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