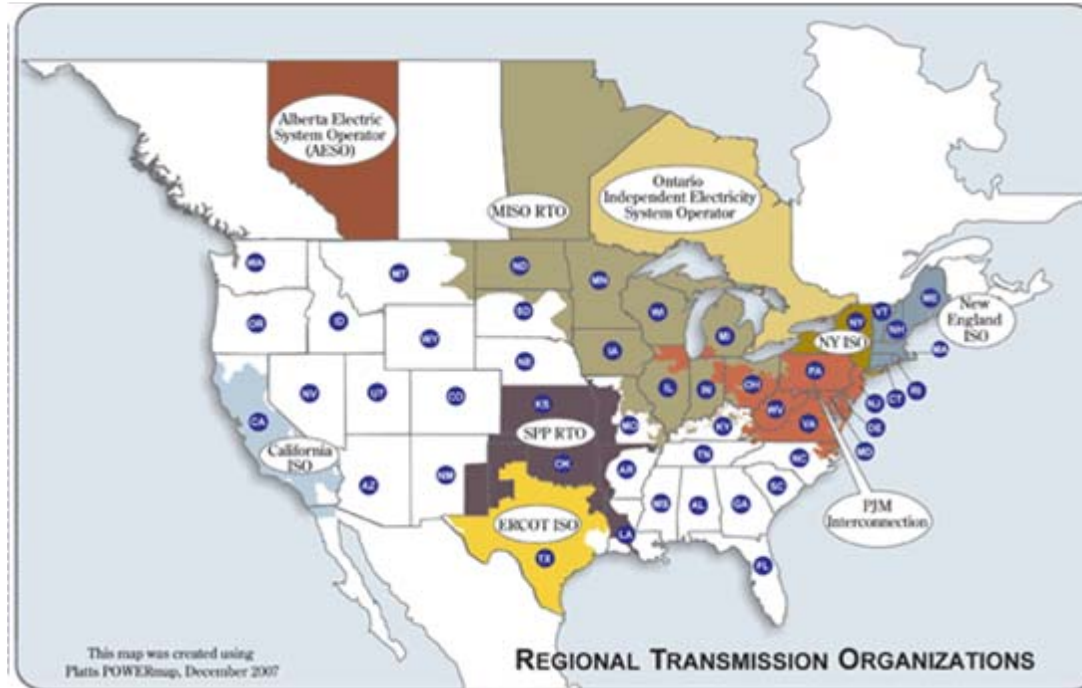


Midwest ISO Emergency Plans Presentation to the Regional Emergency Planning and Preparedness Meeting



Chicago, IL
Nov. 5 & 6 2008

What is an RTO?

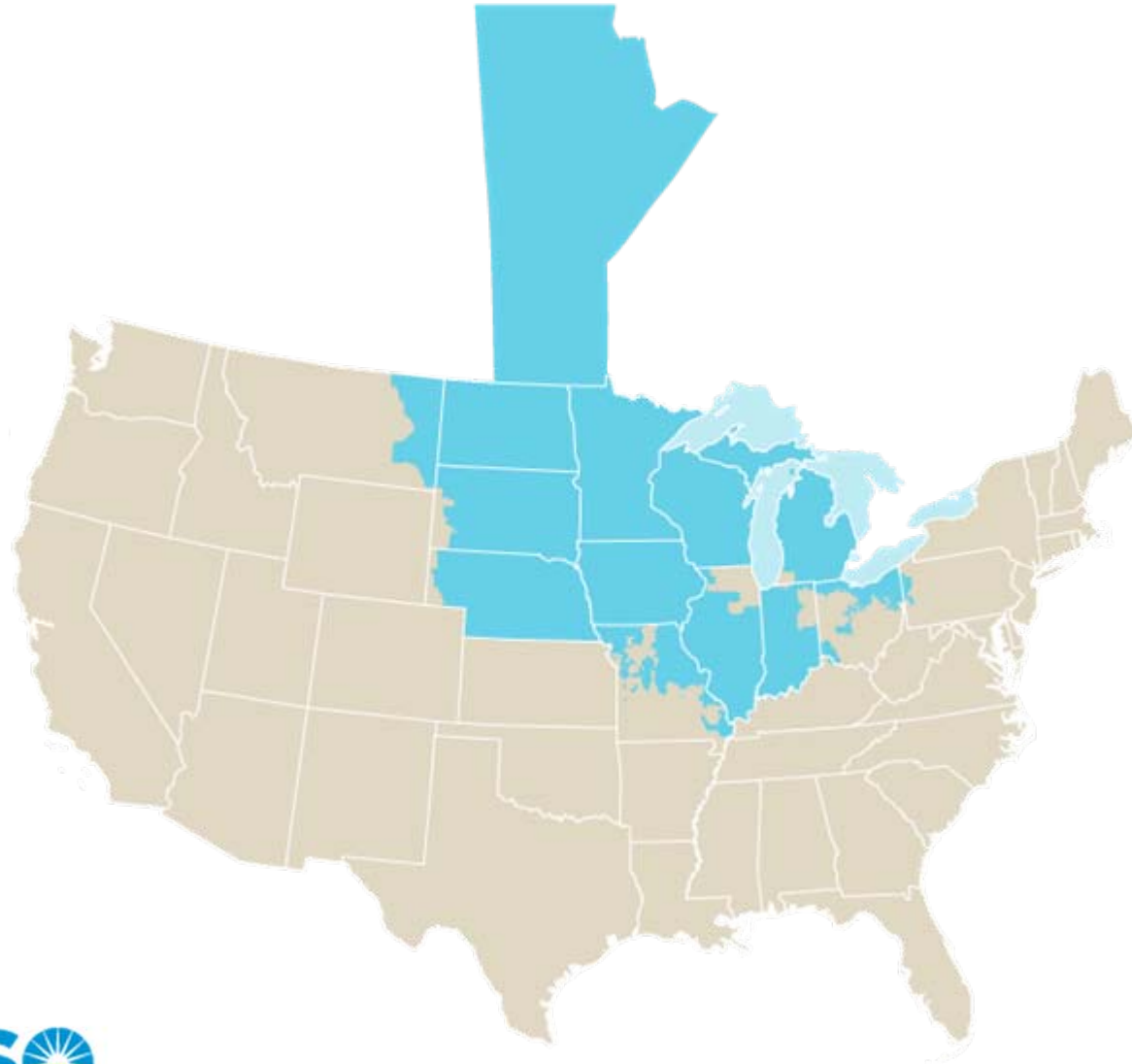


- Independent System Operators grew out of Orders Nos. 888/889 where the Federal Energy Regulatory Commission (FERC) suggested the concept of an Independent System Operator as one way for existing tight power pools to satisfy the requirement of providing non-discriminatory access to transmission.
- Subsequently, in Order No. 2000, the Commission encouraged the voluntary formation of Regional Transmission Organizations to administer the transmission grid on a regional basis throughout North America (including Canada). Order No. 2000 delineated twelve characteristics and functions that an entity must satisfy in order to become a Regional Transmission Organization.

Midwest ISO

- Midwest Independent Transmission System Operator (ISO) is an essential link in the safe, cost-effective delivery of electric power across much of North America.
- As a fully integrated regional transmission organization, Midwest ISO assures industry consumers of unbiased regional grid management and open access to the transmission facilities under Midwest ISO's functional supervision.
- Midwest ISO optimizes the efficiency of the interconnected system, provides regional solutions to regional planning needs and continually minimizes any risk to reliability.
- Midwest ISO manages one of the world's largest energy markets using security-constrained economic dispatch of generation. Market operations include a Day-Ahead Market, a Real-Time Market, and a Financial Transmission Rights (FTR) Market. These markets are operated and settled separately.
- Midwest ISO operates two 24/7/365 manned control centers, one in Carmel, IN and one in St. Paul, MN and one unmanned backup control center in Indianapolis, IN.

Midwest ISO Reliability Footprint



Midwest ISO Emergency Plans

- Crisis Management
- Emergency Response
- Reliability Operations
 - Abnormal Operation Procedures (AOP)
 - Emergency Operation Procedures (EOP)
 - Power Restoration
- Business Continuity

Crisis Management

- Crisis Management Team (CMT) - senior level executives responsible for management of any crisis that involves the decision to operate some or all of the business out of an alternate site, to evacuate the facility or facilities or to lock down one or more of the facilities
 - Activated in response to a crisis
 - Table top exercise conducted twice a year
 - One large scale exercise conducted at least annually

Emergency Response

- IT Network Operations Center (NOC) is a 24/7/365 team that monitors critical computer, computer infrastructure and data center functions and is responsible for notifying IT on-call whenever degradation or loss of service is detected.
- IT Operational Response Team (ORT) is made up of the IT on-call support and IT managers and is activated whenever a computer, computer infrastructure or data center issue is escalated
- IT Disaster Recovery Team is made up of IT support personnel and is activated when the decision is made to move operations to our backup data center
- Emergency Response Coordinators (ERC) are employee volunteers that are trained in evacuation procedures and responsible for evacuating personnel in their designated areas in the event of a disaster
- First responders are ERCs that are trained in minor first aid, CPR and AED.

Abnormal Operation

- Addresses the failure of Midwest ISO infrastructure or the infrastructure of an entity within Midwest ISO reliability footprint.
 - May be for the entire footprint or sub-area of footprint
 - Defined System Status Levels to indicate conditions related to infrastructure failures, required communication and preparedness
 - Computer system failure
 - Telephone system failure
 - Inter-Control Center Communications (ICCP) failure
 - Loss of Midwest ISO member control center infrastructure
 - Control system software application(s) failure
 - Physical security breaches/Control Center evacuation
 - Declared by the control room shift manager based on current conditions
 - Communication and coordination among all parties in the Midwest ISO reliability footprint
 - Exercised on a yearly basis.

System Status Levels

- Normal (Low)– No system status level in effect.
- Status Level 1 (Elevated) – Short duration, minor impact, cause known and quickly remedied
- Status Level 2 (High)– Longer term, major impact, cause unknown or not quickly remedied
- Status Level 3 (Severe) – Major impact on Midwest ISO's ability to operate the Bulk Electric System or Market System

Emergency Operation

- Outlines response to any abnormal system condition that requires automatic or immediate manual action in order to prevent or limit the failure of transmission facilities or generation supply that could adversely affect the reliability of the Bulk Electric System. The severity of the response is communicated through specific Alert, Warning, and Event level notifications including:
 - Maximum generation levels
 - Minimum generation levels
 - Transmission emergencies levels

Power Restoration

- Agreed upon procedures and communication protocols between Reliability Coordinators, Transmission Operators and Balancing Authorities who also have a responsibility for the reliable operation of the Bulk Electric System and will return to normal as soon as possible in the event of a partial or complete system blackout in Midwest ISO footprint
 - The Midwest ISO Reliability Coordinator's primary role is to serve as a facilitator during the restoration process: coordinating, exchanging information, and maintaining stability.
 - Midwest ISO Operations coordinates maintenance of the plan and the participating utilities in its footprint (Transmission Operator and Balancing Authority and neighboring Reliability Coordinators). This is done in conjunction with the Midwest ISO Emergency Planning and Power System Restoration Working Group and the Reliability subcommittee.
 - Restoration drills, complemented by seminars and other operator training, take place semi-annually in the spring and fall.

Business Continuity Plans

- Each of the major business areas maintain a business continuity plan. The plans address recovery and restoration of partially or completely interrupted critical (urgent) function(s) within a predetermined time after a disaster or extended disruption.
 - Identifies critical business processes. Defines the contingency or alternative plans for these processes.
 - Identifies contact information and contact methods.
 - Identifies alternative sites.
 - Table top exercises conducted once a year
 - Updated yearly

Corporate Communications

The Midwest ISO Corporate Communications will provide all communications, via media announcements and broadcasts, on system operations status during restoration or when system conditions warrant.

Questions

Tom Chernosky

Technical Manager of Business Continuity

tchernosky@midwestiso.org

317-249-5393