
INSPECTION MANUAL CHAPTER 2602

DECOMMISSIONING FUEL CYCLE, URANIUM RECOVERY, AND MATERIALS INSPECTION PROGRAM

Effective Date: 12/30/2022

2602-01 PURPOSE

To establish policies and guidance for the U.S. Nuclear Regulatory Commission (NRC) decommissioning inspection program for licensed source, byproduct, and Special Nuclear Material (SNM) licensees and facilities regulated under Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 30, “Rules of General Applicability to Domestic Licensing of Byproduct Material,” 40, “Domestic Licensing of Source Material,” and 70, “Domestic Licensing of Special Nuclear Material.”

2602-02 OBJECTIVES

- 02.01 To provide general guidance for the coordination, planning, and performance of inspections of NRC licensed source, byproduct, and SNM facilities and licensees undergoing decommissioning.
- 02.02 To determine through direct observation and verification of licensee activities by the performance of inspections whether the facility or site is being decommissioned safely and in accordance with the applicable regulatory requirements, that licensed material is safety stored onsite prior to removal from the site, and to identify trends in licensee performance before performance declines below acceptable levels.
- 02.03 To achieve consistency in the performance of decommissioning inspections by inspectors across the regional and program offices to ensure the health and safety of workers and the public, protect the environment, and promote the common defense and security.

2602-03 APPLICABILITY

This Inspection Manual Chapter (IMC) applies to all NRC licensees under 10 CFR Parts 30, §40, and §70 undergoing decommissioning. As needed, this IMC can be applied to low-level waste sites and Greater Than Class C waste storage facilities licensed under 10 CFR Part 72, “Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste,” undergoing decommissioning. In addition, this manual chapter can be applied to possession-only licenses such as those issued to the branches of the armed services to cover the possession of depleted uranium ordinance during decommissioning activities.

This IMC also applies to uranium recovery sites managed by the U.S. Department of Energy (DOE) under Title I or Title II of the Uranium Mill Tailings Radiation Control Act of 1978

(UMTRCA) and the general license requirements specified in 10 CFR 40.27, “General license for custody and long-term care of residual radioactive material disposal sites,” and §40.28, “General License for Custody and Long-term Care of Uranium or Thorium Byproduct Materials Disposal Sites.”

The IMC does not apply to decommissioning activities associated with power reactors licensed under 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities,” or independent spent fuel storage installations licensed under 10 CFR Part 72.

2602-04 DEFINITIONS

04.01 As Low As Reasonably Achievable (ALARA)

Acronym for “as low as is reasonably achievable,” which means making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical, consistent with the purpose for which the licensed activity is undertaken, and taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to the benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of licensed materials in the public interest (see 10 CFR 20.1003, “Definitions.”)

04.02 Byproduct Material

Any radioactive material (except SNM) yielded or made radioactive by exposure to radiation incident to the producing or use of SNM [11.e(1)]; tailings or wastes produced by the extraction of concentration of uranium or thorium from ore processed primarily for its source material content [11.e(2)]; a discrete source of radium-226 or material made radioactive by use of a particle accelerator that is produced, extracted or converted after extraction for commercial, medical or research [11.e(3)]; or a discrete source of naturally occurring radioactive material that the Commission determines has the same risk to the public health and safety, common defense and security of a discrete source of radium-226, that is produced, extracted or converted after extraction for commercial, medical or research use [11.e(4)].

04.03 Complex Materials Site

Sites where the complexity of the decommissioning will require more than minimal technical and administrative support. It is expected that these sites will take more than a year to complete the decommissioning process. Examples of complex materials sites include sites with groundwater contamination; sites containing significant soil contamination; sites in which the owners are in bankruptcy; any site where a Decommissioning Plan (DP) is required; all fuel cycle facilities undergoing decommissioning; and sites where there is significant public, State or Tribal, and/or congressional interest.

04.04 Confirmatory Survey

A survey conducted by NRC, or its contractor, to verify the results of the licensee’s Final Status Survey (FSS). Typically, confirmatory surveys consist of measurements at a

small percentage of the locations previously surveyed by the licensee, to determine whether the licensee's results are valid and reproducible.

04.05 Decommissioning

The process of removing a facility or site safely from service and reducing residual radioactivity to a level that permits: (1) the release of the property for unrestricted use; or (2) release of the property under restricted conditions. For licensed facilities or sites, decommissioning includes termination of the license or amending the license to remove the facility or site as a location of use from the license. For non-licensed sites, decommissioning includes documenting in correspondence to the site owner that the facility or site is released for unrestricted use.

04.06 Decommissioning Plan (DP)

A detailed description of the activities that the licensee intends to use to assess the radiological status of its facility, to remove radioactivity attributable to licensed operations at its facility to levels that permit release of the site in accordance with NRC's regulations and termination of the license, and to demonstrate that the facility meets NRC's requirements for release.

04.07 2011 Decommissioning Planning Rule (DPR)

Promulgated on June 17, 2011, the DPR requires all licensees to establish operational practices to minimize the introduction of residual radioactivity into the site including subsurface soils and groundwater. These requirements also require licensees to determine through the performance of reasonable radiological surveys whether significant residual radioactivity is present in subsurface areas, established recordkeeping requirements associated with the performance of surveys and sets forth new financial assurance requirements.

04.08 Final Status Survey (FSS)

Measurements and sampling to determine the radiological conditions of a site or facility, following completion of decontamination activities (if any) and in preparation for release of the site or facility.

04.09 Very Low Safety Significance Issue Resolution (VLSSIR) Process

A process used to discontinue evaluation of an issue involving an unresolved licensing basis question in which: (1) the resolution of the issue would require considerable staff effort; and (2) the agency has chosen to not expend further effort to resolve the question because the issue would be no greater than very low safety or security significance.

04.10 Master Inspection Plan (MIP)

A region-specific plan of inspection activities that ensures the inspection program is properly focused and facilitates the efficient allocation of regional inspection resources.

04.11 Non-licensed sites

Site identified to have radioactive contamination that are not licensed by the NRC or any Agreement State.

04.12 Performance-Based Approach

As applied to inspection, a performance-based approach focuses on results (e.g., a pump performs its intended function) over process and method (e.g., completion of training requirements for maintenance of a pump). For example, if a licensee is unsuccessful in meeting the criteria defined by a performance-based regulation, the inspector should then focus on the licensee's process and method, to understand the root cause of the breakdown in performance, and to understand how future poor performance may be avoided.

04.13 Risk Informed Approach

A philosophy in which risk insights are considered together with other factors to determine a course of action that focuses inspection activities on issues commensurate with their importance to health and safety. Risk can be determined by evaluating the combined answer to three questions (i.e., the risk triplet): (1) what can go wrong; (2) how likely it is; and (3) what the consequences might be.

04.14 Be *risk*SMART

A framework designed to give inspection staff confidence to consistently apply and communicate risk insights for decisions without compromising the NRC mission. The framework includes guidance and steps for identifying and managing risk based on the use of the risk triplet questions and applying the following specific steps: (1) spot the problem and answering the risk triplet questions; (2) managing the risks and hazards identified; (3) act on the decision; (4) realize the results; and (5) teaching others what you have learned. The risk triplet questions are identified and discussed in Section 7.01 of this IMC. Additional information associated with the Be *risk*SMART program is available on the NRC website at <https://www.nrc.gov/about-nrc/plans-performance/modern-risk-informed-reg/risk.html>. The NRC Framework can also be found in NUREG/KM-0016.

04.15 Risk Modules (RMs)

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.

04.16 Safety and Environmental Review Panel (SERP)

A licensee panel with at least three individuals representing expertise is management/financial, operations/construction and radiation safety matters. The SERP with support from other qualified licensee staff members or consultants as appropriate, decides when proposed changes, tests or experiments at the licensed facility require a license amendment.

04.17 Significant Decommissioning Activity

Any decommissioning activity that the NRC believes it is necessary to observe and evaluate to ensure the protection of workers, ensure the protection of public health and safety or the safety of the environment, ensure the secure use and management of radioactive materials, or ensure openness in the regulatory process.

04.18 Source Material

Uranium or thorium or any combination in any physical or chemical form or ores containing by weight one-twentieth of 1 percent (0.05 percent) of uranium, thorium or any combination of uranium and thorium. Source material does not include SNM.

04.19 Special Nuclear Material (SNM)

Plutonium, uranium-233, uranium enriched in the isotope 233 or 235 or any other material the Commission pursuant to Section 51 of the Atomic Energy Act of 1954, determines to be SNM, but does not include source material or any material artificially enriched by the foregoing but does not include source material.

2602-05 RESPONSIBILITIES AND AUTHORITIES

05.01 Director, Office of Nuclear Material Safety and Safeguards (NMSS)

Provides overall direction for the decommissioning uranium recovery, fuel cycle, and materials inspection program.

05.02 Director, Division of Decommissioning, Uranium Recovery, and Waste Programs (DUWP)

- a. Coordinates, develops, and implements decommissioning uranium recovery, fuel cycle, and materials inspection requirements and policies.
- b. In accordance with NMSS policy, periodically reviews this IMC and its associated inspection procedures and either affirms the existing procedures (if still valid) or initiates a revision.
- c. Characterizes, assesses, and mitigates the risks to the decommissioning and low-level waste business line of each program adjustment or aggregation of program adjustments.

05.03 Director, Division of Fuel Management (DFM)

- a. Coordinates, develops, and implements decommissioning fuel cycle inspection requirements and policies associated with the transfer of a fuel cycle facility that has ceased all operations and fully entered decommissioning to DUWP.
- b. Characterizes, assesses, and mitigates risk to the business line of each program adjustment or aggregate of program adjustments.

05.04 NRC Project Manager (PM)

- a. Coordinates, develops, and implements the decommissioning project management program, and provides programmatic oversight of the regional inspection requirements and policies. Approves, in concert with the regional Branch Chief (BC), program adjustments based on activities at the licensee site.

05.05 Regional Administrator

- a. In concert with headquarters, directs the implementation of the inspection program for decommissioning fuel cycle and materials facilities and sites.
- b. Ensures that the regional office staff includes adequate numbers of inspectors in various disciplines to carry out the inspection program as assigned and described in this chapter.
- c. Applies inspection resources, as necessary, to deal with issues and problems that arise at specific facilities undergoing decommissioning.

05.06. Regional Division Director

- a. Manages the implementation of the inspection elements performed by their respective region.
- b. Ensures, within budget limitations, that the regional office staff includes adequate number of inspectors in various disciplines to carry out the inspection program as assigned and described in this IMC.
- c. Applies the inspection resources necessary to deal with issues and problems that arise at specific facilities undergoing decommissioning.

05.07 Regional BC

- a. Directs and implements the materials decommissioning inspection program in the region in accordance with this IMC and coordinates with the appropriate Headquarters or regional managers as applicable to implement this IMC.
- b. Reviews and approves inspection schedules.
- c. Approves, in concert with the Office Specific PM, changes in inspection intervals based on activities at the licensee site.
- d. Provides regional management awareness of changes to inspection schedules.
- e. Reviews enforcement actions in accordance with NRC enforcement guidance.

05.08 Inspectors

- a. All NRC personnel implementing the decommissioning oversight and inspection program for uranium recovery, fuel cycle and materials facilities undergoing decommissioning shall use the guidance identified in this IMC and NUREG-1757, "Consolidated Decommissioning Guidance," Volumes 1-3.
- b. If changes are necessary to the inspection schedule, or if changes are necessary in the manner in which inspections are performed, the inspector, in consultation with the associated licensing PM, will present these proposed changes to the regional BC for review and approval.

05.09 Program Adjustment

A program adjustment is any action regarding the inspection program taken by regional management, which is not consistent with guidance contained in this IMC. Program adjustments include but are not limited to changing intervals between inspections (beyond the established baseline plus scheduling window), level of effort for inspections, methods for inspection, or the level at which decisions concerning the adjustments are made. Program adjustments are made by regional staff in conjunction with the NRC PM for the site. Program adjustments shall be documented and placed in the Agencywide Documents Access and Management System (ADAMS).

05.10 Inspector Qualifications and Use of Technical Experts

The inspector qualification requirements are provided in IMC 1248, "Qualification Programs for Federal and State Materials and Environmental Management Programs." Depending on the type of inspection, the preferred qualifications usually include health physics, decommissioning, or uranium recovery inspector qualifications. Other qualifications may be accepted by NRC management based on the experience of the inspector and the inspection requirements. The lead inspector should be qualified in at least one of the program areas referenced in IMC 1248. Other inspectors may support the inspection, but the lead inspector is responsible for oversight of unqualified inspectors or inspectors-in-training. The lead inspector is also responsible for oversight of the development and issuance of the inspection report. In some situations, the NRC's regional staff may not have the expertise for certain program areas. Common examples include the availability of hydrogeologists and geotechnical experts. In these situations, the regional staff should request support from the NRC's program office. With proper planning and advanced notice, the program office should be able to provide qualified technical staff to support the inspections. In some situations, regional staff will need the support of staff from other regions, headquarters staff or contractors. These requests for support should be coordinated with NRC management, headquarters, and the other regions.

05.11 Independent Inspection Effort

The NRC's inspection program has traditionally allocated time to independent inspection effort. The amount of time spent should be commensurate with the level of risk, the complexity of the facility, and the degree to which inspection resources have already been committed to significant safety and environmental issues that have been identified at the facility. This effort may include more in-depth inspection effort in selected technical areas. The objectives of this effort should be to gain increased understandings of potential safety and environmental hazards of activities of interest. Activities of interest may include a detailed review of the licensee's collection and analysis of radiological samples, control of spreadsheets that are used to manage data, and reasons for a series of non-reportable events. Independent inspection findings may uncover unresolved safety and environmental concerns, improper radiological practices, and other problems that may not be discovered through other means.

2602-06 REQUIREMENTS

06.01 Decommissioning Inspections

Title 10 CFR 30.52, §40.62 and §70.55 “Inspections,” require licensees to make reasonable accommodations for the conduct on inspections at facilities where byproduct, source and special nuclear materials are used and stored and to make records associated with compliance with the license requirements available for review.

06.02 Timeliness Rule for Decommissioning

NRC regulations at 10 CFR 30.36(d), §40.42(d) and §70.38(d) “Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas,” describe the conditions under which a licensed facility would be required to commence decommissioning. Collectively, these are known as the Timeliness Rule. In short, any separate building or area that has not been used for two years must be promptly remediated if the remediation activities are allowed by the existing license. If the remediation activities are not currently allowed under an existing license, the licensee must develop a DP and submit a request for a license amendment within one year. The decommissioning process is to be completed within two years unless an alternative schedule is approved. NUREG-1757, Volume 1, “Decommissioning Process for Materials Licensees,” provides guidance on how to determine if decommissioning is needed and the actions necessary to achieve it. Inspectors should be aware that some licensees have license conditions or other approvals that allow the decommissioning process to be extended beyond two years.

06.03 Radiological Criteria for Decommissioning

The License Termination Rule (LTR) as detailed in Subpart E to 10 CFR Part 20, “Radiological Criteria for License Termination,” establishes criteria for license termination for the majority of decommissioning facilities. The criterion for termination for unrestricted release is residual radioactivity, which is distinguishable from background, that results in a Total Effective Dose Equivalent to an average member of a critical group that does not exceed 0.25 millisievert per year (mSv/y) (25 mrem/y). In addition, the residual radioactivity has been reduced to levels that are as low as is reasonably achievable (ALARA). For license termination with restrictions on future land use, the LTR establishes criteria of 1.0 mSv/y (100 mrem/y) or 5.0 mSv/y (500 mrem/y) under certain conditions. The LTR criteria does not apply to uranium and thorium recovery facilities subject to Appendix A of 10 CFR Part 40.

06.04 Decommissioning Plans (DPs)

Activities to decommission a site depend on the type of operations conducted by the licensee and the residual radioactivity present. Generally, the staff will evaluate the decommissioning of nuclear facilities using one of seven review processes (referred to as Groups). Although all licensees will fall under a decommissioning group the unique nature of some facilities may require site-specific modifications to the group’s review processes. The staff shall ensure that any departure from these established procedures is reviewed and approved by NRC management and documented in writing prior to their implementation. NUREG-1757, Volume 1, contains guidance for the determination of the appropriate group and review process and the actions and oversight required within

each group. Consider the decommissioning group when choosing inspection procedures and planning inspection activities

Groups 1 and 2 sites typically will not require a DP and will be able to demonstrate compliance with 10 CFR 20.1402, "Radiological Criteria for Unrestricted Use." Group 3 sites may require an abbreviated DP, without a site-specific dose modeling analysis. Groups 4 through 7 sites are required to submit a DP with site-specific dose modeling in accordance with NRC regulations in 10 CFR 30.36(g)(1), §40.42(g)(1), or §70.38(g)(1).

NRC regulations at 10 CFR Parts 30, §40, and §70 require that certain information be provided by licensees in a DP. Refer to Section 7.09 for information on decommissioning groups and Section 7.10 for additional information on DPs.

06.05 Decommissioning Records Management

NRC regulations as described in 10 CFR 30.36, §40.32 and §70.38 prescribe recordkeeping responsibilities for NRC licensees. During licensed operations NRC requires licensees to maintain records important to safe and effective decommissioning. For licensees who must submit a DP, these records should be used to develop the site description specific portion of the DP. Following decommissioning and before license termination, additional NRC regulations prescribe the disposition of these records, in most cases to the NRC. Finally, NRC staff is responsible for maintaining decommissioning records following license termination. NRC staff should refer to NUREG-1757, Volume 3, "Financial Assurance, Recordkeeping, and Timeliness," for information on recordkeeping requirements for decommissioning facilities.

2602-07 GUIDANCE AND POLICY

Published in the *Federal Register* (FR) on August 10, 1995, the Commission issued a final policy statement mandating the use of probabilistic risk assessment methods in nuclear regulatory activities (60 FR 42622). As a result of this policy statement, NRC staff started transitioning to a risk-informed, performance-based inspection program. This mandate and the white paper associated with achieving this mandate, as documented in SECY-98-144 (ML003753601), resulted in a major shift in the way the agency conducts business. The rewrite of this IMC and its associated inspection procedures is part of the agency response to that mandate.

Using a performance-based, risk-informed approach, inspectors shall focus their attention on activities important to safety. Elements of a performance-based inspection approach include observation of activities, interviews with licensee personnel, independent and confirmatory surveys, and limited reviews of records. A performance-based inspection emphasizes observation of activities and the results of licensee programs over review of procedures and records. For example, an inspector may identify an issue while observing a plant activity in progress, monitoring equipment performance, or reviewing the results of an activity (e.g., a calculation). The inspector can discuss the issue with plant personnel and review selected documents as needed to enhance or verify performance-based observations.

This IMC summarizes the basic framework for the decommissioning inspection program, while NUREG-1757, Volumes 1-3 provide the framework for the overall regulatory oversight process used to ensure an adequate and consistent decommissioning of the facilities.

This inspection program includes formerly licensed sites where the license was terminated, and sites involving source, special nuclear or byproduct materials subject to NRC regulation for which a license was never issued. Significant deviations from the guidance identified in this section shall be employed only after review and approval by the NRC management.

07.01 Risk

For the purposes of this manual chapter, risks include safety and security risks, reputational risk, and cost-benefit considerations. The qualitative safety risk of an activity can be determined by evaluation using the NRC's *Be riskSmart* model or an equivalent risk-informed decision-making model and determining the combined answer to three questions (i.e., the risk triplet): (1) what can go wrong; (2) how likely is it; and (3) what are the consequences. Reputational risk qualitatively assesses the impact to the public's view of the effectiveness of the inspection program from identified deficiencies or events in each of the inspection areas. Cost-benefit considerations are used at NRC to manage limited resources for optimum benefit.

At source, byproduct, and SNM facilities that have permanently ceased operations, risks change over time as the licensee progresses through the phases of decommissioning: (1) planning; (2) implementation; and (3) post-remediation survey and assessment. For example, at fuel cycle facilities, during decommissioning planning, the licensee may still possess quantities of SNM that require criticality safety, security, and safeguards considerations.¹ However, as the licensee proceeds through decommissioning and dismantlement, bulk inventories of SNM are removed, and residual radioactive material is gradually reduced which allows criticality safety, security, and safeguards requirements to be relaxed.

Finally, at the time of post-remediation surveys, principal activities may only include those elements of a radiation protection program required to ensure occupational doses remain ALARA during the completion of final status surveys. Due to these changes in scope over time, it is important for inspection staff to consider using NRC's *Be riskSMART* assessments or an equivalent risk-informed decision-making model, as part of inspections, significant licensing actions or major decommissioning milestones.

07.02 Risk Modules (RMs)

In this manual chapter, RMs are discernable topics or program areas that have been determined to be important to reducing risks at decommissioning materials facilities and focus inspection effort on those activities that impact the health and safety of occupational workers, the public and/or the environment. The application of RMs vary by license type and change over time consistent with the decommissioning phase of the project. The RMs are:

1. Observation of decommissioning activities
2. Occupational radiation protection
3. Security and control of radioactive materials
4. Waste generation, storage, and transportation
5. Public dose, effluent releases, and environmental monitoring
6. Management organization and controls

¹ See Section 07.08 on turnover of fuel cycle projects from DFM to DUWP.

7. Final Status Surveys

The RMs are applied in each of the core inspection procedures for decommissioning source, byproduct, and SNM facilities consistent with the risks at those facilities. Inspections are still considered complete even if all of these RMs are not reviewed; however, the RMs that carry the highest risk components should always be completed to the extent possible. Additional inspection elements for less risk-significant topics or safety program areas are available in appendices to each core inspection procedure. These additional elements are not required to be reviewed as part of the risk-informed inspection approach but may be reviewed if the inspector has time available. However, if multiple violations are identified through review of the RMs, then additional elements should be reviewed.

If an inspector has a concern that the licensee did not meet performance expectations for a given RM, the inspector may consider conducting a more thorough review of that portion of the licensee's program. However, the inspector should consider the underlying risk significance of the concern, as well as the licensee's response to, and resolution of, that concern when determining the level of increased inspection effort to expend.

In addition to considering the risk significance of the concern, the inspector should also obtain sufficient information to determine whether the issue pertains to an NRC requirement contained in applicable orders, license conditions, or regulations.

For issues of low safety, regulatory, and programmatic significance it may not be necessary to either expend additional effort to cite a violation if adequate protection of public health and safety is already apparent. The inspector may instead inform licensee management and allow the issue to be addressed within the licensee's corrective action program or similar program.

If questions arise about the applicability or risk significance of an issue, and particularly where there is no pre-determined answer in law, regulation, policy, or applicable standards, NRC's *Be riskSMART* framework (NUREG/KM-0016) provides a systematic approach to making risk-informed decisions. An equivalent risk-informed decision-making process other than *Be riskSMART* may also be used to make this determination for co-regulators.

07.03 Inspection Frequency

Ideally, a complex materials site undergoing active decommissioning should be subject to a risk-informed, performance-based routine inspection at least annually. However, routine inspections can occur more or less frequently based onsite activities and licensee performance history. Refer to Section 07.15 for additional information on adjustment of the inspection frequency.

07.04 Remote and Hybrid Inspections

Most inspections are conducted onsite using direct observations and performing onsite reviews of documentation and interviews with personnel. Where appropriate, supplementing onsite with remote inspection techniques may be used when warranted, also referred to as a hybrid inspection, (e.g., document reviews, interviews, etc.). Direct observation shall be regarded as the preferred method of inspection. Remote inspection of activities that are normally directly observed should be considered only in rare or

unusual circumstances and headquarters or regional management approval must be received, as applicable.

07.05 Inspection Procedures

A list of core and discretionary inspection procedures that could be used by the inspection staff to conduct the routine, non-routine, or reactive inspections is provided in Appendices A and B of this IMC.

Core IPs listed in Appendix A are specific to the type of facility that is being decommissioned and should be used for each inspection. Discretionary IPs listed in Appendix B are IPs that may be performed as needed at a decommissioning facility (as determined by NRC management) or used as supplemental guidance during the conduct of the core inspection program. Discretionary inspections should be used to augment the core inspection program and assess particular areas, safety concerns, or aspects of licensee performance, and may be used to supplement or inform inspections conducted under a core IP. Many of these IPs are applicable to programs outside the decommissioning inspection process.

An inspection is complete when, the NRC determines that the objectives of the core and discretionary inspection procedures have been met.

07.06 Coordination with State Agencies

For NRC inspections in both Agreement and non-Agreement States, State radiation control program personnel shall be notified in advance of the inspection. Under routine circumstances, the notification should be made at least one week in advance of the inspection. Whenever possible, for reactive inspections, the State should be notified before the start of the inspection so that any public inquiries that may come to the State may be referred to the NRC.

State personnel may observe NRC inspections, so long as their presence does not affect the inspection. Observers should be informed that information gathered during the inspection is pre-decisional and shall not be disclosed until the final inspection results are issued.

Given the number of national licensees that have multiple licenses in both Agreement States and NRC jurisdictions, the Agreement States and NRC should coordinate inspection activities and share results, as appropriate. For example, if a work crew at a temporary job site in Agency One's jurisdiction has its "home" office in Agency Two's jurisdiction, the inspector may contact Agency Two to obtain information on "corporate" matters, such as trustworthy and reliability determinations, dosimetry, training, etc., as well as the licensee's compliance history in Agency Two's jurisdiction. This information may help the inspector perform a more efficient and informed inspection by leveraging the collective efforts of the National Materials Program. The inspection documentation should reflect that such elements were deferred to the appropriate jurisdiction. A record documenting the inspection findings from another agency should be requested and maintained with other records of the inspection, when possible.

07.07 Coordination with Federal Agencies

NRC does not conduct inspections of licensee compliance with the requirements of other Federal agencies, except the U.S. Department of Transportation (DOT); however, NRC inspectors may identify concerns during an inspection that are within another agency's regulatory authority. The inspector should discuss the concerns with the licensee; however, inspectors are cautioned not to judge whether a given condition is a violation of another agency's rules or regulations. The inspector may also discuss the concerns with the appropriate liaisons within the other agency to determine if a formal referral is necessary.

In the case of complaints or allegations involving another federal agency's jurisdiction, the inspector should withhold the information from the licensee management and submit the concern(s) to the appropriate NRC liaison as soon as practicable after the onsite inspection to forward to the appropriate agency.

NRC has entered into several Memoranda of Understanding (MOUs) with other Federal agencies. A listing of MOUs by year can be found at the following website:

<https://www.nrc.gov/reading-rm/doc-collections/memo-understanding/>

Please note that this listing only goes back to 1984. Older MOUs may need to be obtained by other means. Please check the website to make sure you have the most current version of the MOUs.

The following MOUs contain information that is relevant to inspection activities:

- a. U.S. Department of DOT
 1. The NRC/DOT MOU, "Transportation of Radioactive Materials," published in the *Federal Register* on July 2, 1979 (44 FR 38690), delineates DOT's and NRC's respective responsibilities for regulating safety in transportation of radioactive materials.
- b. U.S. Department of Justice (DOJ)
 1. The NRC/DOJ Federal Bureau of Investigation (FBI) MOU, "Cooperation Regarding Threat, Theft, or Sabotage in U.S. Nuclear Industry," published in the *Federal Register* on May 16, 2000 (65 FR 31197), provides a basis for contingency response planning, coordination, and cooperation between the FBI and the NRC, to deal effectively with threats, and with acts associated with theft or sabotage attempts against NRC-licensed nuclear facilities and activities.
 2. The NRC/DOJ MOU published in the *Federal Register* on December 14, 1988, (Volume 53, Issue 240), provides for coordination between the two agencies for matters that could lead to NRC enforcement action, as well as DOJ criminal prosecution. The MOU also facilitates exchange of information on matters within their respective jurisdictions.
- c. U.S. Department of Labor (DOL)

1. The NRC/DOL MOU, "Cooperation Regarding Employee Protection Matters," published in the *Federal Register* on October 27, 1998 (63 FR 57324), provides coordination of employee protection provisions in Section 211 of the Energy Reorganization Act of 1974. Section 211 prohibits a licensee, applicant, or contractor or subcontractor of same from discriminating against any employee who assisted or participated, or is about to assist or participate, in an NRC inspection.
2. The NRC/DOL Mine Safety and Health Administration (MSHA) MOU, "Facilitation of Coordination and Cooperation in Areas of Mutual Jurisdiction and Concern," published in the *Federal Register* on January 4, 1980 (Volume 45, No. 3), clarified the regulatory roles for NRC and MSHA for milling of source material, including inspection of an operating uranium mill.
3. The NRC/DOL Occupational Safety and Health Administration (OSHA), MOU, "Worker Protection at NRC-licensed Facilities," published in the *Federal Register* on October 31, 1988 (53 FR 43950), was designed to ensure that there will be no gaps in the protection of workers at NRC-licensed facilities where the OSHA also has health and safety jurisdiction. At the same time, the MOU is designed to avoid NRC and OSHA duplication of effort in those cases where it is not always practical to sharply identify boundaries between the NRC's responsibilities for nuclear safety and the OSHA's responsibilities for industrial safety.

Specific guidance on the responsibilities and "Interfacing Activities Between Regional Offices of NRC and OSHA," can be found in IMC 1007. There are four categories of occupational hazards that may be associated the licensed materials:

- (a) radiation hazards produced by radioactive materials;
- (b) chemical hazards produced by radioactive materials;
- (c) facility conditions that affect the safety of radioactive materials and thus present an increased risk to workers; and
- (d) facility conditions that result in an occupational hazard that do not involve the use of licensed materials.

Generally, NRC has jurisdiction over categories (a), (b), and (c). OSHA has authority and responsibility for category (d). Through this MOU, NRC supports OSHA by reporting category (d) conditions to the licensee and OSHA so appropriate action(s) can be taken.

d. U.S. Environmental Protection Agency (EPA)

1. The NRC/EPA MOU, "Regulation of Radionuclide Emissions," published in the *Federal Register* on November 3, 1980 (Volume 45, No. 214), defines in general terms the respective roles of the two agencies and establishes a framework of cooperation for avoiding unnecessary duplication of effort and for conserving resources in establishing, implementing, and enforcing standards for airborne radionuclide emissions from sources and facilities licensed by the NRC.
2. The NRC/EPA MOU published in the *Federal Register* on November 16, 1992 (Volume 57, No. 221), was designed to foster NRC/EPA cooperation in protecting

health and safety and the environment on issues relating to the regulation of radionuclides in the environment.

3. The NRC/EPA MOU published in the *Federal Register* on December 22, 1992 (Volume 57, No. 246), concerns "Clean Air Act Standards for Radionuclide Releases from Facilities Other than Nuclear Power Reactors Licensed by NRC or its Agreement States." The MOU was designed to ensure that facilities other than nuclear power reactors, licensed by the NRC, will continue to limit air emissions of radionuclides to levels that result in protection of the public health with an ample margin of safety.

In 2002, the NRC and the EPA signed an MOU to facilitate cooperation in the decommissioning of NRC-licensed sites. Under the MOU, NRC staff will consult with EPA staff if the proposed Derived Concentration Guideline Levels in the DP or the final residual radioactivity at the site, as evidenced by the Final Status Survey Report (FSSR), exceed trigger levels in the MOU, if groundwater at the site will exceed the EPA's Maximum Concentration Levels, or if the licensee requests license termination pursuant to the restricted use provisions of 10 CFR Part 20, Subpart E.

- e. U.S. Department of Health and Human Services (DHHS). The NRC/DHHS Food and Drug Administration (FDA) MOU (ML023520399) published in the *Federal Register* on December 23, 2002 (67 FR 78262), renewed with minor changes the MOU signed by NRC and FDA on August 26, 1993. The MOU delineates the sharing of information and the coordination of joint inspections or inspection accompaniments between NRC and FDA for areas of joint regulatory interest (i.e., medical devices, drugs, and biological products using byproduct, source, or SNM).
- f. DOE. The NRC/DOE Office of Waste Management MOU, "Concerning the Management of Sealed Sources," published in the *Federal Register* on January 7, 2000 (65 FR 1184), addresses the problem of unwanted and uncontrolled radioactive materials ("orphan" sources) and defines agreed-upon roles and responsibilities of the NRC and DOE in situations where the NRC is the lead Federal agency, where immediate health and safety hazards have been addressed, and where assistance with the transfer of radioactive material is determined to be necessary for continued protection of public health and safety and the environment.

07.08 Turnover of Projects from DFM to DUWP

In general, overall responsibility for the decommissioning program rests with NMSS/DUWP. The overall objectives of the NMSS decommissioning program are to ensure that those decommissioning activities adequately protect the health and safety of workers, and the public, protect the environment and are conducted in a timely and effective manner, consistent with all pertinent regulatory requirements. As NMSS/DFM maintains staff with the expertise necessary to perform licensing, safety reviews and inspections related to fuel cycle sites, a site is not typically transferred from NMSS/DFM (and IMC 2600) to NMSS/DUWP (and IMC 2602) until: (1) the licensee has permanently ceased all principal activities; and (2) there are no issues (e.g., criticality concerns) that would warrant NMSS/DFM maintaining oversight and project management. This transfer process is set forth in an April 23, 2003, MOU (ML030900195), and explained in SECY-06-0106, "Consolidation of U.S. Nuclear Regulatory Commission's Decommissioning Program in the Division of Waste Management and Environmental Protection, Office of Nuclear Materials Safety and Safeguards."

07.09 Decommissioning Groups

Activities to decommission a site depend on the type of operations conducted by the licensee and the residual radioactivity present. Generally, the staff will evaluate the decommissioning of nuclear facilities using one of seven review processes (referred to as Groups). Although all licensees will fall under a decommissioning group the unique nature of some facilities may require site-specific modifications to the group's review processes. The staff shall ensure that any departure from these established procedures is reviewed and approved by NRC management and documented in writing prior to their implementation. NUREG-1757, Volume 1, contains guidance for the determination of the appropriate group and review process and the actions and oversight required within each group. Consider the decommissioning group when choosing inspection procedures and planning inspection activities. As stated previously, Group 1 and 2 do not usually require a DP, Group 3 can require an abbreviated DP rather than a full DP and Groups 4 and higher require a DP. Refer to Table 1.2 of NUREG-1757, Volume 1, Revision 2, for a quick overview of the regulatory features of each decommissioning group.

07.10 Decommissioning Plans (DPs)

The objective of the DP is to describe the activities and procedures that a licensee intends to undertake to remove residual radioactive material attributable to licensed activities at the facility to levels that meet NRC criteria in sufficient detail to allow NRC staff to determine whether decontamination of the facility can be accomplished safely. NRC regulations at 10 CFR Parts 30, 40, and 70 require that certain information be provided by licensees in the DP. NUREG-1757, Volume 1, provides a description of the contents of specific DP modules, as well as evaluation and acceptance criteria for use in reviewing DPs and other information submitted by licensees to demonstrate that the facility is suitable for release in accordance with NRC requirements.

a. Site Characterization

NRC requirements for decommissioning under 10 CFR 30.36(f)(4), §40.42(f)(4), and §70.38(f)(4) require that proposed DPs include "... a description of the conditions of the site or separate building or outdoor area sufficient to evaluate the acceptability of the plan." Licensees can develop this information using institutional knowledge about radioactive material use at their facility, by performing a site characterization survey, or by a combination of these methods. Some licensees may require heightened attention by NRC staff during characterization planning. For these licensees it may be appropriate for NRC staff to meet with the licensee prior to, or during, site characterization. NRC staff should refer to NUREG-1757, Volume 2, "Consolidated Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria – Final Report," for additional discussion of site characterization.

b. Financial Assurance for Decommissioning

NRC regulations at 10 CFR 30.35, §40.36, §70.25," and §72.30, "Financial assurance and recordkeeping for decommissioning," specify the requirements for certain licensees to provide financial assurance for decommissioning. The requirement to provide financial assurance is based on the authorized possession limits specified in the NRC license. In general, above a threshold quantity of radioactive material, the licensee must provide increasing amounts of financial assurance as its authorized possession limit increases. Financial assurance may be provided in certain proscribed amounts where the

authorized possession limit falls within specified bounds. NRC staff should refer to Section 4 of NUREG-1757, Volume 3, "Financial Assurance, Recordkeeping, and Timeliness," for additional discussion of financial assurance.

c. Decommissioning Activities

Decommissioning activities vary based on the type of licensee that is undergoing decommissioning. Therefore, it is essential for the inspector to be aware of site activities and schedules. For sites where decommissioning activities are expected to take more than a year, review the DP, and gather information associated with site activities from the NRC PM. Many PMs have periodic calls with their licensees to discuss site activities and licensing actions, if possible, inspectors should participate in these calls. Additional information can be gathered through review of environmental monitoring reports and other documents submitted by the licensee to the NRC in accordance with license conditions.

d. Final Status Survey Plans

To terminate their licenses, licensees must demonstrate to the NRC that residual radioactive material at their facility attributable to past licensed operations does not exceed NRC criteria for release of the facility. NRC regulations at 10 CFR 30.36(f)(4), §40.42(f)(4), and §70.38(f)(4) require that all DPs contain a description of the planned final radiation survey to demonstrate that the facility meets NRC's criteria for release and termination of the license. In addition, NRC regulations at 10 CFR 30.36(l), §40.42(l), and §70.38(l) describe the information that must be submitted to NRC to support a demonstration that a licensed facility is suitable for release from regulatory control. For uranium recovery licensees verify the requirements of 10 CFR Part 40, Appendix A, "Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content," have been satisfied before license termination.

07.11 License Termination

The final action required by the licensee after it has completed remediation and adequately demonstrated that the facility is suitable for release in accordance with NRC's requirements is the submission of NRC Form 314. If the licensee has satisfied all of the conditions for remediating its site, NRC staff terminates the license for the site.

07.12 Restricted Use and Alternate Criteria

NRC staff will review the information supplied by the licensee to determine if the description of the activities undertaken by the licensee is adequate to allow the staff to conclude that the licensee has complied with the applicable requirements of 10 CFR 20.1403, "Criteria for License Termination under Restricted Conditions," or 10 CFR 20.1404, "Alternate Criteria for License Termination," for those licensees who intend to request termination of their radioactive materials licenses using either the restricted use or alternate criteria provisions of Subpart E. The basic requirement for license termination under restricted conditions is that the licensee provides institutional controls that limit the calculated dose to 0.25 mSv/y (25 mrem/y). Further, the licensee must reduce residual radioactivity so that if these controls fail, the calculated dose will not exceed 1 mSv/y (100 mrem/y). In rare instances, the calculated dose may exceed

1 mSv/y (100 mrem/y), but it may not exceed 5 mSv/y (500 mrem/y). Additional institutional controls would be established to meet regulatory requirements. In the unlikely event that a licensee is not able to reduce residual radioactivity to a level that limits the calculated dose such that it is not in excess of 0.25 mSv/y (25 mrem/y) with restrictions in place, the licensee may request permission from the Commission to use alternate criteria. NRC staff should refer to NUREG-1757, Volume 1, for guidance on restricted use and alternate criteria.

07.13 Partial Site Decommissioning

A licensee who has submitted a DP that has not yet been approved or a licensee who has an approved DP may opt to release a portion of its site early. For the case of partial site release, the licensee must submit a request for a license amendment to the extent that the actions are not described in the DP. A site enters into partial site decommissioning in one of two ways: the licensee requests a portion of its facility be removed from the license, or; a licensed facility is required per 10 CFR 30.36(d), §40.42(d), and §70.38(d). to begin decommissioning at a portion of its facility.

07.14 Program Discussion

The decommissioning fuel cycle and material inspection program covers a diverse range of decommissioning activities. The level of complexity varies from complex sites requiring remediation of groundwater contamination to the less complex sites with sealed sources or contamination less than the screening values in NUREG-1757, Volume 1. It is anticipated that uranium recovery, fuel cycle and enrichment facilities will require a defined, substantial decommissioning effort, requiring the submittal of a DP. In contrast, most of the noncomplex materials licensees have facilities which, for the most part, will not require submittal of a formal DP for NRC review and approval and will not be a major effort. Because of this wide range of decommissioning activities and safety considerations, this manual chapter promulgates inspection program requirements and guidance necessary to provide reasonable assurance that NRC regulatory oversight contributes to public health and safety for a broad array of decommissioning activities. This inspection program focuses on ensuring that:

- a. Licensee documents are adequately implemented, maintained, and reflect the status of decommissioning.
- b. Licensee activities, organization, and controls are effective to provide reasonable assurance that decommissioning can be conducted safely and in accordance with regulatory requirements.
- c. NRC staff project oversight and inspection resources are effective, consistent, and appropriately focused.
- d. Licensee radiation and radioactivity measurement programs provide accurate quantification and classification of radioactivity.

The management of decommissioning sites will be shared between the regions and the headquarters program office.

07.15 Timing and Frequency of Inspections

The decommissioning inspection program is formally initiated when the licensee is required to begin decommissioning under NRC regulations. The inspection program continues until the site, including all buildings and other structures and outdoor areas, are remediated in accordance with NRC requirements and the appropriate licensing action is completed, which could be license termination or amendment, or documentation the site is being released for unrestricted use.

The frequency of inspections will vary depending on the decommissioning activities taking place. In determining the inspection frequency, the region, in consultation with the licensing PM should factor in the radiological history of the licensee, the licensee's past performance, the licensee's planned schedule of activities, the potential for the decommissioning activities to affect the public health and safety or workers and the public, and the level of public interest. In other words, the decision to extend or reduce an inspection interval should be made using a risk-informed approach.

In addition, it may also be beneficial to conduct periodic conference calls between the NRC PM, regional staff, and licensee. Conducting calls on a weekly, bi-weekly, or monthly schedule helps the NRC keep abreast of site activities and aids in development of an effective inspection schedule and site visits. These calls also help licensees keep informed about current NRC regulatory activities and licensing actions related to the decommissioning project.

The NRC maintains open channels of communication with regard to access by the public, state, tribal, or local officials to the NRC staff or to publicly available electronic documentation concerning a licensee's performance. Some local officials or community groups may desire increased interaction with the NRC's staff and inspectors. The degree of interaction that is considered necessary to ensure openness in the NRC's decommissioning program is expected to vary widely depending on the situation at each decommissioning site

Inspections should be scheduled to allow the inspector to observe, at a minimum, all significant decommissioning activities. Inspection of significant activities can include activities such as: observing the removal or dismantlement of equipment that possess a high source term; conducting confirmatory measurements that coincide with the licensee's surveying activities, particularly for situations where no other reasonable opportunity will exist; verifying licensee compliance with license commitments, DPs, regulatory requirements, or procedures; following up on previously identified violations or other identified weaknesses; evaluating performance following a significant change in the licensee or contractor work force; or a special inspection to address public concerns.

Some sites have separate buildings and outdoor areas where licensed activities have ceased and are being decommissioned, while licensed activities continue to be conducted at other site locations. In these cases, inspections of the locations being decommissioned can be coordinated with inspections of routine operations or be performed independent of operations at the discretion of the inspection staff.

Although inspections are expected to be conducted at sites that are being actively remediated, there are times when inspections or site visits are warranted even though there is little to no site remediation taking place. For example, when a significant amount of public, State, Tribal and/or Congressional interest exists, inspections and visits may

be warranted to ensure that regional staff and management have firsthand knowledge of the condition of a site as well as familiarization with licensee personnel. In other cases, no inspection activities may be needed. For example, a formal inspection is normally not necessary for a license termination for a medical practitioner licensed to use a sealed source, where the decommissioning effort is essentially the removal of the source from the licensee's facility. In addition, if no decommissioning activities are being conducted at the site, such as if the site owner is developing a DP, a decommissioning inspection may not be warranted.

At a minimum, inspections of complex materials sites in decommissioning should be performed annually (\pm 25% scheduling interval), and if not, the decision or justification for deferring the annual inspection should be documented and placed in ADAMS. For sites where major decommissioning activities are occurring such as the active remediation of structures, soils, or groundwater, inspections shall be scheduled to conform to significant decommissioning activities. For major decommissioning efforts that involve large quantities of contaminated soil, groundwater contamination, onsite disposal, extensive surface contamination, dismantlement of major buildings and structures, or the potential for significant worker or public exposures, at least one inspection should be conducted while the site is being characterized. For such major efforts, the inspection schedule should also include an inspection during remediation of key buildings, equipment, and outdoor areas, and during and after the licensee's final survey. In general, inspections may be conducted more frequently, if necessary, to verify that worker and public exposures are maintained ALARA.

07.16 Master Inspection Plan (MIP)

At the onset of the decommissioning of a fuel cycle, uranium recovery, or complex materials site, a MIP will be developed. The purpose of the MIP is to ensure that the inspection program is properly focused and that sufficient resources are available to conduct the inspections when necessary. The MIP should be based on the expected schedule of licensee activities and include inspections of all significant decommissioning activities. The regional lead inspector is responsible for developing the MIP, working with the agreement of the cognizant NRC PM. The inspection schedule provided in the MIP should be reviewed every 6-12 months and modified as needed to reflect changes in licensee schedules.

The MIP should provide the inspections that are planned, the activity or program area being inspected, the procedure(s) that will be used to conduct the inspections, and the approximate time frame for when the inspection is expected to occur.

Some factors to be considered while developing and implementing a MIP include:

- unique or challenging decommissioning approaches and procedures or hydrological conditions (such as diversion of the radiological effluent stream, excavation of contaminated soils from below a water table, or dredging of soils from outfalls or intakes);
- licensee performance;
- staffing plans;
- congressional or public interest;

- transportation of radioactive waste;
- effectiveness of management oversight and contractor control;
- decommissioning funding, and;
- timing and scheduling of significant decommissioning activities.

07.17 Periodic Management Visits to Meet with Licensee Representatives

For significant decommissioning projects, Headquarters and regional management might consider visiting the facility to understand the licensee's plans to decommission their facility. Licensee programs for the control and handling of radioactive materials, licensee staffing, public interest, experience and expertise, and the MIP are possible topics of discussion.

As decommissioning progresses, additional management site visits may be held periodically or prior to major changes in the status of decommissioning to gain licensee management insights and perspectives. The intent of these visits is to understand licensee plans and schedules, and the controls implemented to provide quality, cost management, and safety. Performance elements involving radiation dose, curie-level activity removal and transportation, scheduler accuracy, and nuclear and radiological safety could be discussed to ascertain the licensee's assessment of their own performance. Discussions could include the dissemination of press and public information; status of site radiological surveys, problems associated with staffing and contractors; and storage and transportation of radioactive material.

07.18 Extent of Licensee Decommissioning Activities

When a licensee is able to use existing approved procedures to perform decommissioning activities, consider performing inspections using the same routine inspection procedures that were used during operational inspections. In these cases, a closeout inspection using Inspection Procedure (IP) 83890, "Closeout Inspection and Survey," can be used when license termination is requested. A few of the non-fuel cycle facilities, however, such as manufacturers of radiochemicals and certain research and development institutions, will typically require significant decommissioning efforts by the licensees and significant inspection activities by NRC inspection staffs. For these types of decommissioning, activities consider performing the inspection using IP 87104, "Decommissioning Inspection Procedure for Materials Licensees," and supplemented with other procedures, as necessary.

07.19 Security and Control of Contaminated Material

Assess licensee security and control of contaminated material using active measures (use of locks), passive measure (posting, labeling or establishment of temporary barriers) or a combination. Verify that contaminated material at licensed and unlicensed sites undergoing decommissioning is secured and controlled in accordance with 10 CFR 20.1801, "Security of Stored Material," posted in accordance with 10 CFR 20.1902, "Posting requirements," and labeled in accordance with 10 CFR 20.1904, "Labeling Containers," and 20.1905, "Exemptions to Labeling Requirements." Contaminated materials in buildings shall be secured and controlled by locking buildings, rooms, or areas. Contaminated materials in outside areas shall be secured and controlled by

fencing or soil covers. Eight foot cyclone-type fencing is generally acceptable. Other fencing types, such as barbed wire fences, may be sufficient in low population, rural areas. Three to four foot thick soil covers over contaminated soil, slag, or tailing piles are also generally acceptable. Access to buildings, rooms, or indoor and outdoor areas having contaminated materials shall be limited only to individuals having the licensee's or responsible party's requirements for access.

Normally, decommissioning activities will not involve large enough quantities of radioactive materials to be subject to the physical protection requirements of 10 CFR Part 37, "Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material." For decommissioning sites that do involve sufficient quantities of radioactive material to be subject to Title 10 CFR Part 37, the physical control inspections should be incorporated into the decommissioning inspections as needed. For additional information associated with the physical protection requirements with 10 CFR Part 37 see IP 87137, "10 CFR Part 37 Materials Security Programs."

07.20 Inspection Coordination.

Prior to performing inspections at a site undergoing decommissioning, the regional inspector should coordinate inspection activities, as appropriate, with the following personnel and organizations:

- a. For sites that are project managed by DUWP, inform the cognizant DUWP-PM who has responsibility for the site of the inspection. Offer the PM an opportunity to accompany the inspector during inspection.
- b. For sites that are project managed by the regional office, coordinate with the regional lead inspector (or PM) who has responsibility for the site. If the inspector conducting the inspection is also the lead inspector (or PM), coordinate the inspection with regional management for overall content and scheduling considerations.
- c. For sites that will transition to DOE-Legacy Management (DOE-LM) under UMTRCA after decommissioning, contact the DUWP-PM and the DOE-LM PM and inform them of the planned inspection. Offer the DUWP-PM and the DOE-LM PM an opportunity to accompany the inspector during inspection.
- d. Contact the licensee and discuss inspection plans (unless the inspection is unannounced).
- e. For sites with an NRC-approved DP, where the environmental assessment for the DP identifies Federal, State, Tribal and other organizations interested in or affected by site activities, contacts should be made in accordance with established procedures at each site.
- f. Coordinate with the EPA or the appropriate State agency if the decommissioning involves hazardous wastes.
- g. Coordinate requests for technical assistance for survey work to be performed by an NRC contractor through DUWP. It is recommended that the need for contractor support be determined early in the decommissioning process to assist in resource planning.

07.21 Reciprocity Inspections

In 10 CFR 150.20, "Recognition of Agreement State Licenses," the NRC grants a general license to any person with a specific license from an Agreement State authorizing use at temporary job sites to conduct the same activity authorized by the Agreement State license in areas under Federal jurisdiction. The Agreement State licensee must submit an NRC Form 241, "Report of Proposed Activities in Non-Agreement States" at least 3 days before engaging in the licensed activity. The processing of the NRC Form 241 is performed in accordance with NUREG-1556, Volume 20, "Consolidated Guidance About Materials Licenses – Guidance About Administrative Licensing Procedures." NRC will conduct inspections of Agreement State licensees operating in NRC jurisdiction. Reciprocity inspections do not follow the frequency requirements for routine inspections. The NRC regional office(s) shall conduct reciprocity inspections for work performed within their assigned jurisdictions. Reciprocity inspections shall be performed in a performance-based, risk-informed manner in accordance with program-specific procedures which are used for equivalent NRC-licensed activities.

The use of resources, including contractors licensed by an agreement state, and associated NRC reciprocity approval for the agreement state licensee to perform that activity, does not relieve the facility licensee of meeting NRC requirements such as 10 CFR 30.36(g)(1) and 10 CFR 30.36(g)(3) for any work done by these entities for the facility licensee.

All reciprocity applicants are eligible for inspection. Reciprocity inspections shall be selected in a risk-informed manner based on the following guidance:

- need for a reactive inspection based on an on-going event;
- review of an allegation, as it relates to the work being conducted under reciprocity;
- inspection priority and scope of work to be performed;
- inspection, enforcement, and incident history (e.g., discussions with regulatory agency that issued license, Nuclear Material Events Database, National Enforcement Database, etc.);
- duration (i.e., length of work/storage or number of visits in a calendar year);
- knowledge of work in other regulatory jurisdictions (e.g., number of inspections of this entity in a given year under the National Materials Program);
- new or unique technology; or,
- any other situation as deemed appropriate by the regional management.

Although reciprocity inspections pose unique challenges, such as short lead time and logistics, inspectors should make a reasonable effort to conduct unannounced reciprocity inspections if possible. One method of preserving this goal is to contact the licensee's client to obtain the work schedule to help ensure that actual field work may be observed.

Copies of reciprocity inspection documentation shall be sent to: (1) the regulatory agency that issued the license; (2) the State contacts for the State in which the work occurred; (3) the NRC regional office in which the Agreement State is located; and (4) other NRC offices as needed, in accordance with existing procedures.

The region that conducted the reciprocity inspection is responsible for entering any pertinent information about the inspection and resulting enforcement actions into the inspection tracking system.

07.22 Scope of Inspections - General

It is recommended that all significant activities of a particular site undergoing decommissioning, including prior to, during, and after remediation, be identified and inspected. Major efforts in the inspection program should be focused on RMs identified in the core inspection procedures. RMs that are applicable to materials, fuel cycle, and uranium recovery licensees include: (1) observation of decommissioning activities; (2) occupational radiation protection; (3) security and control of radioactive material, (4) public dose; effluent and environmental monitoring and (5) management organization and controls. In most cases, field sampling and independent measurements performed by inspection staff should be consistent with those performed during routine surveys associated with the use of licensed materials during operations at the site.

In some cases, an inspector may identify a concern that results in an unresolved licensing basis question, which may take staff considerable effort to resolve. The inspector should consider safety significance, further evaluation of the issue can be discontinued using the VLSSIR process. If the issue cannot be dispositioned using the VLSSIR process than it could follow the issue resolution should follow existing processes including the identification of an unresolved issue and prospective use of the headquarters technical support for regional activities (e.g.; the technical assistance request process).

If evaluation of an issue is discontinued using the VLSSIR process, it is documented in the inspection report, and no further staff effort to resolve the issue is necessary. However, the staff may revisit the licensing basis question and associated with VLSSIR determination, as appropriate, if additional information comes to light pertaining to the issue.

The VLSSIR process cannot be used to resolve known compliance issues nor should it be used to establish a staff position.

Inspectors should not expend undue effort on items of very low safety significance. The inspector should consider the underlying risk significance (safety and security) of the concern, as well as the licensee's response to and resolution of that concern, when determining the level of increased inspection effort to expend.

If an inspector is unsure of the appropriate level of effort to expend, he or she should bring the issue forward and consult with their supervisor. Together they should weigh the factors affecting significance (kinds and quantities of material, possibility of exposure or contamination, programmatic impact, etc.) with the factors affecting level of effort required (age of the issue, availability of records, ease of resolution etc.) and determine whether the review should be continued or suspended. The discussion should include a

determination if the issue should be documented in the inspection report as an unresolved item.

Security and control of contaminated materials is briefly summarized in Section 07.15. These controls are necessary to mitigate the risks associated with radioactively contaminated material. Failure to appropriately control radioactive or contaminated material can result in unnecessary occupational or public dose, and contamination of soils, surface water or groundwater resulting increased radioactive waste volumes during decommissioning.

Observation of decommissioning activities is an important program element for inspectors. Observation of activities such as decontamination and demolition of structures, cell construction, radiation work practices or environmental sampling allows the inspector to identify potential concerns and verify licensee performance is appropriate for the situation and site conditions. Prior to observation of licensee activities, NRC staff should review reference documents such as radiation work permits, procedures, and activity hazard assessments in addition to the DP to understand the work controls implemented or planned by the licensee.

Occupational radiation protection programs should be detailed in a written Radiation Protection Plan (RPP) and implementing procedures. For sites undergoing decommissioning this written RPP can be a standalone document or a part of a reclamation, closure, or DP. Inspectors should familiarize themselves with this plan and its procedures to understand the controls and measures that the licensee will take to protect employees from unnecessary radiation dose and to monitor the dose to occupational workers, contractors, and visitors while onsite.

Sites in decommissioning are usually required by license condition to implement and maintain an environmental monitoring program, determine public dose and monitor/document effluent releases. NRC staff should review these license conditions and supporting documentation (including any required reporting to the State or the NRC as part of their licensing or inspection work for the licensee.

Management organization and control is reviewed by the NRC staff to identify if the appropriate level of support is provided to the radiation safety officer and radiation safety staff to ensure that the radiation protection program has the necessary resources to complete their job of protecting workers, the public and the environment from hazards associated with the decommissioning activities onsite.

In those cases where decommissioning activities plan for the removal of waste offsite, NRC staff needs to review and understand the processes used for generation of waste, reduction of waste streams, storage of waste and plans for waste transportation and disposition. These elements are usually considered as part of the development of an Environmental Assessment or Environmental Impact Statement if the site falls under the National Environmental Policy Act.

Final Status Surveys and confirmatory surveys are discussed in Section 07.25.

In accordance with the interface procedures in the September 06, 2013, "Memorandum of Understanding Between the U.S. NRC and the Occupational Safety and Health Administration," in the course of inspections of radiological and nuclear safety at such facilities, NRC inspectors may observe industrial safety and health hazards or receive

complaints from employees that are within OSHA's authority and responsibility. In such instances, the NRC will bring the matter to the attention of licensee management. In the case of employee complaints, NRC will withhold the identity of the employee from the licensee. If the licensee does not control serious industrial safety or health hazards that are identified, the NRC regional office will inform the nearest OSHA regional office. [Refer to additional guidance in IMC 1007 or the MOU (ML11354A432) for additional information].

07.23 Scope of Inspections Prior to Dismantlement

During the typical decommissioning effort, there are planning and preparation activities that occur prior to dismantlement and demolition that may require inspection. Inspections may be conducted to: (1) ensure proper implementation of NRC-approved site characterization plans; (2) audit the SNM inventory cleanout (for SNM licensees); and (3) ensure adequate management and security controls for the duration of the decommissioning effort. In addition, the inspector should review the license for any new conditions that may have been added for decommissioning. Prior to dismantlement, four of the seven RMs may be most applicable to inspection activities. The RMs and the importance of each will change as the site transitions through the phases of decommissioning. For example, radioactive material security and control requirements will decrease as the source, byproduct or SNM in the licensee's inventory is dispositioned and contamination is remediated. Once operations cease the production of airborne and liquid effluents will decrease, this decrease in effluents can result in the licensee modifying the monitoring requirements associated with public dose and environmental protection. Use of inspection procedures from the operational phases will gradually be phase out in favor of the decommissioning IPs. Routine monitoring protocols are likely to change during this phase of decommissioning. Discretionary IPs related to criticality safety, materials control and accountability, and fire protection will likely be applicable at this stage of decommissioning.

07.24 Scope of Inspections During Remediation and Dismantlement

The remediation of structures, soil, sediment, surface water and groundwater, the dismantlement of buildings and other structures, and the disposal of waste constitute the majority of a typical decommissioning effort for sites with widespread contamination. During remediation and dismantlement of the licensee's facilities, the inspector should review the approved DP and license conditions ensure that work is being completed in accordance with the plan and the license requirements. In particular, the inspector should verify that work is being completed in accordance with the procedures developed to support the DP and license requirements. During remediation and dismantlement, the first six RMs are the most applicable to inspection activities: observation of decommissioning activities; occupational radiation protection; security and control of radioactive materials and control; waste generation, storage and transportation; effluent releases and environmental protection; and management organization and controls. Discretionary IPs for criticality safety, materials control and accountability and fire protection may also be applicable at this stage of decommissioning.

07.25 Scope of Inspections After Remediation

Decommissioning activities after remediation of the site include a licensee conducted final status survey and, in some cases, an NRC confirmatory survey.

a. Licensee Final Survey

As part of the DP, the licensee will prepare a final survey plan. The purpose of the final survey will be to demonstrate compliance with the NRC decommissioning criteria. The final survey should include the licensed premises and offsite areas that were or may have been contaminated by the licensee's operations. Although the formal NRC review and acceptance of a licensee's final survey plan and report is performed by the NRC licensing PM (or other equivalent staff), inspectors should have adequate familiarity with these licensee documents to facilitate planning and executing inspections. As necessary to ensure confidence in the licensee's survey results, the inspection may include independent NRC analysis of the licensee's samples.

A final survey and report may not be required if a licensee can demonstrate the absence of radioactive contamination in some other manner, such as documentation that the licensee used only sealed sources that never showed evidence of leakage.

In most cases where a licensee is only decommissioning a few rooms or laboratories, the FSS consists of conducting 100 percent scans of the floors, walls, tabletops, and equipment, and the collection of wipe samples. Typically, a confirmatory survey is not required in these cases. However, depending on the adequacy of the surveys conducted, the quality of the FSSR, the licensee's history of use, the isotopes used, the form of the isotopes, whether there were documented past spills, the potential for contamination in drains, or any other issue (like inaccessible areas), the inspector must determine whether an NRC confirmatory inspection would be appropriate. If an inspection can be conducted during the licensee's FSS (during which side-by-side surveys can be conducted) the need for a confirmatory inspection would in most cases be eliminated. However, many licensees complete the FSS prior to informing the NRC of the desire to release the areas for unrestricted use, so this is not possible.

b. Confirmatory Surveys.

The purpose of the NRC confirmatory survey is to perform an audit of the licensee's final survey results to independently confirm that the licensee's final survey report is accurate and representative of site conditions. In most cases a comprehensive confirmatory survey will be performed following the decommissioning of a complex material site. However, based on the frequency, types, and results of in-process inspections, regional management may decide that a confirmatory inspection is not necessary. Examples where a confirmatory survey would almost always be conducted would be: (1) an in-process inspection of the licensee's final survey program identifies multiple weaknesses; (2) repetitive violations are identified during the decommissioning process; (3) significant public, State, Tribal or Congressional interest exists; (4) in-process inspections were not conducted; or (5) potential for contamination in inaccessible areas. Based on a review of the final status survey, the FSS review and decision not to conduct a confirmatory survey shall be documented in the docket file.

NRC confirmatory surveys should not be used to demonstrate, for the licensee, compliance with NRC residual contamination standards. The licensee always retains responsibility for compliance. The licensee's final survey plan and report should be adequate to demonstrate the condition of the site before any confirmatory survey is conducted by NRC or its contractor. Licensee surveys and NRC confirmatory surveys may be conducted in phases as decommissioning proceeds.

Prior to arranging a confirmatory survey, the inspector should review the documentation of decommissioning activities and the results of the licensee's final radiological survey. Any questions or concerns that the inspector might have related to the survey should be communicated to the licensee (through the DUWP-PM where appropriate) for substantiation or clarification. When such issues are resolved to the inspection staff's satisfaction, a written confirmatory survey plan should be prepared, and the survey conducted at the earliest possible date. Unresolved issues related to the adequacy of the licensee's final survey report should be communicated to DUWP staff before conducting a confirmatory survey.

Confirmatory surveys may be performed by NRC staff or by technical assistance contract support. In most cases, contractor support will not be necessary. The use of a contractor may be justified if one of the following conditions exist: (1) the licensee's final survey involves unique or complex technical issues; (2) the confirmatory survey is expected to require significant resources to complete field surveys and sampling; or (3) the confirmatory survey is a very high priority that cannot be completed by NRC staff in a timely manner. In addition to the three conditions listed above, there may be other site-specific considerations that justify the use of a contractor. Contractual support should be coordinated through DUWP. Inspectors should be onsite for at least part of the confirmatory surveys performed by contractors. Coordination with contractors should be initiated at the earliest time to develop high quality plans for the confirmatory surveys. Regional staff shall contact the Headquarters staff manager responsible for the contract to arrange the confirmatory survey.

c. Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)

For most sites that are undergoing significant decommissioning activities, particularly at those sites where a DP has been approved, the FSS is performed using the guidance provided in NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)." MARSSIM provides a standardized approach for planning, conducting, evaluating, and documenting radiological surveys to demonstrate compliance with regulatory requirements. Because MARSSIM uses a statistically derived decision-making process to assess and interpret the adequacy of the survey and sample results, under certain conditions, a confirmatory survey may not be necessary. However, the decision to not conduct a confirmatory survey, increases the the need for the inspector to verify the adequacy of the licensee's survey and sampling program. Under this condition, the inspector should evaluate the licensee's equipment selection, survey results, sampling and counting procedures, as well as the adequacy of the analytical laboratory counting the samples. Inspections should also be conducted when the licensee is conducting surveys and collecting samples so that side-by-side surveys can be performed, split samples can be collected, and the licensee's survey and sampling techniques can be observed and evaluated. The goal is to verify that the FSS supports license termination.

07.26 Basic Inspection Process

In addition to the information given below, guidance regarding the basic inspection process can be found in IMC 2800, "Materials Inspection Program." All inspections should be conducted in a similar manner in accordance with headquarters staff instructions and regional administrative processes.

The inspection starts with the planning of inspections in the MIP, as described in Section 07.16. Implementation of the MIP also includes the coordination of site visits and inspections to promote regulatory efficiency and effectiveness and to reduce regulatory burden on the licensee. Based on the MIP, inspections are conducted, inspection reports are written, license performance is assessed, feedback on the decommissioning inspection program should occur, and this process should repeat until the site is decommissioned. A basic inspection process entails:

- a. Preparation for the inspection by reviewing appropriate background material (e.g., license, license file, DP, past inspection reports, allegations, and other pertinent information). If the inspection is conducted in an agreement state, the inspector shall make a courtesy notification to the agreement state director prior to the inspection.
- b. Preparation of an inspection plan describing the scope and major areas of emphasis that will be reviewed, evaluated, or assessed. This plan should be reviewed by the lead inspector's BC.
- c. Inspectors shall utilize appropriate and calibrated radiation detection instrumentation or any other equipment to verify licensee activities, if applicable for the inspection. In-situ measurements with licensee personnel can be beneficial in future determinations as to the scope of confirmatory surveys required for the facility.
- d. Inspectors shall conduct an entrance meeting with the licensee. Discuss the inspection scope with licensee management and identify any open items that will be reviewed. Verify that the licensee understands that the inspection involves the observation of facility operations, interviews with staff, document reviews, and/or radiation surveys to obtain independent and confirmatory data. Any change or potential change to the onsite inspection plan should be communicated with appropriate NRC staff (regional BC and NRC PM for the site).

In cases where unique situations or unclear configurations may be identified and considered potentially adverse to the conduct of safe decommissioning or public health and safety, discern whether the licensee is aware of the situation and is taking appropriate action, as necessary, to correct and preclude recurrence. Such cases or problems involving NRC requirements and licensee commitments should be raised to the NRC PM for the site and NRC management (regional and program as appropriate). Equally important, determine if the situation is beyond the scope of the inspector's expertise and if so, promptly inform NRC management and make recommendations, that allow management to determine the urgency of the request for assistance, what type of expertise is required, and what extent of effort is required.

An exit meeting shall be conducted with licensee management at the conclusion of the inspection. The inspection scope and applicable findings shall be presented emphasizing their impact on safety. Inspectors should ensure the licensee understands that the inspection findings are preliminary and subject to management review. If management review changes the findings, the inspector will need to re-exit with the licensee.

- e. Upon return to the regional office, the appropriate supervisory personnel should be briefed on the inspection findings and conclusions.

- f. Inspection findings, open items, follow-up items, and conclusions shall be documented in accordance with IMC 0610, "Nuclear Material Safety and Safeguards Inspection Reports," and other relevant regional instructions. Inspections resulting from allegations will be documented and dispositioned in accordance with Management Directive 8.8, "Licensee Oversight Programs – Management of Allegations."

Because decommissioning involves the reduction of residual radioactivity to a level that permits release of the property and license termination, inspections at decommissioning facilities act as a historical record of the licensee's ability to: (1) effectively and accurately conduct radiological surveys and characterizations; (2) manage occupational dose; (3) maintain the facility licensing and design basis; and (4) control radiological effluents. This record should help focus inspections in areas of licensee performance directly related to site release and license termination activities.

07.27 Documentation of Inspections

The inspection staff shall fully document, in the form of either a written report (Group 3 or above) or NRC Form 591M (Groups 1 and 2), all visits to and inspections of each site undergoing decommissioning. Inspectors should be certain to document the results of the inspection activities related to the security and control of radioactive materials and reviews of environmental data (airborne and liquid effluent releases and groundwater sampling data). Inspection reports should be marked as appropriate based on the content of the report (CUI, Safeguards, etc.)

2602-08 REFERENCES

The NRC references, IMCs, and IPs listed below are recommended for inspections at sites undergoing decommissioning. These documents should be used as guidelines for inspectors in determining the inspection requirements for decommissioning and radiological safety aspects of various types of licensee activities.

IMC 0610, "Nuclear Material Safety and Safeguards Inspection Reports"

IMC 1248, "Qualification Programs for Federal and State Materials and Environmental Management Programs"

IMC 2600, "Fuel Cycle Facility Operations Safety and Safeguards Inspection Programs"

NUREG/KM-0016, "Be *risk*SMART: Guidance for integrating risk insights into NRC Decisions"

NUREG-1469, "Generic Environmental Impact Statement in support of Rulemaking on Radiological Release Criteria for License Termination for NRC-Licensed Nuclear Facilities"

NUREG-1556, Volume 20, "Consolidated Guidance About Materials Licenses – Guidance About Administrative Licensing Procedures"

NUREG-1569, "Standard Review plan for In Situ Uranium Extraction License Applications,"
June 2003

NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARRSIM)"

NUREG-1748, “Environmental Review Guidance for Licensing Actions Associated with NMSS Programs”

NUREG-1757, Volume 1, “Decommissioning Process for Materials Licensees”

NUREG-1757, Volume 2, “Characterization, Survey and Determination of Radiological Criteria Final Report (Revision 2).”

NUREG-1757, Volume 3, “Financial Assurance Recordkeeping and Timeliness”

SECY-06-0106, “Consolidation of U.S. Nuclear Regulatory Commission’s Decommissioning Program in the Division of Waste Management and Environmental Protection, Office of Nuclear Materials Safety and Safeguards”

Title 10 of the *Code of Federal Regulations* – Parts 20, 30, 40 and 70
[\[www.nrc.gov/reading-rm/doc-collections/cfr/index.html\]](http://www.nrc.gov/reading-rm/doc-collections/cfr/index.html)

Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). [ML13274A489]

END

APPENDICES

Appendix A: Core Inspection Procedures

Appendix B: Discretionary Inspection Procedures

Appendix C: Inspection Program Modifications During Pandemics, Epidemics, or Other Widespread Illnesses or Diseases

ATTACHMENTS

Attachment 1: Revision History for IMC 2602

Appendix A: Core Inspection Procedures

Materials Decommissioning

- IP 87104 Decommissioning Inspection Procedure for Materials Licensees
- IP 83890 Closeout Inspection and Survey

Uranium Recovery Decommissioning

- IP 87654 Decommissioning Inspection Procedure for Uranium Recovery
- IP 83890 Closeout Inspection and Survey

Fuel Cycle Decommissioning

- IP 88104 Decommissioning Inspection Procedure for Fuel Cycle Facilities
- IP 83890 Closeout Inspection and Survey

DOE -LM Sites

- IP 89060 Department of Energy Observational Site Visits
- IP 83890 Closeout Inspection and Survey

Inspection Hours for each Core IP

<u>Inspection Procedure</u>	<u>Inspector Hours</u>
IP 83890	8 to 36
IP 87104	10 to 40
IP 87654	10 to 40
IP 88104	10 to 40
IP 89060	8 to 16

Appendix B: Discretionary Inspection Procedures

Materials Decommissioning

83822	Radiation Protection
84900	Low-Level Radioactive Waste Storage
86740	Inspection of Transportation
87102	Maintaining Effluents from Materials Facilities As Low As Is Reasonably Achievable (ALARA)
87103	Inspection of Material Licensees Involved in an Incident or Bankruptcy Filing
87137	10 CFR Part 37 Materials Security Programs
87300	Remediation of groundwater
87305	Management Organization and Control
92701	Follow-up
92703	Follow-up on Confirmatory Action Letters or Confirmatory Orders

Uranium Recovery Decommissioning

86740	Inspection of Transportation
87102	Maintaining Effluents from Materials Facilities ALARA
87103	Inspection of Material Licensees Involved in an Incident or Bankruptcy Filing
89005	Management Organization and Controls at UR and 11e.(2) Byproduct Material Facilities
89010	Disposal Cell Construction at UR and 11e.(2) Byproduct Material Facilities
89020	Groundwater and Water Management at UR and 11e.(2) Byproduct Material Facilities
89030	Radiation Protection at UR and 11e.(2) Byproduct Material Facilities
89035	Radioactive Waste Management and Transportation at UR and 11e.(2) Byproduct Material Facilities
89045	Effluent Control and Environmental Protection at UR and 11e.(2) Byproduct Material Facilities
89050	Emergency Preparedness and Fire Protection at UR and 11e.(2) Byproduct Material Facilities
92701	Follow-up
92703	Follow-up on Confirmatory Action Letters or Confirmatory Orders

Fuel Cycle Decommissioning

86740	Inspection of Transportation
87137	10 CFR Part 37 Materials Security Programs
87300	Remediation of Groundwater
87305	Management Organization and Control
88010	Training
88015	Criticality
88020	Operational Safety
88025	Maintenance and Surveillance
88030	Radiation Protection Program
88035	Radioactive Waste Processing, Handling, Storage, and Transportation
88045	Effluent Control and Environmental Protection

88050 Emergency Preparedness
88055 Fire Protection
88070 Plant Modification (Annual)
88072 Plant Modification (Triennial)

Appendix C: Inspection Program Modifications During Pandemics, Epidemics, or Other Widespread Illnesses or Diseases

2602C-01 PURPOSE

Pandemics, epidemics, or other widespread illnesses or diseases primarily affect people and develop more gradually, spread more widely, and could persist longer than other natural phenomena. During these times, the U.S. Nuclear Regulatory Commission's (NRC's) inspection implementation strategy should be agile and allow for flexibility in the completion of the decommissioning inspection program at affected facilities while maintaining reasonable assurance that licensees are in compliance with their licenses, decommissioning plans, and the applicable regulations. Licensees have the ultimate responsibility to safely operate their facilities and/or perform their authorized activities in accordance with their licenses and supporting documents.

During the time of a pandemic, epidemic, or other widespread illness or disease, the NRC will may use a graded approach to meet the objectives of the oversight program. A graded approach allows for deferring/rescheduling planned inspections, changing the inspection periodicity, adjusting inspection levels (number of completed inspection activities), conducting inspections leveraging remote means, or a combination of these actions, while seeking to maintain as much of the normal inspection program as possible and provide reasonable assurance of adequate protection of the public health and safety. This is based on the conditions being experienced and information and guidance from Federal, State, Tribal, and local government agencies, keeping in full view the health and safety of the personnel involved.

NRC chose to manage part of the Agency response to the COVID-19 pandemic by reducing the likelihood of staff exposures and issued a series of memorandum to staff, supporting increased telework (March 13, 2021), and mandatory telework (March 29, 2020). On June 1, 2020, the Office of Nuclear Material Safety and Safeguards (NMSS) issued a memorandum entitled "Inspection Guidance During Transition from COVID-19 Mandatory Telework for the Nuclear Materials and Waste Safety Programs" under the Agencywide Documents Access and Management System (ADAMS) Accession No. ML20143A281. This appendix formalizes the guidance provided by the memorandum and provides specific guidance as it relates to decommissioning inspection programs for fuel cycle, uranium recovery, and materials.

2602C-02 OBJECTIVES

To provide direction for modifying the decommissioning fuel cycle, uranium recovery and materials inspection program in the event of a pandemic, epidemic, or other widespread illness or disease.

2602C-03 APPLICABILITY

Inspection Manual Chapter (IMC) 2602, "Decommissioning Fuel Cycle, Uranium Recovery and Materials Inspection Program."

NMSS or the regional offices may supplement, alter, or suspend the provisions of this guidance by memorandum as the situation warrants. The Director of DUWP (and the Branch Chief (BC) of the Uranium Recovery and Materials Decommissioning Branch (URMDB) should be

consulted for materials and uranium recovery facilities when conditions requiring additional guidance are warranted. The Director of DFM (and the Project BCs for the Division of Fuel Facility Inspection in Region II) should be consulted for fuel cycle facilities when conditions requiring additional guidance are warranted.

2602C-04 RESPONSIBILITIES AND AUTHORITIES

See IMC 2602

2602C-05 REQUIREMENTS

See IMC 2602

2602C-06 GUIDANCE

In the event of a pandemic, epidemic, or other widespread illness or disease, the following considerations are in effect:

- a. The regions and headquarters are expected to make a reasonable effort to complete the inspection program. However, the Regional Administrator or Director of DUWP, with concurrence from the Director of NMSS can suspend implementation of the inspection program should conditions warrant. If this should occur, the primary function of inspectors and the implementing office would be to maintain situational awareness and the ability to respond to emergency situations.
- b. Regions should continue to adequately evaluate and respond to events at a facility during a pandemic, epidemic, or other widespread illness or disease. If onsite response by NRC personnel is not possible, then the regions should collect information on the event remotely.
- c. Inspectors should coordinate oversight activities of decommissioning inspections. Regional inspectors shall follow guidance provided in this appendix to IMC 2602.
- d. Inspectors should verify that the licensees have sufficient staffing levels in key positions (e.g., operations, radiation safety) to ensure that the facilities are operated safely and that licensee activities do not pose an undue risk to public health and safety. Additionally, the inspectors should evaluate deferred maintenance and other activities, use of overtime, and the need for licensing or other regional support. The licensee's operational status may be an additional consideration when determining modifications to the inspection program and any necessary site coverage.
- e. The inspectors should discuss with their licensees the need to maintain situational awareness of the licensees' ability to cope with the challenges associated with a pandemic. They should use Regulatory Issue Summary 2010-04, "Monitoring the Status of Regulated Activities during a Pandemic," dated May 25, 2010, and other appropriate guidance as a resource.

The regulatory issue summary includes several questions that inspectors should consider during routine business contacts with licensees. The information obtained will enable the NRC to effectively respond to licensees with potential challenges. Inspectors

should recognize that during a pandemic, epidemic, other widespread illness or disease, licensees' resources may be strained. Therefore, inspectors should work with licensees to obtain the best information possible given the circumstances.

- f. Inspectors should be cautious when accessing licensee facilities during a pandemic, epidemic, or other widespread illness or disease using conservative good judgment so as not to unnecessarily risk the health of licensee employees. A graded approach based on the current licensee response posture should be considered for determining inspector site access.

In order to minimize the spread of infections, NRC staff members at or visiting sites should strive to follow any licensee plans in place. Additionally, inspectors should follow any applicable Federal, State, Tribal, or local health screening guidance in effect to determine if it is appropriate to enter a site and interact with licensee personnel.

If licensees are conducting health screenings to permit site access, inspectors should generally comply with those requests similar to their adherence to Occupational Safety and Health Administration or other industrial safety requirements. Inspectors should contact their management if the licensee implements changes to normal access to the site and coordinate with management if unfettered site access is denied or restricted.

- g. During the pandemic, epidemic, or other widespread illness or disease, the regions and headquarters should consider modifications to the inspections as follows:

1. Local implementation of limited social distancing (e.g., canceling after-school activities, limiting public gatherings, or advising nonessential workers to remain home)

- Assess the potential to postpone or reschedule onsite inspections.
- Evaluate inspection frequency-based inspection activities may be postponed and still meet IMC 2602 requirements.
- Evaluate whether inspections may be performed remotely or with a hybrid remote team with a single onsite team member.
- Assess the potential to perform inspection activities through remote or virtual means.
- Identify opportunities to leverage technology to inspect remotely.

2. Local or national state of emergency or widespread implementation of aggressive social distancing (e.g., closure of schools, public parks, and nonessential businesses; requiring nonessential workers to remain home)

- Consider deferring/postponing all onsite inspection activities.
- Assess inspection procedure objectives and licensee personnel support to determine whether procedures can be performed remotely.

3. Implementation of the Agency Pandemic Plan

- Implement site coverage, facility status monitoring, and emergency response in accordance with the NRC Memoranda and the Agency Pandemic Plan.
- h. Open communications and coordination between DUWP and Regional Offices is important during a declared pandemic, epidemic, or other widespread illness or disease. The DUWP BC should coordinate communications with the responsible regional BC for oversight activities to ensure a consistent approach to inspections.

The NRC should consider the threshold at which onsite response is needed for an event. For example, the NRC may be able to perform some level of remote monitoring depending on the accessibility of the licensee's network. If direct onsite response is appropriate, the regions could consider limiting the response, such as having a single inspector respond to the emergency response facility or technical support center only.

2602B-08 REFERENCE

Regulatory Issue Summary 2010-04, "Monitoring the Status of Regulated Activities during a Pandemic"

END

ATTACHMENTS

Attachment 1: Revision History for IMC 2602

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Commitment Tracking Number	Issue Date	Description of Change	Training Needed	Training Completion Date	Comment Resolution Accession Number
N/A	07/29/08 CN 08-021	Conducted 4-year historical search for commitments. Found none. Coordinated with Regions – no comments on final	None	N/A	N/A
	ML22010A141 12/15/22 CN 22-026	Modify to risk-informed performance-based program and include pandemic planning. Due to the scope of the changes to the IMC it was reissued rather than issued with redline changes	Yes		ML22327A269 ML22327A270