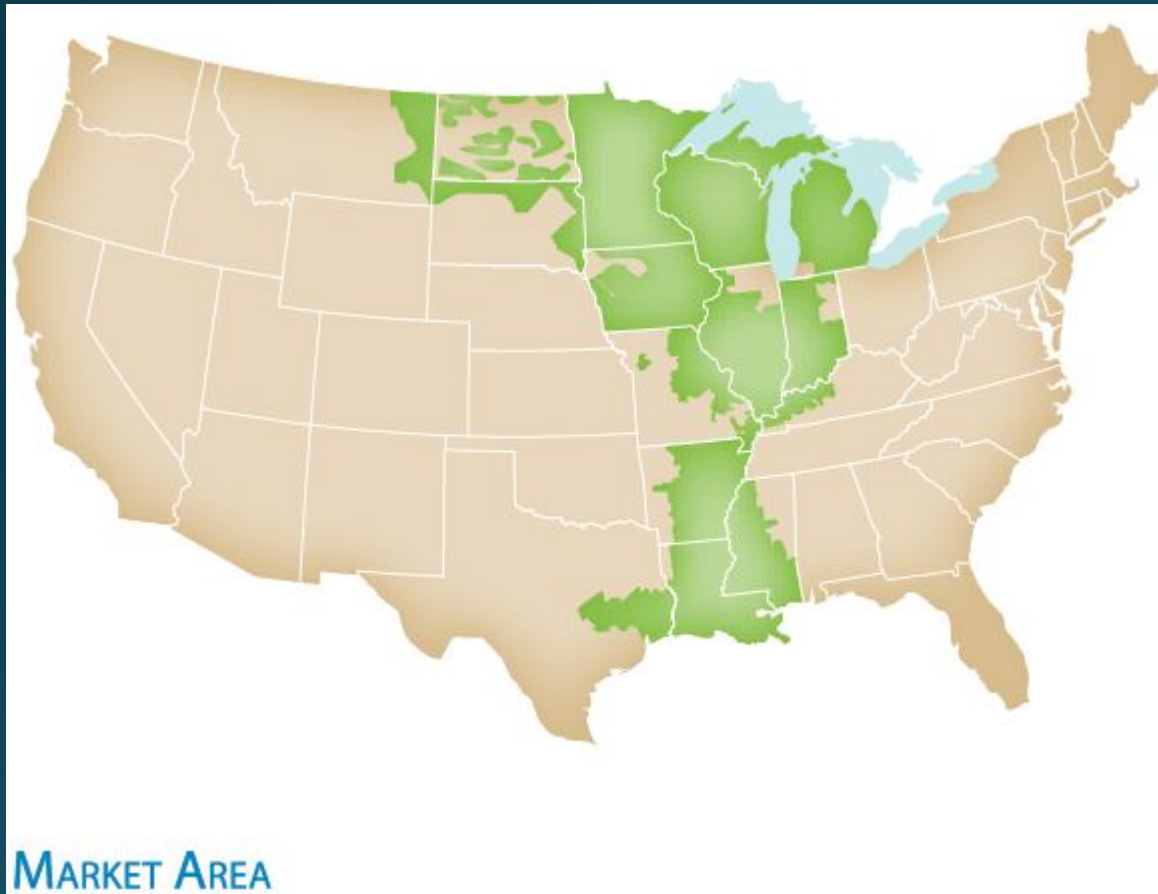
Cross-Border Electricity Security

- US RTO/ISOs
- MISO
 - Resource adequacy
 - Canada/hydro
- Physical and Cybersecurity of Assets
- Role of State Regulators
- States and Resource Planning

US RTO/ISOs

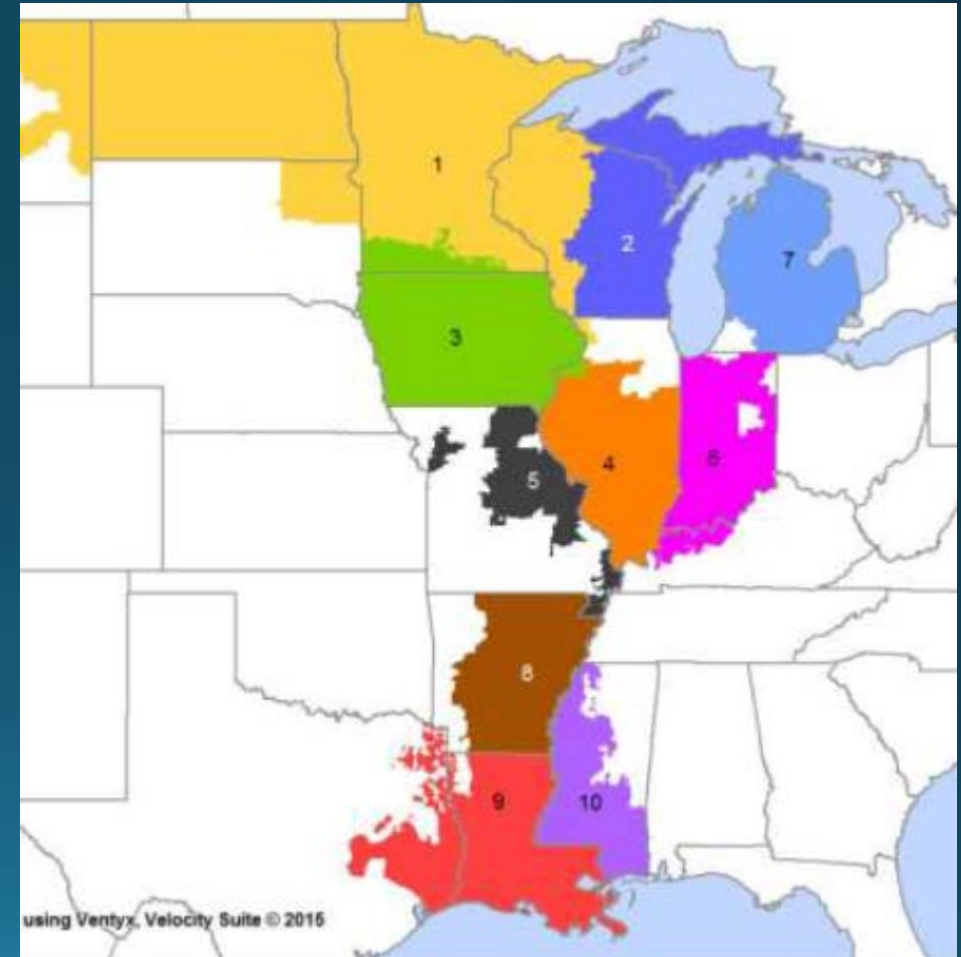


Midcontinent Independent System Operator (MISO)



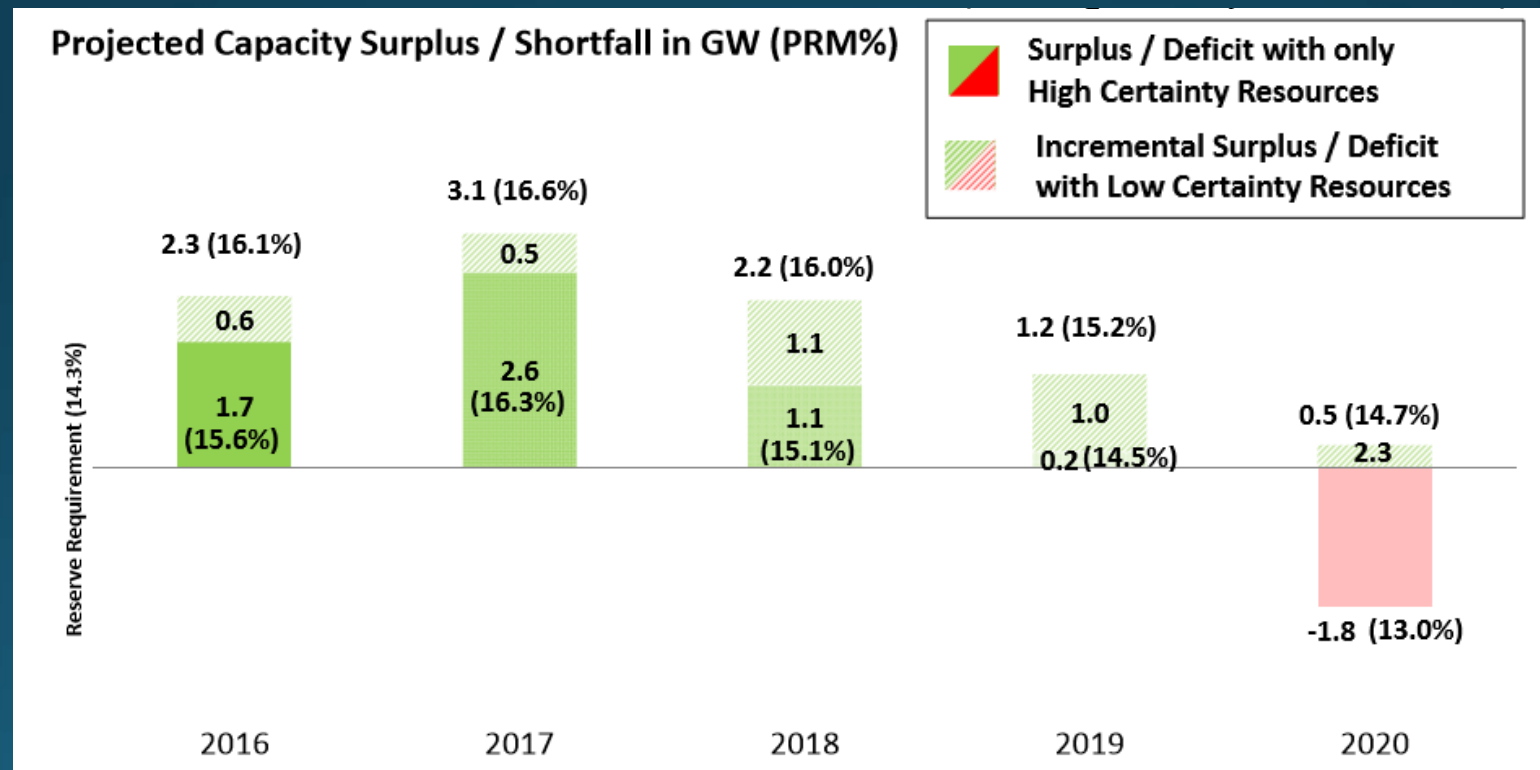
MISO- Resource Adequacy Required Summer Capacity Construct

- Load-Serving Entities (LSE) must meet their upcoming summer peak Planning Reserve Margin Requirements (PRMR) in a voluntary auction
- Auction is primarily used to balance excess supply with an LSEs remaining capacity needs
 - Majority of load does not participate in the auction, with load servers covering their own peak with owned or contracted generation
- MISO is working with stakeholders on a capacity construct design that will require peak loads to be met on a seasonal basis
 - Lessons learned from recent winter emergencies (Polar Vortex)

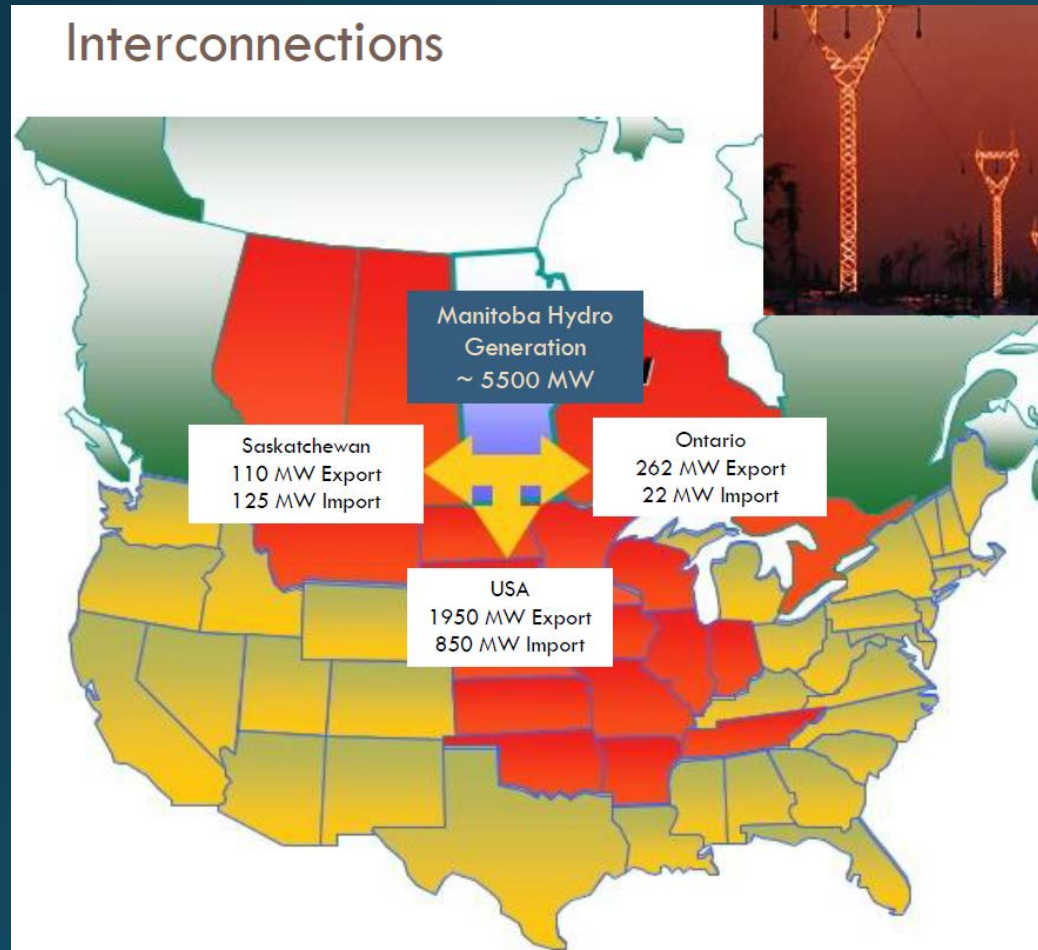


MISO- Resource Adequacy Survey

- MISO also conducts annual survey to forecast future resources
- Summer peak load and Planning Reserve Margin Requirements are projected
 - Information is gathered about generator capacity – high and low certainty
- MISO presents 10-year potential surplus or shortfall on a Local Resource Zone basis



MISO/Canada- Hydro

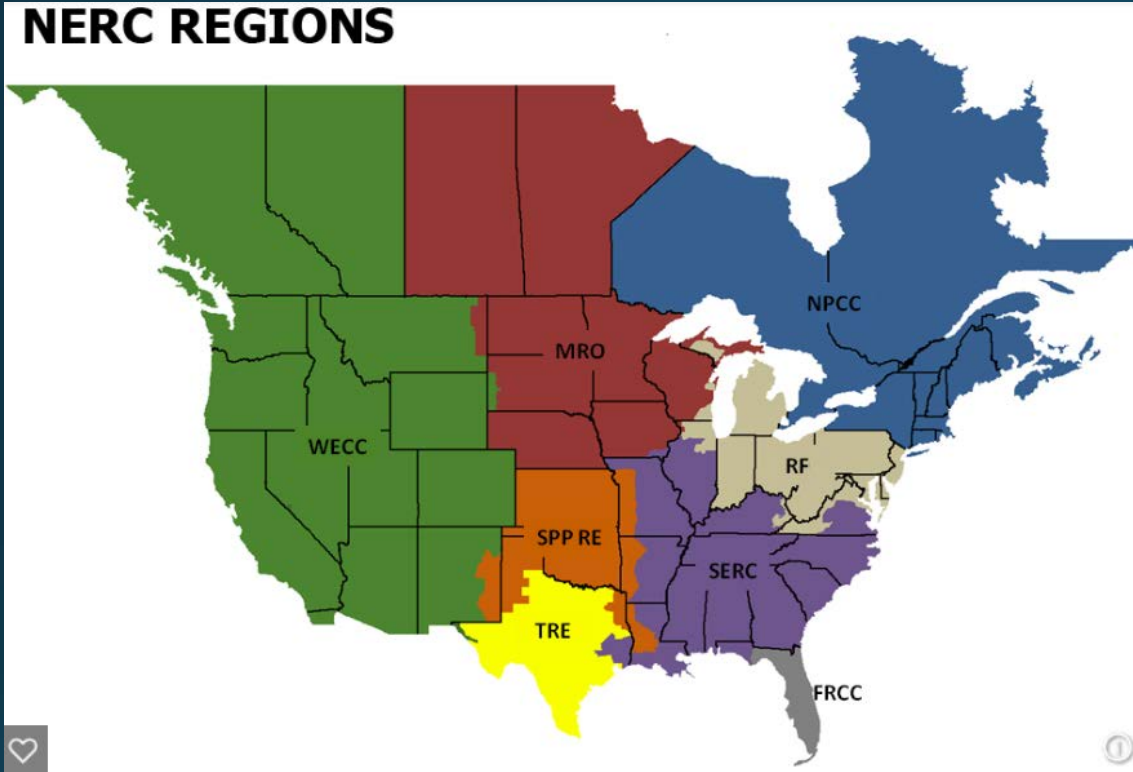


- 1,950 MW of power, mostly hydro, exported to the U.S. per contracts with utilities
- Manitoba Hydro planning several new large hydro facilities, High Voltage Direct Current transmission, and US tie line
- Much of the coordination done through MISO stakeholder transmission planning and resource adequacy processes

Courtesy of Manitoba Hydro presentation

Physical and Cybersecurity of Assets

NERC REGIONS



- North American Electric Reliability Corp (NERC)
- In charge of establishing mandatory reliability standards, as developed by industry partners and approved by FERC
- Critical Infrastructure Protection standards include cybersecurity and physical protection of bulk electric grid
- States coordinate with utilities within their borders, and with RTOs such as MISO

- Wisconsin PSC also collaborates with other state agencies on emergency preparedness through the state's Homeland Security Council



Wisconsin Homeland Security

Where Do State Regulators Influence Policy and Help Set Resource Adequacy Standards ? As Commissioners and as Staff!

Federal Energy Regulatory Commission (FERC)

- Docket Interventions
- Technical Hearings
- Commissioner Invitation Briefings

North American Electric Reliability Corporation (NERC)

- Standards Development Committee
- Member Representative Committee
- Other Committees
- GridEx III
- 10 Year Long Term Reliability Assessment

Independent System Operators (ISO's) Regional Transmission Organization (RTO)

- Advisory Committees
- Subcommittees
- Work Groups
- State Regional Entities by RTO.

Where Do State Regulators Influence Policy and Help Set Resource Adequacy Standards ?

As Commissioners and as Staff! Continued

National Association of Regulatory Utility Commissions (NARUC)

- Executive Committee
- Other Committees
 - Critical Infrastructure
 - Electricity
 - Gas
- Federal Government Collaboratives

Department of Energy

- Eastern Interconnection States Planning Council
- Now moving into a new forum (NCEP)

Environmental Protection Agency

- Comments on Proposed Rules
- Court challenge

Where Do State Regulators Influence Policy and Help Set Resource Adequacy Standards ?

As Commissioners and as Staff! Continued

State Utilities – Typically Investor Owned Utility

- Statutory
- Administrative Code
 - May set reserve level and fuel diversity
 - Transmission siting and purposes
 - Resource Planning/Energy Assessments
- Rate Case
- Construction Permits

US Department of Homeland Security

- Role of States in mitigating disasters
- Linked with State's own Emergency Management
- Linked into ISO's (i.e. MISO) emergency response sequences

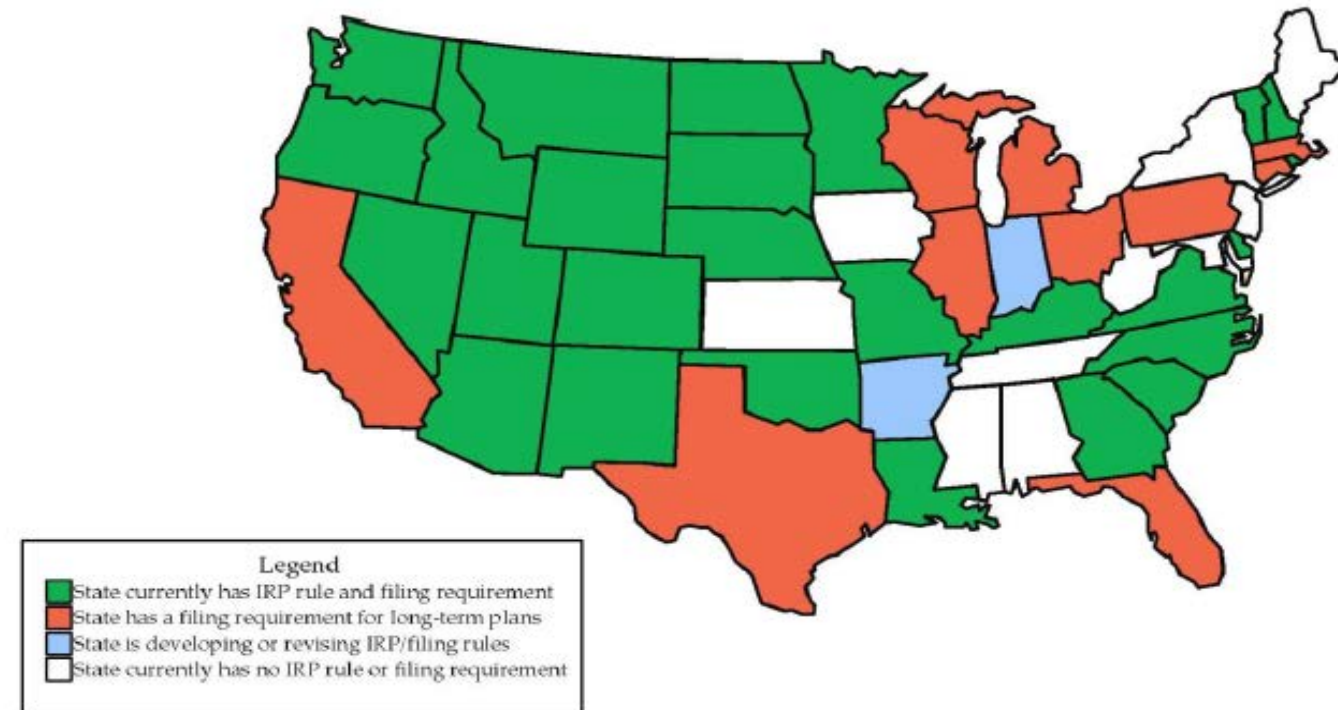
US Federal Acts

- 1920 Federal Power Act with major revisions in 1935 , Public Utilities Regulatory Policies Act 1978, Energy policy Act of 2005.
- Federal oversight on interstate electricity with State's rights on internal sales and resources

States & Resource Planning Processes

NAVIGANT

Figure 12. States with Integrated Resource Planning (or similar planning process)



Sources: Synapse Energy Economics, Inc. "Best Practices in Electric Utility Integrated Resource Planning", June 2013

Questions?