

Modernization of the Fuel Cycle and Materials Decommissioning Inspection Program

Organization of Agreement States Meeting
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Meeting Agenda

- Background information
- Planned changes to inspection procedures
- Current schedule
- Questions

Background

- The Commission previously directed NRC staff to implement risk-informed, performance-based programs including the inspection program
- A working group (WG) was formed in January 2021 to update the decommissioning fuel cycle and materials inspection procedures
 - WG includes both NRC and Agreement State staff

Objectives of WG

- Reimagine and redesign the fuel cycle and materials decommissioning inspection program
- Revise Inspection Manual Chapter (IMC) 2602 and associated inspection procedures (IPs)
- Provide training and support during rollout of revised inspection program

Scope of revised IMC 2602

- Includes 10 CFR Parts 30, 40, and 70 licensed sites in decommissioning
 - Includes uranium recovery decommissioning
- Doesn't include:
 - Reactor decommissioning (Part 50 licenses)
 - Independent Spent Fuel Storage Installations (Part 72 licenses)
 - Materials, fuel cycle, and uranium recovery sites not in decommissioning (for example, possession only)

Planned changes to IMC 2602

- Identify risks by program area (uranium recovery, fuel cycle, complex materials and non-complex materials sites)
- Describe process for conducting risk-informed, performance-based inspections
- Allow inspector to use a risk-informed process to make decisions for each inspection based on site conditions

Inspection approaches

- A risk-informed approach focuses on those areas that are most important to ensuring safety
- A performance-based approach focuses on what was achieved by licensee rather than how it was achieved
- Under the new program, inspection should include observations of activities, interviews with licensee personnel, independent and confirmatory surveys, and limited records review

Be riskSMART

- WG is using *Be riskSMART* process
 - Process for integrating risk insights into NRC's decision-making processes
- Revised inspection procedures will include concepts of *Be riskSMART* to help focus inspector attention on risk-significant activities during an inspection

Risk Modules

- IMC 2602 will use risk modules:
 - Similar to materials inspection program “focus elements”
 - Used to focus inspector attention on most important aspects of an inspection
 - Will be included in core procedures but not discretionary procedures
 - Consistent with proposed changes that will be made to IMC 2800, *Materials Inspection Program*

Proposed risk modules

- Security and control of licensed material
- Observation of decommissioning activities
- Occupational radiation protection
- Waste generation, storage, and transportation
- Public dose, effluent releases, and environmental monitoring
- Management organization and controls
- Final status/confirmatory surveys

Core IPs

- Core IPs will be developed for 5 program areas:
 - Uranium recovery
 - Fuel cycle facilities
 - Complex materials sites
 - Non-complex materials sites
 - Inspection of final status/confirmatory surveys

Discretionary IPs

- Discretionary IPs will be developed, revised, or adopted as needed to supplement core IPs:
 - Radiation Protection
 - Low-Level Radioactive Waste Storage
 - Groundwater Remediation
 - Management Organization and Controls
 - Effluent Control and Environmental Monitoring
 - Maintaining Effluents from Materials Facilities ALARA
 - Material Licensees Involved in an Incident or Bankruptcy Filing

Inspection frequency

- IMC 2602 will include an inspection frequency
 - IMC currently does not provide a routine inspection frequency
 - Current proposal is 1 year (+/- 3 months) for projects that last greater than 1 year
 - Core IPs will be completed at least annually
 - Discretionary IPs will be completed as necessary

Current schedule

- Complete draft procedures for internal and external stakeholder review by October 2021
- Agreement States will be given opportunity to review the procedures
- Host public meeting in early 2022 to introduce new inspection program
- Provide training to NRC and Agreement State inspectors on new program when revised procedures are issued

Questions and comments?

References:

- Working group charter, [ML21061A344](#)
- State and Tribal Communications Letter dated May 13, 2021, STC-21-025, [ML21125A033](#)
- *Be riskSMART*: Guidance for Integrating Risk Insights into NRC Decisions, NUREG/KM-0016, March 2021, [ML21071A238](#)
- Staff Requirement Memorandum for [SECY-98-144](#), “White Paper on Risk-informed and Performance-based Regulation,” March 1, 1999