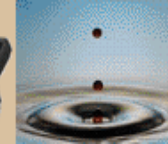
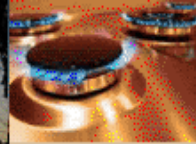




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Electric Grid Reliability and Security

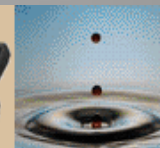
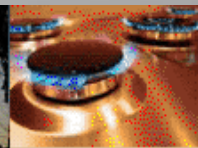
Joint Energy Committee
Hot Springs, Arkansas
September 24, 2014
Presented By: John P. Bethel

Topics Addressed

- Importance of Reliability and Security
- Regulations and Standards
- Cybersecurity
- Procedures for Restoration of Service
- Overview of Emergency Support Function 12 (ESF 12)



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Importance of Reliability and Security



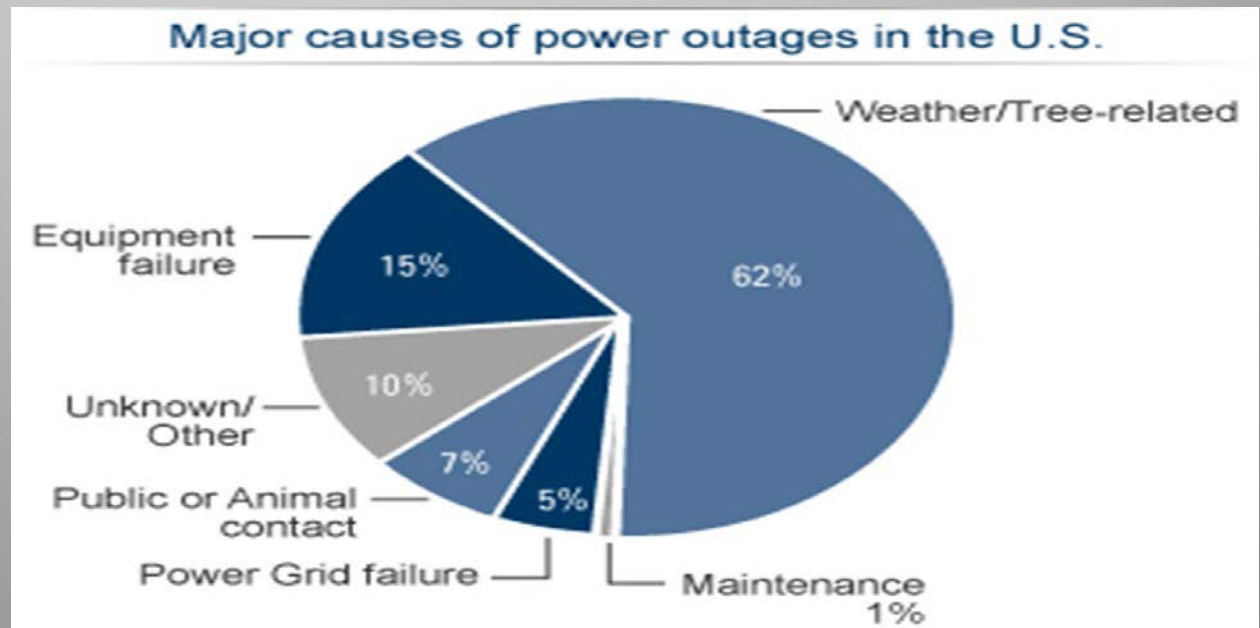
Reliable and Secure Electric Service

- Safety
- Reliability
- Reasonable Price



Reliable and Secure Electric Service

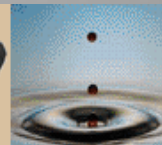
- Service available when desired
- Don't have to think about it
- Impacts many facets of life – health, comfort, convenience, economy



Regulations and Standards



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Regulations and Standards

- North American Electric Reliability Corporation (NERC)
- Regional Reliability Organizations
- Regional Transmission Organizations
- Southwest Power Pool (SPP)
- Mid Continent Independent System Operator (MISO)
- Federal Energy Regulatory Commission (FERC)



NERC Principles

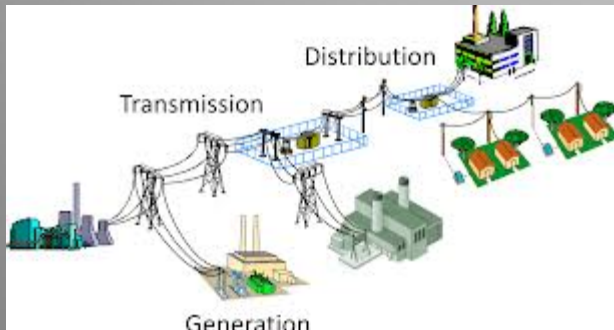
- **Reliability** – to address events and identifiable risks, thereby improving the reliability of the bulk power system.
- **Assurance** – to provide assurance to the public, industry, and government for the reliable performance of the bulk power system.

NERC Principles

- Education – to promote education and continuous improvement of operations and adapt to lessons learned for improved bulk power system reliability
- Risk-based Approach – to focus attention, resources, and actions on issues most important to bulk power system reliability

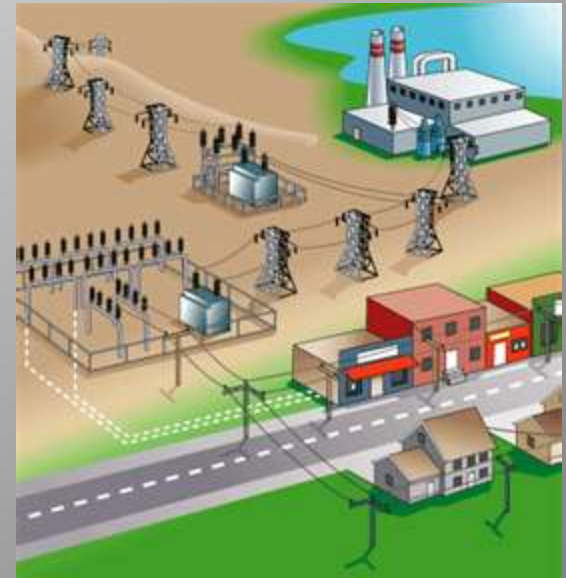
Commission Rules

- Special Rules – Electric
- National Electric Safety Code
- National Electric Code



Activities to Ensure Reliability

- Regular Inspections
- Regular Discussions
- Periodic Exercises (e.g., NLE 11 and Capstone 14)
- Response to Actual Events



Generating Facilities

- Staffing
- Video Monitoring
- Daily Monitoring
- Periodic Testing, Inspection, Maintenance



Transmission Facilities

- Supervisory Control and Data Acquisition (SCADA) Systems
- Substation Fencing and Lights
- Regular Patrols
- Ability to Isolate Faults and Serve with Alternate Facilities



Distribution Facilities

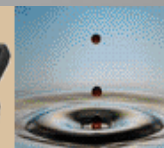
- Substation Fencing and Lights
- Regular Patrols
- Monitoring Technology
- Regular Patrols
- Ability to Isolate Faults and Serve with Alternate Facilities



Cybersecurity

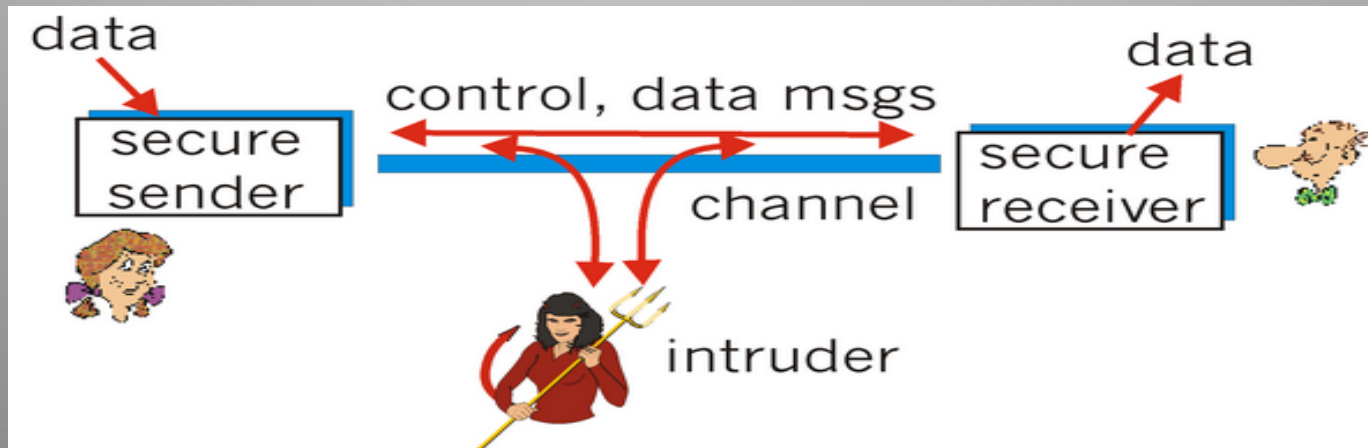


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Cybersecurity

- Cybersecurity is one element of all-hazards preparedness



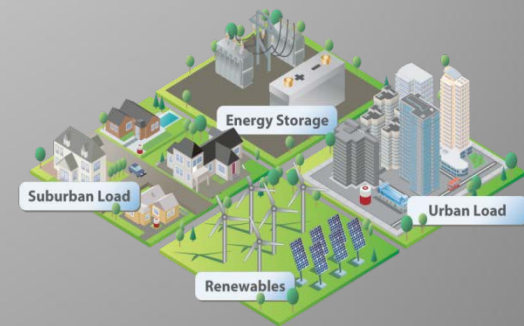
Cybersecurtiy

- Confidentiality – prevent unauthorized access to information
- Integrity – prevent the unauthorized modification or theft of information
- Availability – prevent the denial of service and ensuring authorized access to information



Cybersecurity

- Protect Conventional IT Systems
- Protect Control Systems
- Protect Electric Infrastructure





Procedures for Restoring Service



Restoration of Service

- Assess Damage
- Prioritize Human Needs and Public Safety
- Prioritize Large Circuits
- Mutual Assistance Agreements
- Web Pages
- Text Messages





Emergency Support Function 12 (ESF 12)



Background

- **Arkansas Emergency Operations Plan**
- **Developed pursuant to Ark. Code Ann. §12-75-101 et seq.**
- **Ensure the state is prepared for emergencies.**
- **Defines the roles and responsibilities of state agencies.**



ESF 12

- Commission is the ESF 12 Coordinator
- Several Supporting Agencies: AEO, ADEM, ADEQ, AHTD, County EMC, U.S. DOE, U.S. DOT, U.S. DHS, Utilities
- Reports status of restoration of damaged energy systems State Emergency Officials



ESF 12

- Restoration is responsibility of facility owners
- Provide information regarding status of restoration
- Advise local authorities on priorities
- Advise government entities of opportunities to assist utilities and facility owners in restoring service



ESF 12

- Provide representatives at the State EOC as needed
- Provide timely and accurate information
- Serve as single point of contact between government entities and utilities
- Serve as liaison
- Follow established procedures



ESF 12

- Regular exercises
- 2009, 2012, 2013, and 2014 ice storm experiences
- Tornado experiences



The End

■ Questions?



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