



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Cyber Security

Eric Lee

NSIR/DSP

August 27, 2010

Overview



- **10 CFR 73.54, “Protection of Digital Computer and Communications Systems and Networks”**
- **Regulatory Guide 5.71, “ Cyber Security Programs for Nuclear Facilities”**
- **Cyber Security Plan Reviews**
- **Path Forward**

10 CFR 73.54

- **High-level, Performance-Based, Programmatic**
- **FOCUS: Protection against malicious acts**
 - **To prevent radiological sabotage**
 - **To preserve assumptions that were made when I&C systems and other systems were designed**
- **Generic (i.e., not reactor-specific)**
- **Consistent with regulatory approach for physical security**

10 CFR 73.54

- **Scope of the rule:**

- **Protect those systems that fall within the scope of the rule from cyber attacks up to and including the design basis threat**
- **Implement defensive architecture**
- **Apply cyber security controls**
- **Implement cyber incident response and mitigation programs**
- **Maintain the program and address new cyber security vulnerabilities**

10 CFR 73.54

- **Regulatory Guide 5.71**
 - **Main Body**
 - **Appendix A (generic Cyber Security Plan template)**
 - **Appendix B (technical security controls)**
 - **Appendix C (operational/management security controls)**

- **Performance-Based, Programmatic**
 - **Consistent with NIST recommendations**
 - **Flexible and minimally prescriptive**
 - **Burden on licensees to establish effective programs**

- **Alignment with Regulatory Guide 1.152, “Criteria for Digital Computers in Safety Systems of Nuclear Power Plants”**

10 CFR 73.54

- **Main Elements of Regulatory Guide 5.71**
 - **Cyber Security Team**
 - **Identify Critical Systems (CSs) & Critical Digital Assets (CDAs)**
 - **Defensive Architecture**
 - **Security Controls**
 - **Cyber security incident response and mitigation Program**
 - **Maintain the Cyber Security Template**

Reviews

- **NSIR does not review**
 - **Design**
 - **I&C system modifications**
 - **Security system modifications**
 - **EP systems modifications**
 - **Other systems associated with safety, security, or emergency preparedness functions of licensees' faculties**

- **NSIR does review**
 - **Cyber Security Plan Modifications**
 - **Modifications to above design as part of the normal cyber security inspection program**

Path Forward

- **Additional guidance**
 - **Development of NUREG**
 - **Explains the intent, purpose and objectives of the security controls**
 - **Provides the technical bases for inspection procedures**
 - **Industry will have a chance to comment (early 2011)**
 - **Inspection**
 - **Inspection procedures completed by early 2011**
 - **Industry participation will be requested**
 - **Pilot Plant(s)**
 - **Workshop**
 - **First inspection late 2011**
 - **Prior to Fuel Being Allowed On-Site**