

Inspection Manual Chapter 2602 and Associated Inspection Procedures Public Meeting

Decommissioning Fuel Cycle, Uranium
Recovery & Materials Inspection Program
January 17, 2023



Meeting Logistics

- Participants are in listen-only mode until the public comment portion of the meeting
- Send short questions and comments via Teams Chat and facilitator will read them aloud
- Meeting will be recorded/transcribed to allow NRC staff to review questions and comments at later date
- Presentation slides are available for download from ADAMS at ML22XXXXXX

Working Group Members

- Rob Evans, Region IV, Chair
- Marti Poston, NMSS
- Maurice Heath, NMSS
- Orysia Masnyk-Bailey, Region I
- Roland Womack, Region II
- Jenni Dalzell, Region III
- Joe Power, New Jersey



Background

- Commissioners issued a policy statement mandating the use of risk assessment in regulatory activities (60 FR 42622)
- Mandate and path forward to achieve the mandate detailed in SECY-98-144 (ML003753601)
- Revision to IMC 2602 to risk-informed, performance-based inspection in accordance with the policy statement

Agenda

- Overview
- Changes to the program
 - IMC 2602
 - Core Inspection procedures
 - Discretionary inspection procedures



Overview

- Updated to reflect current decommissioning practices
- Adopted risk-informed, performance-based inspection philosophy and use of risk modules
- Combine all non-reactor modalities in one IMC



Overview, cont.

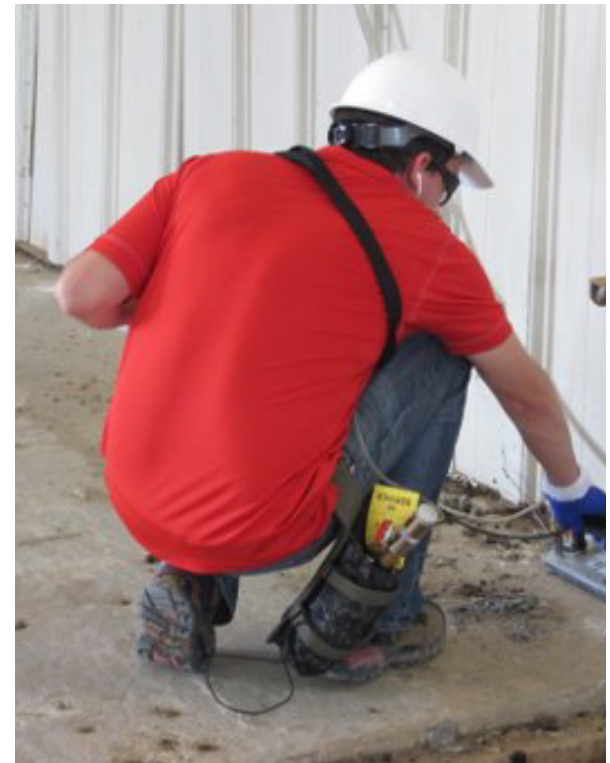
- Created three new inspection procedures
- Revised six existing inspection procedures
- Worked with IMC 2800 WG and Very Low Safety Significance Issue Resolution (VLSSIR) WG on consistent language
- Implemented consistent reporting and tracking of inspection results

Overview, cont.

- Established minimum inspection frequency of one year
- Clarified timeliness of inspections
- Ensure all IPs included recommended inspection hours
- Added a definition of completion for each IP
- Added guidance during pandemics/epidemics
- Revised to facilitate use by Agreement States

IMC 2602 Overview

- New definitions
 - Risk modules, risk-informed inspection, performance-based inspection, Be riskSMART, Decommissioning Planning Rule (DPR), program adjustment
- Modified to align with revised responsibilities
- Established standard inspection frequency and criteria to adjust based on site activities



IMC 2602, cont.

- Defines and describes independent inspection effort
- Provides overview of NRC Memorandum of Understanding (MOU) with other federal agencies related to decommissioning
- Established seven distinct risk modules for decommissioning



Risk modules

- Defined in IMC 2602 and used in the IPs
 - Program areas that present higher risk or expected to effectively reduce risk to health, safety and security that are identified in each inspection procedure in order to focus inspection efforts on these particular program areas.

Risk Modules, Cont.

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

Overview for Core Procedures

- Updated existing procedures
- One core procedure per each modality
 - IP 87104 – complex materials
 - IP 88104 – fuel cycle
 - IP 87654 – uranium recovery
- Core procedure for surveys
 - IP 83890 - confirmatory surveys
- Applicable to all decommissioning inspections not just those needing a significant decommissioning effort or decommissioning plan
- Performance-based inspection with emphasis on risk-significant activities

IP 87104 – Materials Decommissioning

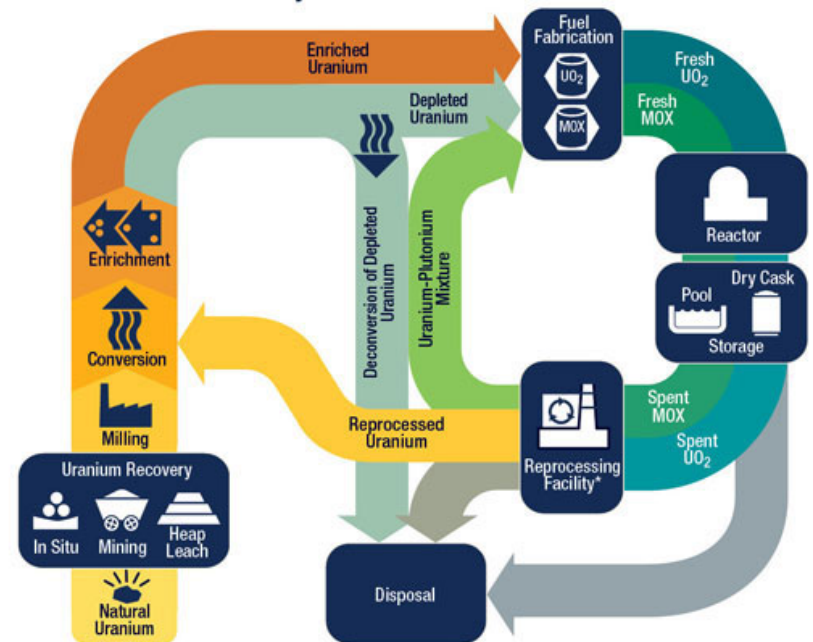


- Updated existing procedure 87104
- Applicable to all decommissioning inspections not just those needing a significant decommissioning effort or decommissioning plan
- Describes performance-based inspection with emphasis on risk-significant activities
- No change to recommended inspection resources

IP 88104 – Fuel Cycle Decommissioning

- Added additional Inspection Objective
 - Verify facility meets unrestricted release and license termination criteria

The Nuclear Fuel Cycle



* Reprocessing of spent nuclear fuel, including mixed-oxide (MOX) fuel, is not practiced in the United States.
Note: The NRC has no regulatory role in mining uranium.

As of January 2019

IP 88104 – Fuel Cycle

- Updated Inspection Guidance
 - Align with updates to IMC 2600 Fuel Cycle Facility Operational Safety and Security Inspection Program
 - Overall guidance more concise
- No change to inspection resources estimate
- Previous Appendices A & B consolidated to single Appendix A
 - Changes checklist from IMC 2600 Inspection Procedures to new Risk Modules



IP 87654 – Uranium Recovery Decommissioning

- Updated existing IP 87654
- Applicable to decommissioning of uranium mills or In-Situ Recovery (ISR) Sites
- Shift from compliance based to risk-informed, performance-based inspections

IP 87654 – Uranium Recovery

- Sites not subject to 10 CFR 20 Subpart E but must meet decommissioning requirements associated with Appendix A of 10 CFR 40
- Field notes in Appendix of IP for the pre-decommissioning, active decommissioning and post-decommissioning inspection processes



IP 83890 – Closeout Inspection and Survey

- Can be used with IMCs 2602 and 2801
- Ensures effective decommissioning in accordance with all license and regulatory requirements
- Ensure all actions have been taken to support license termination

IP 83890 – Closeout Inspection and Survey

- Emphasis on conducting inspections that are risk-informed, performance-based; utilizing direct observation and confirmatory surveys
- Added a resource estimate, and what constitutes procedure completion
- Appendix A updated to be used as a field notes checklist

IP 83890 – Closeout Inspection and Survey

- Inspection Guidance section provides expanded details on:
 - When confirmatory surveys should be conducted
 - Use of a contractor to perform confirmatory surveys
 - FSS review items
 - What constitutes adequate evidence that site can be released
 - What constitutes adequate evidence that the license can be terminated
 - Uranium Recovery decommissioning and survey requirements

Overview of Discretionary Procedures

- Discretionary IPs can be used to supplement core procedures and have no required frequency
- There are no risk modules associated with the discretionary procedures
- One IP created to address DOE observational site visits



Discretionary Procedures, cont.

- Discretionary IPs include:
 - IP 83822 – Radiation Protection
 - IP 84900 – Low Level Waste Storage
 - IP 87300 – Groundwater Monitoring
 - IP 87305 – Management and Organization



How to Find the Documents:

IMC 2602	Decommissioning Fuel Cycle, Uranium Recovery, and Materials Inspection Program	<u>ML22010A141</u>
IP 83822	Radiation Protection	<u>ML22010A147</u>
IP 83890	Closeout Inspection and Survey	<u>ML22010A145</u>
IP 84900	Low-Level Radioactive Waste Storage	<u>ML22010A148</u>
IP 87104	Decommissioning Inspection Procedure for Materials Licensees	<u>ML22010A142</u>
IP 87300	Groundwater Monitoring	<u>ML22010A146</u>
IP 87305	Management and Organization	<u>ML22010A149</u>
IP 87654	Uranium Mill, In-Situ Recovery, and 11e.(2) Byproduct Material Disposal Site Decommissioning Inspection	<u>ML22010A144</u>
IP 88104	Decommissioning Inspection Procedure for Fuel Cycle Facilities	<u>ML22010A143</u>



Questions