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Nuclear Regulatory Commission

Cyber Security Program Implementation Updated for ACRS

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July 28, 2016

Briefing Topics to be Discussed

- NRC Cyber Security History
- Guidance Documents
- Completed Milestone 1-7 Interim Cyber Security Program Attributes
- Milestone 8 Full Implementation
- Cyber Reporting Requirements
- Other Cyber Related Topics

Limitations for Cyber Discussions

- Most Cyber Security reports and other information are security related (not Public)

- Unique Cyber Security Language

  - Critical Digital Assets (CDAs), threat vectors, digital controls, portable media controls, etc.

NRC Cyber Security History

- **2002-2003:** NRC included the first cyber requirements in Physical Security and Design Basis Threat Orders
- **2005:** NRC supported industry voluntary cyber program (NEI 04-04)
- **2009:** 10 CFR 73.54, Cyber Security Rule
- **2010:** NRC published Regulatory Guide 5.71
- **2012:** Implementation of Interim Cyber Security measures
- **2014-2015:** Endorsed NEI 13-10 Cyber Security Control Assessments
  - Graded Consequence Based Approach
- **December 2015** – Completed initial cyber inspections at all Part 50 reactors

Guidance Documents for Cyber Implementation

- Regulatory Guide (RG) 5.71 "Cyber Security Programs for Nuclear Facilities" (Jan 2010)
- NEI 08-09, Rev. 6 "Cyber Security Plan For Power Reactors" (April 2010)
- NEI 13-10, Rev 4 "Cyber Security Assessments" (December 2015)

RG 5.71 Conceptual Approach

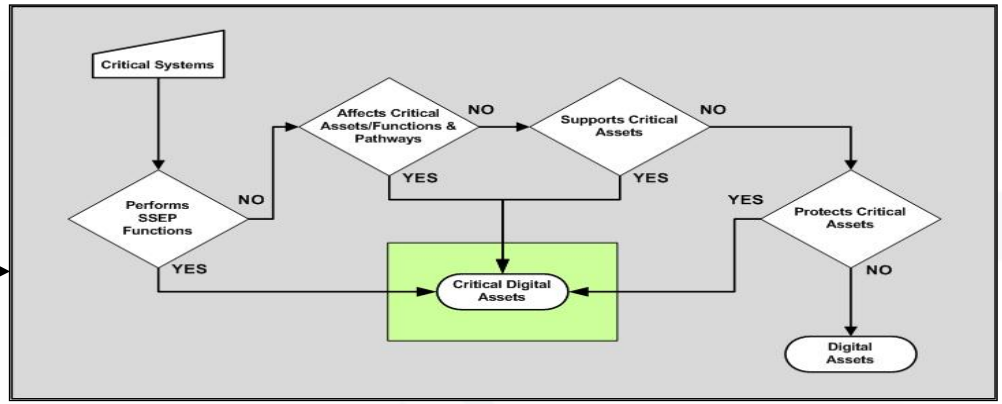
Cyber Security Assessment Team

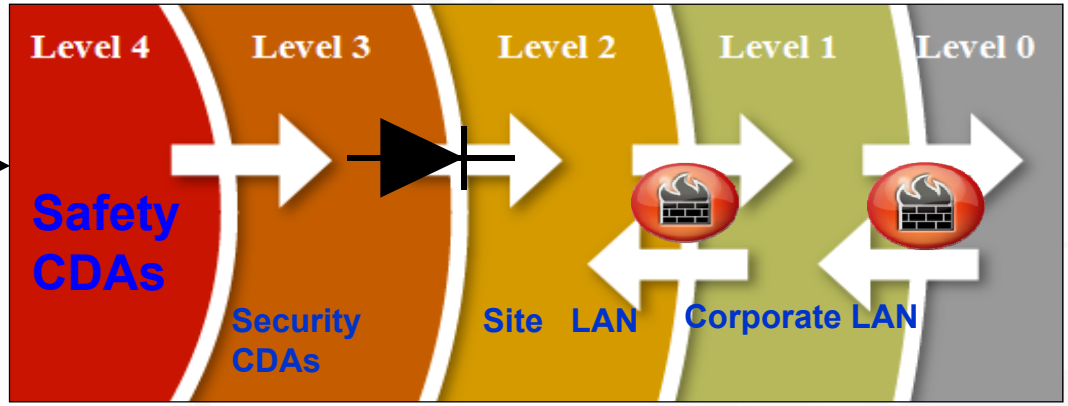
Identify Critical Digital Assets

Apply Defensive Architecture

Address Security Controls

1. Address each control for all CDAs, or
2. Apply alternative measures, or
3. Explain why a control is N/A





Milestones 1-7 Interim Implementation

- Required controls for key CDAs by 12/31/2012
- Initial NRC inspections completed 12/31/2015
- Working with NEI/industry on the resolution to generic issues via the SFAQ process
- NRC to audit the corrective actions associated with the Milestone 1-7 cyber security inspection findings in CY2016 & CY2017

NRC Cyber Security Program

Inspected 10 CFR 73.54 Basic Requirements:

1. Identify digital assets and communication systems associated with SSEP functions.

2. Apply & Maintain a Defense-in-Depth Protective Strategy. (portable media, scanning, data diode, etc).

3. Implement Security Controls to protect digital assets and communications systems.

4. Identify, Respond and Mitigate against cyber attacks.

NRC Cyber Security Program

10 CFR 73.54 Basic Requirements:

5. Training commensurate with roles and responsibilities to facility personnel.

6. Review/Maintain the CSP as a component of the Physical Security Plan.

7. Retain records and supporting technical documentation.

Full Implementation (Milestone 8)

Milestone 8 Activities:

- Full Implementation of controls on **all** CDAs
- Cyber Attack Mitigation and Incident Response
- Supply Chain
  - -Adds security requirements relevant to vendors
- Enhance CDA integrity to prevent CDAs from accessing, receiving, transmitting, or producing unverified information
- Configuration Management
- Ongoing Evaluation and Management of Cyber Risk
- Effectiveness Reviews of the CSP program and controls

Cyber Security Plans
Milestone 8 Preparations

- Conducting tabletops, pilots, and workshops to develop additional guidance
- Regional inspectors included in Milestone 8 tabletop review to improve consistency, additional NRC cyber training has been developed
- NRC to initiate Milestone 8 inspections starting July 2017

Cyber Reporting Requirement

- The Cyber Security Notification rulemaking became effective on December 2, 2015
- Implementation date – May 2, 2016
- RG 5.83 provides NRC guidance
- NEI guidance document (NEI 15-09)

Cyber Security Event Notification Rule

- **One-hour notifications**
  - a cyber attack that adversely impacted SSEP function
- **Four-hour notifications**
  - cyber attack that could have caused an adverse impact to SSEP
  - suspected or actual cyber attack initiated by personnel with physical or electronic access to digital computer and communication systems
- **Eight-hour notifications**
  - After receipt or collection of information regarding observed behavior, activities, or statements that may indicate intelligence gathering or pre-operational planning related to a cyber attack
- **24-hour recordable events**

Other Cyber Related Topics

- Staff evaluating cyber security for decommissioning units and ISFSIs

- New reactors (Part 52) cyber application
  - Same requirements as Part 50
  - Differences in CDA profiles, systems, and numbers
  - Different controls

- Updating applicable RGs associated with DBT, Security Training, and Insider Mitigation requirements consistent with Cyber Security Program

Fuel Cycle Cyber Security

- NRC Commission approved high-priority rulemaking to develop cyber security requirements for fuel cycle facility licensees
- The rulemaking will be graded based on the consequence of concern for the facility type
- The proposed rulemaking should be sent to the Commission early in 2017
- The final rulemaking is targeted for 2018

Full Cyber Implementation

- What does full cyber implementation mean?
- What does a running cyber program look like?
- The cyber security staff at the corporate and site level need awareness and understanding of NRC guidance and requirements.

Cyber Security is a Program not a Project

Questions