# NERC Reliability Compliance Overview

Joint Interim Committee on Energy

September 25, 2014

Reliability Regulation Background

- Blackout of 2003
  - Affected est. 10 million people in Ontario and 45 million people in eight U.S. states

- Led to passage of Energy Policy Act of 2005 whereby Congress assigned FERC as responsible for regulating reliability

- FERC delegated to NERC as the Electric Reliability Organization (ERO) responsible for writing, monitoring with, and enforcing mandatory Standards.

- NERC then delegated to eight Regional Entities (REs) to monitor and enforce compliance with the Standards.

NERC Regional Entities
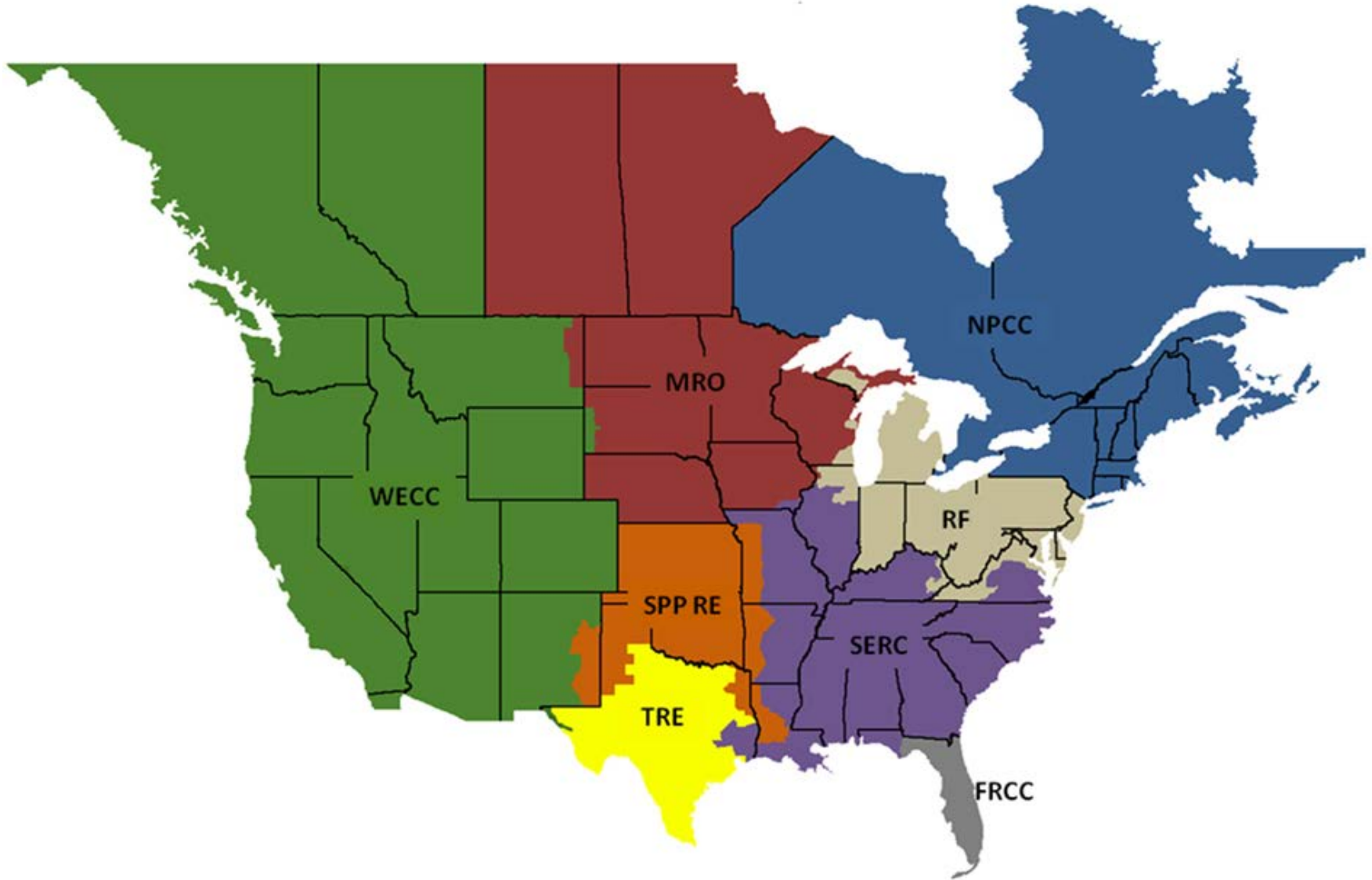
AEP Footprint

- More than 5 million customers across parts of 11 states

- 197,500 square miles across Arkansas, Indiana, Kentucky, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia and West Virginia.

- More than 38,000 circuit miles of transmission and 186,000 circuit miles of distribution lines.

AEP Service Territory

Service Territories
- Appalachian Power
- Kentucky Power
- Indiana Michigan Power
- AEP Ohio
- Public Service Company of Oklahoma
- SWEPCO
- AEP Texas

AEP AMERICAN ELECTRIC POWER

- AEP Companies operate in 4 NERC Reliability Regions, including:
  - Reliability*First* (RFC)
  - Southwest Power Pool (SPP)
  - Texas Reliability Entity (TRE)
  - Southeastern Region (SERC)

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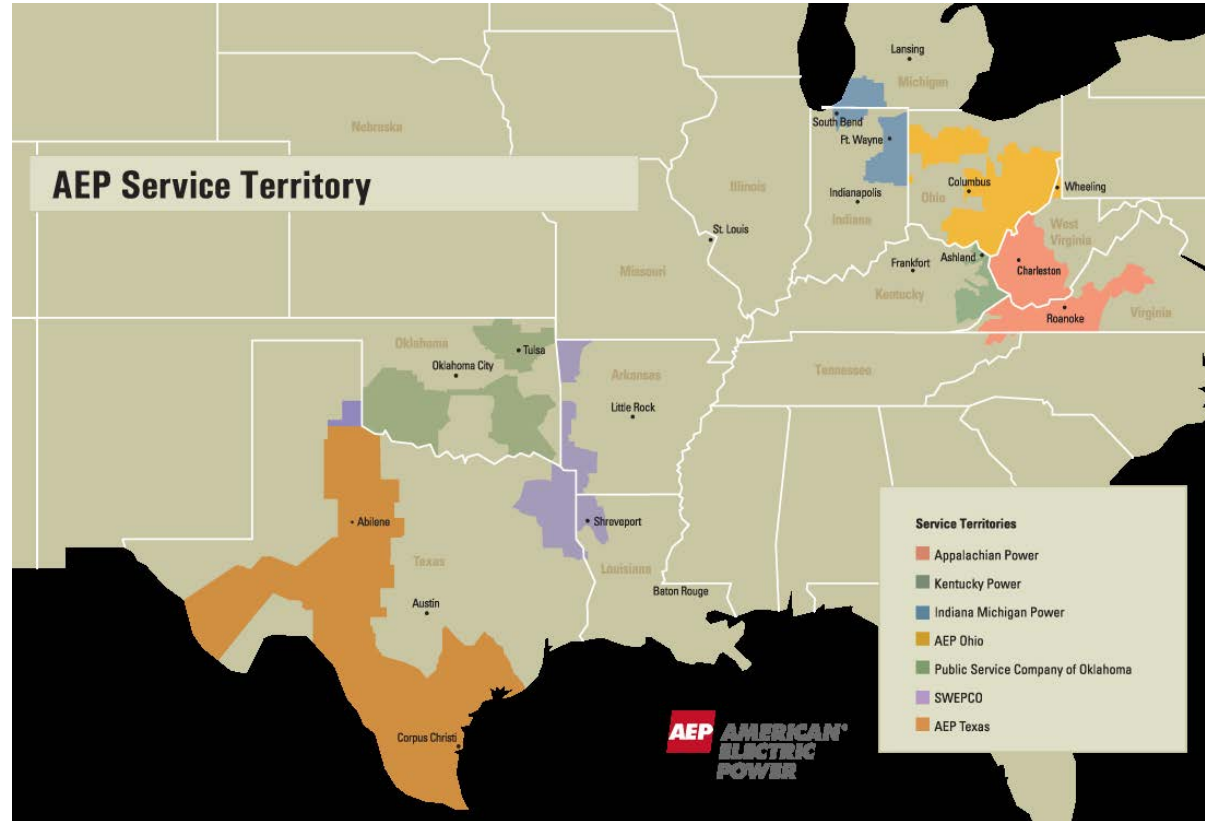
American Electric Power

- NERC Registrations
  - Balancing Authority (BA)
  - Distribution Provider (DP)
  - Generation Owner (GO)
  - Generation Operator (GOP)
  - Load Serving Entity (LSE)
  - Purchasing Selling Entity (PSE)
  - Resource Planner (RP)
  - Transmission Owner (TO)
  - Transmission Operator (TOP)
  - Transmission Planner (TP)

- AEP Operates in 4 NERC Reliability Regions
  - ReliabilityFirst (RFC)
  - Southwest Power Pool (SPP)
  - Texas Reliability Entity (TRE)
  - SERC Reliability Corporation

> AEP's large footprint requires compliance with 75% of NERC's 106 Standards and 62% of its 1,454 Requirements.

NERC Standard Families

- Balancing Resources and Demand (BAL)
- Critical Infrastructure Protection (CIP)
- Communications (COM)
- Emergency Operations (EOP)
- Facilities Design, Connections, and Maintenance (FAC)
- Interchange Scheduling and Coordination (INT)
- Interconnection Reliability Operations and Coordination (IRO)
- Modeling (MOD)
- Personnel Performance, Training and Qualifications (PER)
- Protection and Control (PRC)
- Transmission Operations (TOP)
- Transmission Planning (TPL)
- Voltage and Reactive (VAR)

Critical Infrastructure Protection
(Current Version – Version 3)

- CIP-002 – Critical Cyber Asset Identification

- CIP-003 – Security Management Controls

- CIP-004 – Personnel & Training

- CIP-005 – Electronic Security Perimeters

- CIP-006 – Physical Security of Critical Cyber Assets

- CIP-007 – Systems Security Management

- CIP-008 – Incident Reporting and Response Planning

- CIP-009 – Recovery Plans for Critical Cyber Assets

Critical Infrastructure Protection
## (New CIP Standards)

- CIP-010 – Configuration Change Management and Vulnerability Assessments

- CIP-011 – Information Protection

- CIP-014 – Physical Security

Current Issues

- Metcalf Response

- GMD / EMP

- CIP Version 5 / 6

- Reliability Assurance Initiative

NERC's Changing Landscape

- Recognition that existing "zero tolerance" compliance model is not optimal
  - Too focused on compliance risk rather than true reliability risk
  - Not effective or sustainable to monitor and control all compliance to the same degree
  - Focuses only on historical, not current or future state of reliability

Reliability

Compliance

AEP
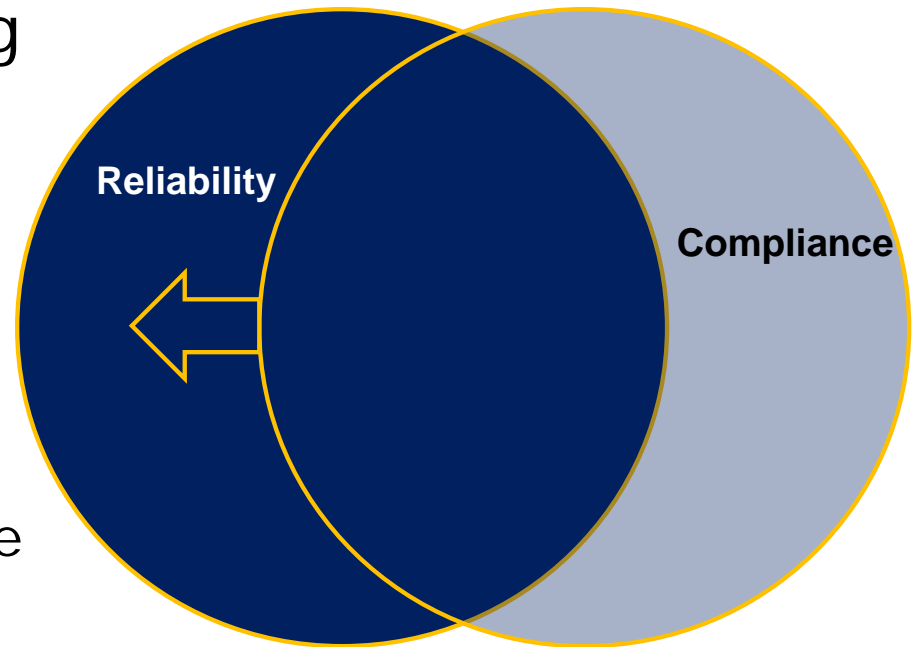
NERC's Changing Landscape

- **Proposed End State – *Risk-Informed* Approach**

  - Transition to compliance <u>monitoring based on risk</u>

  - Transition to prioritizing and <u>treating violations in accordance with their risk</u>

  - Transition to utilizing monitoring and enforcement to send more <u>meaningful signals</u> based on risk

  - Transition to <u>risk-based Reliability Standards</u> through creation of a feedback loop to standards development process