

Training of Regulatory Staff in U.S.

Jack Grobe

Associate Director for Engineering and Safety Systems

Office of Nuclear Reactor Regulation

January 2009

Development Programs

- Nuclear Safety Professional Development Program (NSPDP) (<http://www.nrc.gov/about-nrc/employment/safety-intern.html>)
- Leadership Potential Program (LPP)
- Senior Executive Service Candidate Development Program (SES-CDP) (http://www.opm.gov/ses/executive_development/index.asp)

Training and Qualification Programs

- Office of Nuclear Reactor Regulation (NRR) New Employee Orientation and Training (ML073120097)
- Qualification Program (ML062640556)
- Knowledge Management Process (ML070230036)
- Inspector Training and Qualification



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Inspector Training and Qualification

NRC Inspectors

Perform the basic mission of determining whether a licensee operates the plant safely and meets current regulatory requirements and commitments.

Role of the Inspector

- **Obtain objective evidence** that reactors are operated safely and that licensee activities do not pose an undue risk
- **Monitors performance** to ensure that licensees take actions before performance reaches a level that may result in undue risk
- Supports agency decision making by **communicating information** that is technically sound and realistic
- **Identifies those safety significant issues** that may have generic applicability

Objective of Inspector Qualification Program

- To ensure the NRC staff has necessary knowledge and skill to successfully implement inspection program
- To ensure that the inspector training and qualification program remains effective in preparing inspectors to implement the inspection program



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Inspector Knowledge Areas

- Legal basis and regulatory processes
- Technical expertise
- Regulatory practices
- Personal/interpersonal effectiveness

Proficiencies

- Basic-Level Proficiency (IMC 1245 Appendix A)
 - Develops an awareness of the role of the NRC, the role of the inspector and the technologies being regulated
- General Proficiency (IMC 1245 Appendix B)
 - Focuses on developing the inspection, teamwork and interpersonal skills needed to implement the inspection and oversight programs
- Technical Proficiency (IMC 1245 Appendix C)
 - Focuses on developing the appropriate depth of knowledge in one of the seven specific technical inspection areas

Inspection Manual (<http://www.nrc.gov/reading-rm/doc-collections/insp-manual/manual-chapter/index.html>)

Basic-Level Proficiency

- Training Courses
 - Site Access
 - Reactor Concepts
 - Probabilistic Risk Assessment basics
 - Expectations for Inspectors
- Individual Study Activities (examples)
 - History and Organization of the NRC
 - Navigating the NRC's Internal and External Web Pages
 - Inspector Objectivity, Protocol, and Professional Conduct
- Structured On-the-Job Activities
 - Facility Familiarization Tour with a Qualified Inspector
 - Control Room Tour with Resident or Qualified Inspector
 - Inspection Activities
 - Documenting Inspection Findings

General Proficiency

- Training Courses
 - Conducting Inspections
 - Field Techniques for Inspectors
 - Root Cause Analysis
- Individual Study Activities
 - Quality Assurance Program
 - Corrective Action Program
 - Technical and Regulatory Issues
- Structured On-the-Job Activities
 - Emergency Drill/Exercise Observation

Inspector Classification

- Operations (Appendix C-1)
- Engineering (Appendix C-2)
- Health Physics (Appendix C-3)
- Research/Test Reactors (Appendix C-5)
- Emergency Preparedness (Appendix C-6)
- Operator Licensing (Appendix C-10)

Operations Technical Proficiency

- Training Courses (examples)
 - Reactor Type Full Series
 - Technology
 - Advanced Technology
 - Simulator
- Individual Study Activities (examples)
 - Technical Specifications
 - Operability
 - Maintenance Rule (MR) Implementation
- On-the Job Activities (examples)
 - Site System Reviews
 - Security Plan and Implementation
 - Radiation Protection Program and Implementation
 - Fire Protection Program and Implementation

Engineering Technical Proficiency

- Training Courses (examples)
 - Reactor Type Full Series
 - Technology
 - Advanced Technology
 - Simulator
- Individual Study Activities (examples)
 - NRC's Review of Temporary and Permanent Plant Modifications
 - Basic Codes, Standards, and Regulatory for Engineering Support
- On-the Job Activities (examples)
 - Safety System Design Performance Capability
 - Permanent Plant Modifications
 - Inspection of Licensee Changes, Tests, and Experiments (10 CFR 50.59)



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Final Inspector Qualification

- ✓ Complete Basic Inspector Proficiency
- ✓ Complete General Proficiency
- ✓ Complete Technical Proficiency
- ✓ Complete Inspector Qualification Board

Management and Inspection staff evaluates the ability of an individual to integrate and apply the knowledge, skill and attitudes they have learned to field situations