



**THE GOOD, THE BAD,
AND THE UGLY**

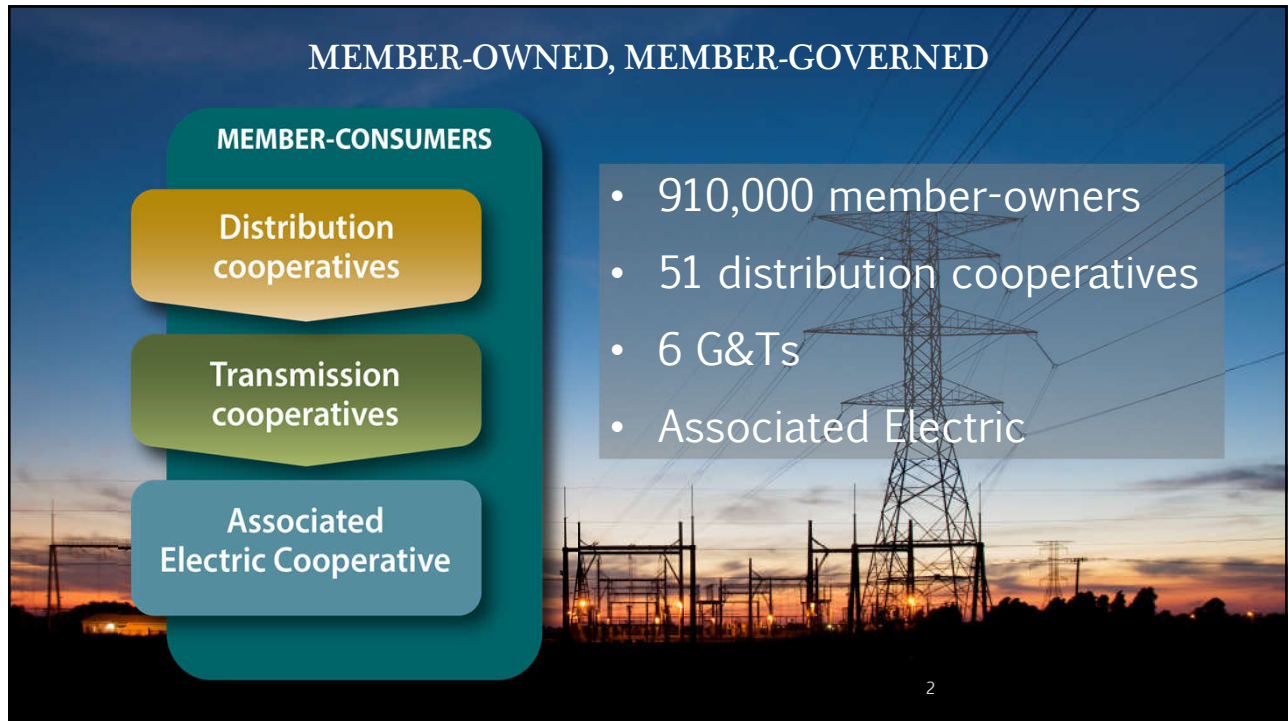
Earthquake Preparedness for AECI's
Power Generation Facilities

February 21, 2020

Associated Electric Cooperative, Inc.

Ken Wilmot
Sr. Vice President & Chief Operations Officer

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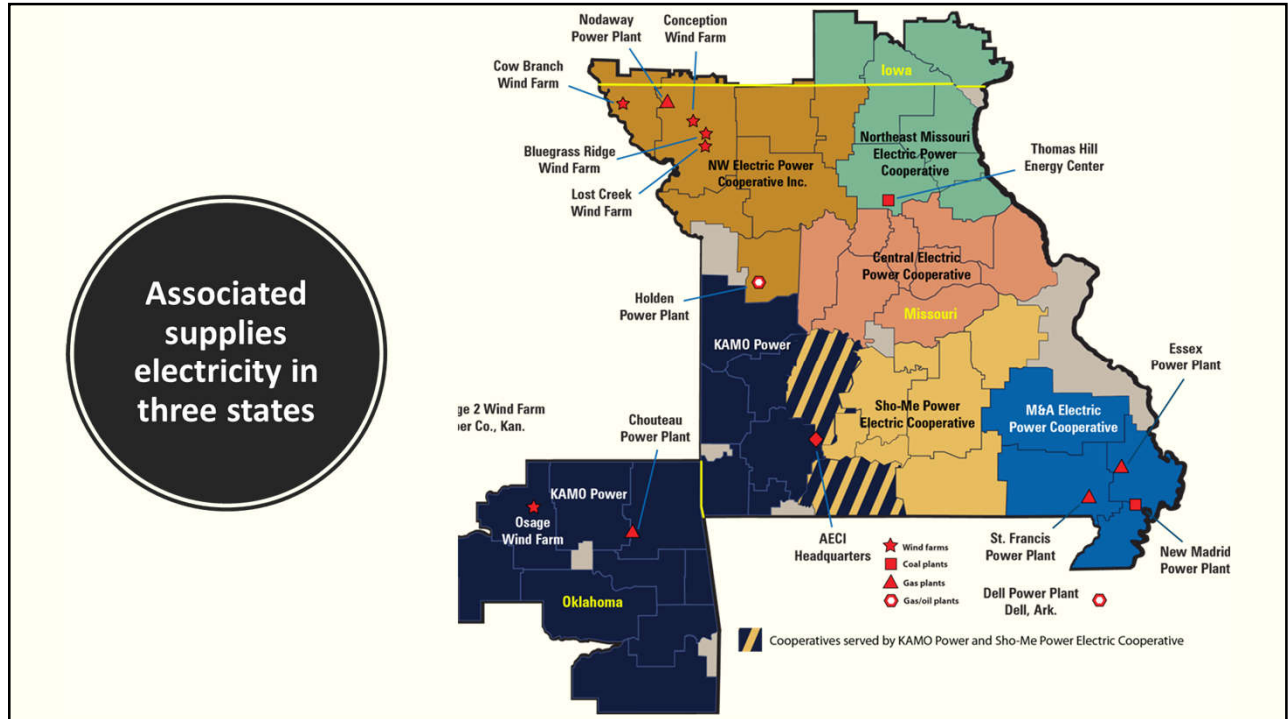
MEMBER-OWNED, MEMBER-GOVERNED

MEMBER-CONSUMERS

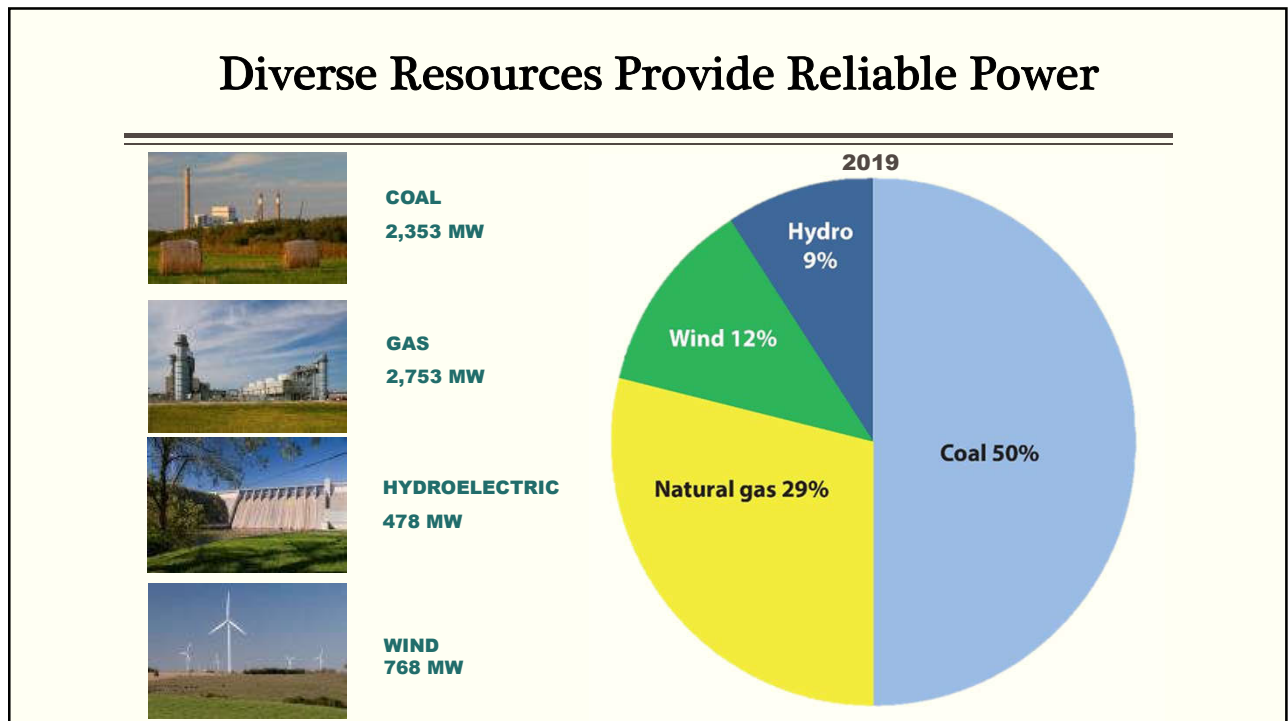
- Distribution cooperatives
- Transmission cooperatives
- Associated Electric Cooperative

- 910,000 member-owners
- 51 distribution cooperatives
- 6 G&Ts
- Associated Electric

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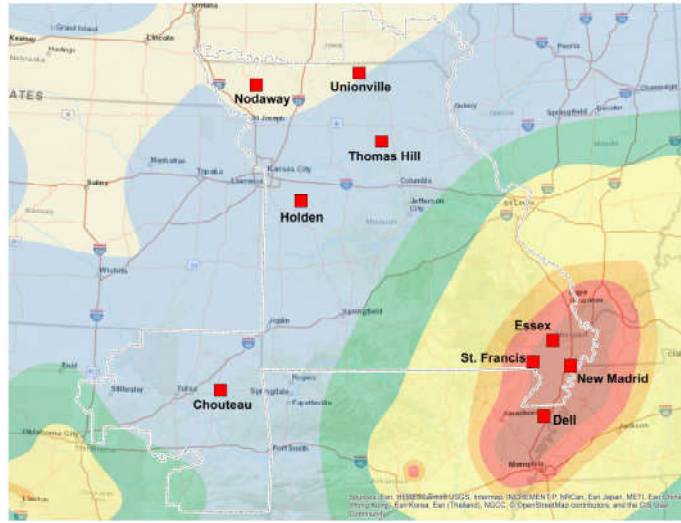


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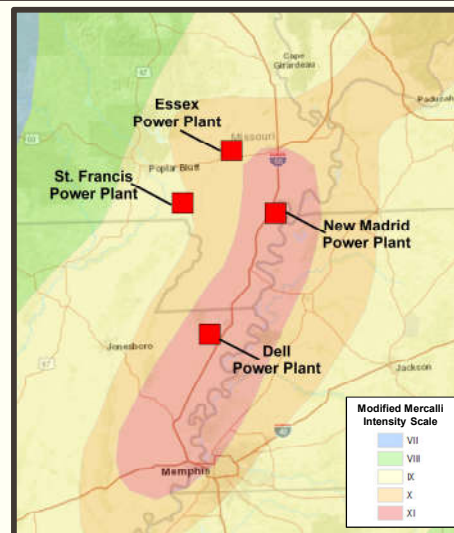
Generation Assets vs. Seismic Hazard



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Generating Assets within New Madrid Seismic Zone

- New Madrid**
MODIFIED MERCALLI SCALE LEVEL XI
Extensive Collapse
- Dell**
MODIFIED MERCALLI SCALE LEVEL XI
Extensive Collapse
- Essex**
MODIFIED MERCALLI SCALE LEVEL X
Extensive Collapse
- St. Francis**
MODIFIED MERCALLI SCALE LEVEL IX
Partial/Complete Collapse



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Common Seismic Aspects

- Generating units designed and constructed to seismic code in effect at the time.
- As plants add new systems, components are designed to most current seismic code.
- Many Original Equipment Manufacturer's (OEMs) inspection procedures were developed for a variety of systems.
- Engineering changes implemented



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Risk Management/Emergency Planning

- Crisis Management – Train and Practice
- Process Safety Management*
- Risk Management Plans*
- Emergency Restoration Plans (ERP)*
- Facility Response Plans
- Onsite Emergency Response Teams (ERT)
- Earthquake Simulations (2011 with SEMA)
- Local Emergency Planning Committee (LEPC)
- Water, food, batteries, med supplies, flashlights, etc.



* Regulated by OSHA, EPA or RUS

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Crisis Management



Crisis Management Team is Activated



- First priority is employee and public safety
- First few steps:
 - Incident assessment ✓
 - Emergency response ✓
 - Notifications to agencies ✓

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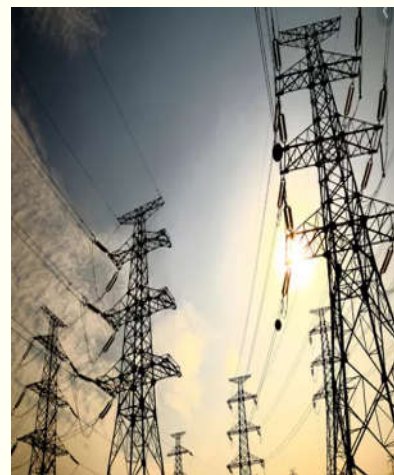
Recovery/Restoration

Emergency Restoration Plan (ERP)

- Mitigation and Restoration Strategies
- Complies with Rural Utility Service (RUS) regulations
- References dozens of detailed internal restoration plans

Blackstart Capability

Generating Asset Inspections and Testing



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CONCLUSION