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The public meeting on NRC's efforts to modernize the Fuel Cycle and Materials Decommissioning Inspection Program will begin shortly

**Audio for today's meeting is through  
telephone bridge line only**

**You must call (888) 942-9041 and use passcode  
1937402# to hear today's meeting**

Webex will show the slides but there is no audio

# Modernization of the Fuel Cycle and Materials Decommissioning Inspection Program

Public meeting to discuss proposed changes  
to the inspection program

June 9, 2021

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# Meeting logistics

- Participants are in listen-only mode until the public comment portion of the meeting
  - To comment by phone, press \*1 and follow operator prompts
- Send short questions and comments via WebEx Chat to “all panelists” 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 ML21155A051

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# Meeting Agenda

- Staff introductions
- Opening remarks
- Background information about working group
- Planned changes to inspection procedures
- Current schedule
- After formal presentation, NRC staff will accept questions and comments

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# Staff introductions

- Opening remarks
  - Mary Muessle, Director, Division of Nuclear Materials Safety, Region IV
- NRC staff presenters
  - Rob Evans, Working Group Chair, Region IV Office
  - Jenni Dalzell, Region III Office
  - Marti Poston, Office of Nuclear Materials Safety and Safeguards (NMSS)
- Meeting Facilitators
  - Maurice Heath, Kellee Jamerson, NMSS

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# Opening Remarks

Mary Muessle, Director, Division of Nuclear Materials Safety, Region IV Office

- Formation of working group (WG)
- Agreement State support
- Tribal, non-Agreement State, industry, public notifications

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# Scope

In January 2021, NRC formed a joint NRC-Agreement State WG to update Inspection Manual Chapter (IMC) 2602, *Decommissioning Oversight and Inspection Program for Fuel Cycle Facilities and Materials Licensees*

- Goal is to update the inspection program to be more risk-informed, performance-based

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# Scope, cont.

- Applies to 10 CFR Parts 30, 40, and 70 licensed sites in decommissioning
  - Will include uranium recovery decommissioning which is currently addressed in 2 different IMCs
- 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



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# Objectives of WG

Develop a risk-informed, performance-based decommissioning inspection program

- Redesign the fuel cycle and materials decommissioning inspection programs
- Revise IMC 2602 and associated inspection procedures (IPs) to include uranium recovery decommissioning
- Provide training and support during rollout of revised inspection program

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# WG Membership

- Eight subject matter experts from NRC's headquarters office, four regional offices, and Agreement States
- A steering committee provides management level oversight, includes:
  - Trish Holahan, NMSS
  - Mary Muessle, RIV
  - Bill vonTill, NMSS
  - William Irwin, State of Vermont
- A coalition of supervisory level staff provides guidance, support and change management

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# 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

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# *Be riskSMART*

- Working group is using *Be riskSMART* process
  - Guidance for integrating risk insights into the NRC's decision-making processes
- *Be riskSMART* framework was developed to assist working group with decisions
- Revised inspection procedures will include concepts of *Be riskSMART* to help focus inspector attention on risk-significant activities during an inspection

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# What are the radiological risks?

- Quantity of radioactive material present
  - Higher quantities may present higher risks
- Form of radioactive material present
  - Loose, dispersible material has higher risk of becoming airborne and inhaled or ingested
- Properties of radioactive material
  - Half-life
  - Radiation energy
  - Type of radiation (e.g., alpha, beta, or gamma)

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# Risk Modules

- IMC 2602 will use risk modules
  - Used to focus inspector attention on the most important aspects of an inspection
  - Will be included in the core procedures
  - Consistent with proposed changes that will be made to IMC 2800, *Materials Inspection Program*

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# 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

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# Inspection procedures

- Includes a manual chapter, core procedures, and discretionary procedures
- IMC 2602 will provide high level requirements and guidance for decommissioning inspection program, will include”
  - Inspection objectives, definitions, responsibilities, authorities, requirements and guidance
  - Lists of core and discretionary IPs for each major decommissioning program area



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# Inspection procedures, cont.

- Core IPs will be developed for each of the following program areas:
  - Uranium recovery
  - Fuel cycle facilities
  - Complex materials sites
  - Non-complex materials sites
  - Final status/confirmatory surveys
- Core IPs will provide:
  - Minimum inspection requirements to meet objectives of that IP
  - Risk modules applicable to that program area

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# Inspection procedures, cont.

- Discretionary IPs provide detailed instructions as needed to supplement core procedures
- Discretionary IPs include:
  - Radioactive materials security
  - Radiation protection
  - Groundwater remediation
  - Transportation
  - Radioactive waste management, effluent control, and environmental monitoring

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# Inspection frequency

Inspection frequency will be added to IMC 2602

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

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# NRC initiatives

Various NRC initiatives will be reviewed and included in the revised inspection program as needed:

- Managing changes in inspection frequencies
- Benchmarking with other working groups
- Managing issues of low safety significance
- Maintaining consistent terminology across NRC
- Managing changes in technologies over time

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# Communication strategy & outreach

- Agreement State support
  - Changes will be implemented by both NRC and Agreement State staff
  - Both are represented on oversight groups
  - Both will provide comments on draft documents
- Stakeholder outreach
  - State & Tribal Communications letter issued May 13<sup>th</sup>
  - Today's public meeting
  - 2<sup>nd</sup> public meeting will be held at procedure rollout

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# Current schedule

- Submit draft IMC 2602 and IPs for internal and external stakeholder review by August or September 2021
- Incorporate all comments by end of year
- Issue revised IMC and IPs by end of 2021 or early 2022
- Host public meeting to introduce new program concurrently with issuance of procedures
- With NRC technical training center support, provide training to inspectors on new program

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# Status of other inspection programs

- IMC 2561, *Decommissioning Power Reactor Inspection Program*, reissued January 2021
- IMC 2545, *Research and Test Reactor Inspection Program*, revised May 2020
- IMC 2801, *Uranium Recovery and 11e.(2) Byproduct Material Facility Inspection Program*, has been revised and will be reissued soon
- IMC 2800, *Materials Inspection Program*, revised in 2020, IPs being updated now
- IMC 2600, *Fuel Cycle Facility Operational Safety and Safeguards Inspection Program*, reissued January 2021

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# 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
- Issues of Low Safety Significance, presentation dated March 24, 2021, ML21082A515