

# NERC Critical Infrastructure Protection Tools and Techniques



## Background, Objectives, and New Learnings

Cyber security standards have been developed as a result of continual threats to business and process control networks. In recent years, electric utilities that are part of the bulk electric system (BES) have established cyber security programs to ensure compliance with the critical infrastructure protection (CIP) standards of the North American Electric Reliability Corporation (NERC).

Compliance with NERC CIP requirements is non-trivial and requires IT staff and control engineers to work together to implement and maintain a cyber security program for control systems. Version 5 of the NERC CIP Standards is currently under review by the Federal Energy Regulatory Commission (FERC) and pending approval. Although compliance with the currently mandatory Version 3 of NERC CIP has been difficult for utilities, the upcoming Version 5 requirements will increase the scope of cyber assets that must be compliant. This will create significant challenges as new devices and systems come under the purview of NERC CIP Version 5.

The objective of this project is to provide techniques and methodologies for transitioning to the upcoming NERC CIP Version 5 Standards.

## Benefits

This research can benefit the public in several ways, most notably by broader adoption of compliant security implementations and compliance with NERC CIP version 5.

Providing techniques for transitioning to NERC CIP Version 5:

- Identification of gaps in current tools
- Provide guidance and techniques for complying with NERC CIP requirements
- Areas of focus may include:
  - Configuration and change management
  - Identity access management
  - Patch management

This project intends to provide participants with the following benefits:

- Strategies and tools for transitioning existing cyber security programs from the current Version 3 to Version 5
- Guidance and techniques for reaching effective regulatory compliance with Version 5 of the NERC CIP Standards

## Project Approach and Summary

The objective of this project is to provide techniques for transitioning to the upcoming NERC CIP Version 5 Standards. This will assist utilities in identifying gaps in current tools that have been employed to address the CIP requirements. This will lead to the development of solutions that can be used by asset owners to better validate and enhance the security posture of their critical cyber assets. The project may include topics such as:

- Identity access management
- Configuration change management
- Patch management
- Determination of BES cyber assets and BES cyber systems based on new Bright-Line Criteria

## Deliverables

- Workshop – NERC CIP Version 5 workshop at EPRI's Cyber Security Research Lab in Knoxville, TN and resulting Training DVD
- Webcast Discussion Forums and Updates (Bi-Monthly)
- Technical Report – "NERC CIP Tools and Techniques"

### **Price of Project**

The price to participate in this project is \$50,000. This project qualifies for tailored collaboration or self directed funding.

### **Project Status and Schedule**

This project will begin when there are a minimum of five funders and is anticipated to commence in early 2014. It is anticipated this project will last one year.

### **Who Should Join**

Utilities that are proactively pursuing NERC CIP Version 5 compliance could benefit from this project. There will be several new challenges and solutions associated with the transition to Version 5. Utilities seeking to effectively and efficiently meet these new requirements should participate in this project to accelerate their preparedness.

### **Contact Information**

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 ([askepri@epri.com](mailto:askepri@epri.com)).

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