

Ameren Illinois



2014 TCIPG Annual Workshop

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Ameren Corporation

- **Diversified Regional Electric and Gas Utility**
 - Serving 2.4 million electric and 933,000 gas customers over 64,000 square miles in Illinois and Missouri
 - Generating 10,300 MW regulated electric generation capacity in Missouri
 - Maintaining 7,400 circuit miles of electric transmission
 - Employing more than 8500 personnel
 - Average annual economic impact of \$8.6 billion



What about NERC-CIP

- Previous versions did not include the Distribution Systems. In the past, that has presented challenges to implement cyber and physical security enhancements to these systems.
- Version 5 does include them. Ameren is in the process of finalizing our approach to be in compliance with V5. Previous versions did apply to our Transmission business segment. We have been successful with the existing program and we are using the programs developed as our starting point for Distribution as well as in our Generation Fleet. At this time, AMI does not fall under NERC-CIP but we have designed our systems with Cybersecurity at the forefront.
- Medium classified assets must be in compliance April 2016 and Low classified assets in April 2017. We have determined Ameren does not have any High category assets.

Future Areas of Concern

- Network Segmentation
- Zero Day threats
- Configuration Management
- Patching
- Situational Awareness

Additional Projects

- DOE released a funding opportunity announcement (FOA) for cybersecurity in the electric sector. Ameren is participating in 3 initiatives which will be completed in a 2-3 year timeframe.
 - **Topic Area 2** – Project Lead is Schweitzer Engineering Lab - The Self Defining Network project addresses *Topic Area of Interest 2: Sustain critical energy delivery functions while responding to a cyber-intrusion*, by developing a Flow Controller that monitors, configures, and maintains the safe, reliable network traffic flows of all the local area networks (LANs) on a control system in the Energy sector.
 - **Topic Area 4** – Project Lead is Electric Power Research Institute - This project will provide an open-source ontology driven policy based configuration framework wherein energy sector devices can be securely configured for access control, authorization, and authentication. By building this framework in a modular way, the framework will provide the necessary flexibility and adaptability for both legacy and future devices.
 - **Collaborative Defense of Transmission & Distribution Protection & Control Devices Against Cyber Attacks** - Project lead is ABB. This project will advance the state of the art for cyber defense methods for transmission and distribution grid protection and control devices by developing and demonstrating a distributed security domain layer that enables transmission and protection devices to collaboratively defend against cyber attacks in an IEC 61850 environment. The collaborative defense system will be incorporated into the firmware of enhanced relays in a utility setting.
- **RENDER Project** - RENDER is a self-sustaining group that will evaluate the risk of disclosed cyber exploits and operational impacts that could result if energy sector control systems were exploited. The RENDER group comprised of DOE, INL, and energy sector vendors and asset owners will identify disclosed cyber exploits that will be analyzed against energy sector control systems. This will include analysis of exploits against control systems, vendor evaluation of lab analysis against the installed base, and asset owner analysis of the operational impact. The results will be documented and a consortium report will be prepared, reviewed and published.





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