Network Architecture and Cyber Security: Cyber Security

Background

Digital systems in nuclear power plants are the focus of increased scrutiny by global regulatory and legislative bodies. Westinghouse customers are now facing a challenging and changing landscape of regulation and legislation regarding the protection of their critical digital assets. Westinghouse is uniquely positioned to provide cyber security products and services to meet today's regulations.

Description

Westinghouse has developed a cyber security program to encompass the establishment, implementation and maintenance of products and systems for nuclear facilities. The program enforces the use of secure development environments, assessments of security controls, and the implementation of cutting-edge cyber security tools and techniques throughout the development life cycle. The program was designed to provide high assurance that Westinghouse products and services are compliant with current cyber security requirements, such as Nuclear Energy Institute (NEI) Cyber Security Plan for Nuclear Power Reactors (NEI 08-09) and Regulatory Guide 5.71.

Westinghouse's team of cyber security experts are experienced in designing and assessing nuclear systems and assets. They possess cyber security certifications and are available to provide cyber security support for nuclear utilities worldwide.

Westinghouse is able to provide a specialized nuclear-specific approach to cyber security, and has experience assisting customers worldwide with the implementation of cyber security programs.

The following products and services are offered to Westinghouse customers, and in most cases, product sheets are available that provide additional detail.

Cyber Security Program Development

- Cyber security plan/program development and training
- Cyber security policy and procedure drafting
- Cyber security defensive strategy design, documentation and implementation

Event Management and Intrusion Prevention

- Network monitoring, intrusion detection and log correlation
- Specially configured content developed by Westinghouse for the nuclear industry
- Configuration, hardware and software support, and on-site training

Specialized Cyber Security Training

- Specialized training provided by Westinghouse designed to satisfy regulatory requirements
- Hands-on and classroom instruction with current security technologies on a wide range of nuclear cyber security concepts
- Four different one-week classes of up to 10 students each

Host-based Security Solutions

- Provide nuclear expertise and configuration of industry leading security products to verify that host-based critical digital assets are secure
- Solutions are based upon the individual needs of the customer, and may be tested for compatibility prior to installation

Vulnerability Scanning

- Provide the ability to perform vulnerability scanning on a virtualized environment, eliminating the risk of adverse impacts on plant systems

Assessments

- Provide training, consulting, and assessment team resources to deliver high-quality and accurate assessment results

Westinghouse

- Utilizes a specialized assessment methodology that may provide up to a 66-percent reduction in the time to complete assessments

Ovation Security

- Provide solutions based upon customer needs, including Emerson™ PWCS, and additional features through McAfee®

- New Ovation® systems can be built in the Westinghouse Secure Development and Operating Environment, protecting the system from tampering

Legacy System Security

- Addresses the issue of securing older, unsupported systems through the use of alternate controls and technologies

- Provides testing and assessment services to secure legacy systems and confirm the original threat vector has been neutralized

Cyber Security Labs

- Testing environment for solution validation, Ovation control system testing, legacy systems testing and to develop new products and services

  Can be utilized to find solutions to remediation issues following assessments, and verify alternate control security

Recurring Cyber Security Program Maintenance and Reviews

- Cyber security program audits, and re-assessments of controls, incorporating new critical digital assets

- Create and implement risk-based remediation strategies for vulnerabilities identified

- Provide ongoing cyber security consulting for new plants and plant upgrade projects

Benefits

- **Regulations** – Westinghouse can help customers meet the demanding cyber security requirements of today's regulations. Westinghouse maintains integrated relationships with NEI, the U.S. Nuclear Regulatory Commission, the Instrument Society of America, the Institute of Electrical and Electronics Engineers and many nuclear customers and security vendors worldwide, allowing for global collaboration.

- **Tools** – Westinghouse uses cutting-edge tools for the plant-wide implementation of cyber security protective strategies, conducting cyber security assessments, and supporting the ongoing review and monitoring of a plant cyber security program.

- **Expertise** – Westinghouse has a highly qualified technical team that is both professionally certified and experienced in cyber security with the ability to apply nuclear-specific configuration, value and advice to customer projects.

Experience

The Westinghouse cyber security team is currently providing cyber security technologies and services for existing pressurized water reactors and boiling water reactors worldwide. Westinghouse is also developing cyber security systems for complete integration in new plants such as the Westinghouse AP1000® nuclear power plant.