**NRC INSPECTION MANUAL** NMSS/DUWP

INSPECTION PROCEDURE 88104

DECOMMISSIONING INSPECTION PROCEDURE FOR
FUEL CYCLE FACILITIES

Effective Date: 12/30/2022

PROGRAM APPLICABILITY: IMC 2602

# 88104-01 INSPECTION OBJECTIVES

01.01 To determine if licensed decommissioning activities are being or were conducted in accordance with U.S. Nuclear Regulatory Commission (NRC) requirements and verify the licensee is managing the program to ensure protection of workers, the public and the environment.

01.02 To provide inspection requirements and guidance for fuel cycle facilities where a decommissioning plan (DP) is required and the site is undergoing decommissioning or has completed a Final Status Survey (FSS).

01.03 To verify the facility inspected meets the criteria for unrestricted release and license termination.

# 88104-02 INSPECTION REQUIREMENTS

Conduct performance-based inspections with an emphasis on risk-significant activities that have an impact on safety and the environment. As described in IMC 2602, risk modules (RMs) are program areas that have been determined to be important to reducing risks at decommissioning fuel cycle facilities. RMs were identified to focus inspection efforts on those onsite activities that are the most likely to impact the health and safety of occupational workers, the public and/or the environment. Inspection time and effort should be concentrated on the RMs described in the following paragraphs.

## 02.01 Observation of Decommissioning Activities (RM-01)

Observe one or more ongoing or completed physical activities that require written procedures, work plans, hazards assessments, or radiation work permits (RWPs), such as building survey, decontamination, or demolition; waste packaging and loading of radioactive waste for transport offsite; and soil and groundwater sampling or remediation.

## 02.02 Occupational Radiation Protection (RM-02)

Assess trends in radiation protection program performance such as increases in occupational exposure.

## 02.03 Security and Control of Radioactive Material (RM-03)

Observe the licensee’s security and control of radioactive material, with particular emphasis on special nuclear material and criticality controls.

## 02.04 Waste Generation, Storage, and Transportation (RM-04)

Verify the licensee has transferred or disposed of licensed material in accordance NRC requirements. Review waste packaging, storage, loading and transportation activities onsite and any associated records generated based on these activities since the last inspection.

## 02.05 Public Dose, Effluent Releases, and Environmental Monitoring (RM-05)

Verify that the licensee is implementing a radiation control program that ensures radiation dose levels and effluent releases to unrestricted area did not exceed the limits set in Title 10 of the *Code of Federal Regulations* (10 CFR) 20.1301, “Dose Limits for Individual Members of the Public,” and §20.1302, “Compliance with Dose Limits for Individual Members of the Public,” during decommissioning. Observe the condition of at least one environmental monitoring location, and one monitored effluent location unless decommissioning has progressed to such an extent that environmental and effluent monitoring are no longer required by license condition or regulatory requirement. Observe the collection of samples from these locations. Assess trends in effluent and environmental monitoring, including groundwater monitoring.

## 02.06 Management Organization and Controls (RM-06)

Review facility changes, tests, and experiments authorized by the license. Verify that the licensee has implemented the appropriate programs for management oversight and control of decommissioning activities

## 02.07 FSSs (RM-07)

If final status radiological surveys (FSS) are being conducted and completed by the licensee, refer to Inspection Procedure (IP) 83890, “Closeout Inspection and Survey,” for additional information on the review of the FSS.

# 88104-03 INSPECTION GUIDANCE

## 03.01 Observation of Decommissioning Activities (RM-01)

During preparation for the inspection and during the early phases of the inspection, the inspector should identify one or more physical decommissioning activities that are ongoing at the site. When selecting from multiple activities, the inspector should prioritize activities involving higher radiological risk. This includes areas with higher inventories of radioactive material; areas with loose or soluble chemical forms of radioactive material; areas with hard-to-detect radionuclides (e.g., alpha-emitting radionuclides or low-energy beta-emitting radionuclides); and decommissioning activities using novel or unconventional technologies. The inspector should also prioritize activities which involve the application of physical or chemical forces or energy, such as demolition; dismantling; decontamination; and remediation.

## 03.02 Occupational Radiation Protection (RM-02)

The inspector should rely on both observations and review of licensee records. The inspector should observe ongoing activities under RWPs or standard operating procedures (SOPs) to ensure that all necessary controls to limit occupational exposure are in place and work is conducted in accordance with the associated documents. The records to be reviewed include occupational exposure records, RWPs, radiological surveys, and release records. Quality Control of records and data should be evaluated. For example, if RWPs require respirators or breathing zone (BZ) monitoring, ensure that the individuals signed in on the RWP are respirator qualified or were issued a BZ monitor and the results were converted to dose for each employee signed in on the RWP. Inspectors should also review spreadsheet calculations to ensure the algorithms are appropriate.

The inspector should ensure that the licensee reported any radiological events to the NRC, as required by the license and regulations. If the licensee has agreed to provide courtesy notifications to the NRC for issues that are not reportable to the NRC but were required to be reported to the State, the inspector should also verify that these events were reported to the NRC. The inspector should be careful to distinguish between reporting that is required by license condition and courtesy notifications.

The inspector should:

1. Observe routine contamination control surveys in restricted and controlled areas, such as process areas, maintenance areas, and rest areas (e.g., break rooms).
2. Observe whether restricted areas are correctly posted, such as radiation areas and airborne radioactivity areas.
3. Observe the use of ventilation controls and/or respiratory protection, as required by SOPs or RWPs.
4. Observe workers’ use of radiological measuring and sampling equipment. Ensure that the licensee’s staff demonstrates knowledge and understanding of measuring equipment lapel air samplers and self-frisking stations. Perform independent radiation surveys to assess the performance of the licensee’s radiation protection equipment.
5. Observe posting of notices to workers. Verify that the licensee’s posting of notices to workers meets regulatory requirements.
6. Review records that document occupational exposures including bioassays and dose assessments performed as a result of incidents and accidents.
7. Review records such as equipment release records and routine contamination surveys.
8. Review RWPs and SOPS a to ensure that radiological controls have been established and implemented for routine (SOPs) non-routine (RWPs) work activities. Cross‑reference RWPs against bioassay, and air monitoring requirements.
9. Review the instrumentation program and associated records. These records include but are not limited to portable survey instruments, fixed monitoring equipment, constant air monitors, portable air samplers, BZ air samplers and alarming dosimeters. If the licensee calibrates or maintains any of these components, observe the calibration and/or maintenance or have personnel demonstrate the processes used.
10. The inspector should assess training and qualification of the licensee’s employees through interviews and observation, to determine how well employees understand their work activities and to ascertain whether licensee staff are qualified to implement the NRC-approved DP. If spreadsheets are used to perform calculations for activities related to the radiation protection program the inspector should assess employee’s understanding of the spreadsheets and the calculations as part of the assessment of qualification to implement the program.

## 03.03 Security and Control of Radioactive Material (RM-03)

Verify that both passive and active measures are in place to secure radioactive materials from unauthorized removal or access. Physical security requirements for fuel cycle licensees should be in accordance with the requirements of IMC 2681, “Physical Protection and Transport of Special Nuclear Material and Irradiated Fuel Inspections of Fuel Facilities,” and the associated IPs. If a licensee is in possession of quantities above the aggregated category 1 or 2 quantities of radioactive material, the inspector should also use IP 87137, “10 CFR Part 37 Materials Security Program”

## 03.04 Waste Generation, Storage, and Transportation (RM-04)

Review records pertinent to waste disposal including waste inventories, decay in storage and waste manifests. Waste areas should be observed to ensure they are adequately posted, designed, shielded and secured. Dose measurements for space adjacent to storage locations should be made to verify doses to public or non-occupational workers are within the regulatory limits. Refer to Section 03.10 for security and control measures for radioactive materials and wastes. Appendix B includes a list of discretionary procedures, including IP 86740, “Inspection of Transportation,” for issues associated with transportation of radioactive materials or waste.

Fuel cycle facilities undergoing decommissioning may have combustible materials and sources of ignition, and the potential for dispersing radioactive materials during a fire and thereby creating potential conditions for onsite personnel to sustain exposures and injuries. See IP 88050, “Emergency Preparedness," and IP 88055, “Fire Protection.”

## 03.05 Public Dose, Effluent Releases, and Environmental Monitoring (RM-05)

The license application and specific license conditions may provide additional audit and program review requirements. The following programs are usually part of this annual audit requirements but could also be reported as part of an Environmental Monitoring program. Additional guidance on inspection of effluent releases and environmental monitoring can be found in IP 88045, “Effluent Control and Environmental Protection.”

1. Effluent monitoring. Review records of air and liquid effluent measurements and calculations maintained in accordance with 10 CFR 20.2103(b)(4), “Records of Surveys.”
2. Public dose. Verify that the licensee has conducted operations so that the total dose to the public is in accordance with 10 CFR 20.1301 and §20.1302.
3. If the licensee has agreed to provide courtesy notifications to the NRC for issues, such as spills and excursions that are not reportable to the NRC, but were required to be reported to the State, verify that these events were also reported to the NRC. As stated previously, the inspector should be sure to distinguish between notifications required by license condition and courtesy notifications.

## 03.06 Management Organization and Controls (RM-06)

Review licensee implementation of approved plans and programs, regulatory requirements, and license conditions for the management and control of decommissioning of the facility. This review should include:(1)the licensee organizational structure in place for the decommissioning project; (2) designation and qualification of the Radiation Safety Officer (RSO); (3) the quality assurance (QA) program and annual review; (4) records control and storage;(5) internal review and audit; (6) management safety commitment and associated safety programs (safety committee, employee concerns program, stop work authority, etc.); and (6) procedures in place for for cleanup operations and decommissioning as well as procedures to be implemented. See IP 87305, "Management Organization and Controls."

Ascertain the current organization of the decommissioning program. A review of an organizational chart showing the number of staff, staff functions and a description of each function is sufficient. Ensure that the RSO has the authority and resources (i.e., staffing and equipment) necessary to ensure safety.

The routine audit radiation program review requirements for the radiation safety program vary by site. At a minimum, the annual program review required by 10 CFR 20.1101(c), “Radiation Protection Programs,” should be conducted.

The regulations in 10 CFR Part 70, Subpart H, “Additional Requirements for Certain Licensees Authorized To Possess a Critical Mass of Special Nuclear Material,” contain additional requirements for certain licensees, including most fuel cycle licensees, authorized to possess a critical mass of special nuclear material. However, these regulations, including the safety program and integrated safety analysis requirements in 10 CFR 70.62, “Safety Program and Integrated Safety Analysis,” and the configuration management system requirements in 10 CFR 70.72, “Facility Changes and Change Process,” do not apply to decommissioning activities performed pursuant to other applicable Commission regulations including Sections 70.25, “Financial Assurance and Recordkeeping for Decommissioning,” and 70.38, “Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas.” For this reason, the inspector should review the decommissioning facility change management program, nuclear criticality safety controls, and other safety-related controls that are described in the licensee’s DP. Evaluate which plant systems and controls are required to ensure occupational and public safety during decommissioning activities, such as criticality safety, physical security, and material control and accounting. Verify, through observations in the facility and review of licensee records, that the support systems needed for dismantlement and cleanup efforts are functional. These systems include the following: electrical power; Heating, Ventilation and Air Conditioning systems; water supply; in-plant communications systems; liquid and solid contaminated waste systems; sewage treatment plant; and in-plant lighting.

## 03.07 FSSs (RM-07)

Verify the level of survey coverage for rooms, structures, and/or land areas. Review the licensee's procedures for performing surface activity measurements and scans of room or building surfaces including duct work and piping. Inspection of outdoor areas include performing soil, surface water or ground water sampling, and/or ground-surface gamma scan, as applicable to the site based on site history.

Many decommissioning inspections will be similar to inspections before the licensee ceased principal operations. . Review all IPs that were applicable to the licensee’s operational program and select those portions that carry overing to the licensee’s decommissioning program. The selection of these discretionary procedures should be informed by the licensee’s progress with decommissioning. For example, inspections performed before decommissioning has started may require use of more discretionary procedures than inspections performed after decommissioning activities have been initiated or completed. Review the approved DP (if required for the site) and supporting documents for decommissioning activities with radiological risks and hazards similar to those present during principal activities. Develop the inspection plan to carry over to decommissioning the applicable IPs used in principal activities. See IMC 2600, “Fuel Cycle Facility Operational Safety and Safeguards Inspection Program,” Appendices A through E, and associated IPs for additional information

# 88104-04 RESOURCE ESTIMATE

The direct onsite inspection hours required to complete this inspection are dependent upon: (1) the licensee's decommissioning activities being inspected; (2) the standard fuel cycle inspection modules covered in the inspection; (3) the overall complexity of decommissioning the facility; and (4) the duration of the licensee's decommissioning program. For facilities needing a significant decommissioning effort, it is estimated that approximately 10 to 40 inspection hours onsite will be needed to complete each inspection of a key decommissioning activity or standard fuel cycle or health and safety inspection module from the operational program. The duration and complexity of the decommissioning effort may require multiple inspections a year.

# 88104-05 PROCEDURE COMPLETION

This IP is complete when the inspector has sufficiently reviewed the licensee’s performance under each RM and the objectives of this procedure have been met.

# 88104-06 REFERENCES

IMC 1230, "Quality Assurance Program for Radiological Confirmatory Measurements"

IMC 2602, "Decommissioning Inspection Program for Fuel Cycle Facilities and Materials Licensees"

IMC 2605, “Decommissioning Procedures for Fuel Cycle Facilities and Materials Licensees”

Applicable portions of the following NRC documents should be used for guidance:

NUREG-1469, “Generic Environmental Impact Statement in Support of Rulemaking on Radiological Release Criteria for License Termination for NRC licensed facilities.”

NUREG-1507, "Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions"

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

NUREG-1727, “NMSS Decommissioning Standard Review Plan”

NUREG-1748, “Environmental Review Guidance for Licensing Actions associated with NMSS programs.”

NUREG-1757, Volumes 1- 3, “Consolidated Decommissioning Guidance”

END

# APPENDICES

Appendix A: Fuel Cycle Facilities Decommissioning Inspection Field Notes

# ATTACHMENTS

Attachment 1: Revision History for IP 88104

Appendix A: Fuel Cycle Facilities Decommissioning Inspection Field Notes

Field notes are to be used by the inspector to assist with the performance of the inspection. Note that all areas indicated in the field notes are not required to be addressed during each inspection. However, for those areas not covered during the inspection, a notation ("Not Reviewed") should be made in each section where applicable. Additionally, all areas covered during the inspection should be documented in sufficient detail to describe what activities and/or records the inspector observed. The fieldnotes to the "Decommissioning Inspection Procedure for Fuel Cycle Facilities" should be supplemented with: (1) the applicable inspection procedures (IPs) for operating facilities provided in the IP 88000 series; and (2) other formal, written documentation of the inspection, as necessary.

## 1.01. SUMMARY OF DECOMMISSIONING STATUS

The checklist below is intended to provide, in a written outline format, summary documentation of the status of the licensee's facility in the decommissioning process. This documentation will be filed as part of the inspection report. Use this information to develop each inspection plan(s) for the various stages of decommissioning, namely before dismantlement, during dismantlement and site remediation, and after site remediation.

1. Licensee ceased operational program. ( ) Y ( ) N
2. Required decommissioning financial assurance mechanisms in place. ( ) Y ( ) N
3. Decommissioning Plan (DP) required. ( ) Y ( ) N
4. Licensee final survey required. ( ) Y ( ) N
5. U.S. Nuclear Regulatory Commission (NRC) confirmatory survey
required. ( ) Y ( ) N
6. NRC closeout inspection required. ( ) Y ( ) N
7. Licensee doing decommissioning planning and preparation before
dismantlement. ( ) Y ( ) N
8. Licensee actively remediating site. ( ) Y ( ) N
9. Licensee completed site remediation. ( ) Y ( ) N

Description of Facility Status:

## 1.02. INSPECTION OF KEY DECOMMISSIONING ACTIVITIES

The following is a generic checklist of major licensee activities occurring at various stages of decommissioning. From this generic checklist and from facility-specific activities you identify, develop the set of licensee activities to be inspected - for each individual inspection throughout the decommissioning process. Plan to focus inspection resources on risk modules (RMs) that present potential high-risk conditions.

To complete the licensee activities checklist, obtain information from the NRC Project Manager, review the DP, make observations at the licensee's facility, review licensee records, take measurements and samples of contaminants, and undertake other investigative measures to determine whether the licensee is meeting all regulatory and DP commitments for each decommissioning activity the licensee is performing.

## 1.03. LICENSEE ACTIVITIES INSPECTED BEFORE DISMANTLEMENT

RM 1: Observation of Decommissioning Activities

* Special Nuclear Material inventory cleanout/offsite removal of licensee
materials used in operations has been performed by licensee. ( )Y ( )N
* Work planned and implemented to reduce plant footprint. ( )Y ( )N
* Facility license conditions are in place and met by licensee. ( )Y ( )N
* Support systems and services (e.g., lighting, water) are in place. ( )Y ( )N
* Workers conducting work as required by SOPs or RWPs. Workers
demonstrate use of ALARA principles. ( )Y ( )N
* Hazard identification conducted and communicated to employees. ( )Y ( )N
* Controls in place to mitigate hazard and are appropriate for
work planned. ALARA controls considered. ( )Y ( )N

RM 2: Occupational Radiation Protection

* Work is performed in accordance with radiation protection program
requirements and good health physics/ALARA practices. ( )Y ( )N
* All contaminated areas, processing areas, and handling areas
are posted in conformance with the regulations. ( )Y ( )N
* Licensee is conducting site characterization in accordance with
applicable radiation protection procedures and ALARA practices. ( )Y ( )N
* Construction of new site features (e.g., roads, rail spurs, staging
areas, sediment control ponds) conforms to DP and does not
compromise health and safety of workers and public. ( )Y ( )N
* Routine contamination surveys are conducted in restricted and
unrestricted areas at the required frequency. ( )Y ( )N
* Ventilation or respiratory protection controls are in place, as required. ( )Y ( )N
* Employees performing surveys or sampling demonstrate proficiency
and an understanding of the use and limitations of the equipment. ( )Y ( )N
* Notices to employees and other NRC inspection information is
appropriately posted. Employees understand ALARA ( )Y ( )N
* Dose assessments performed for incidents/accidents or as a result of
abnormal monitoring results. ( )Y ( )N
* Routine contamination and equipment release records are appropriate
(correct information, appropriate instrument, calibrated instrument). ( )Y ( )N
* Cross check of RWPs with bioassay and air sampling records indicated
that employees were appropriately qualified and results were
converted to dose. ( )Y ( )N
* Calibration and functional testing for instrumentation conducted and
documented as appropriate. ( )Y ( )N
* Training and qualification of employees appropriate for their job. ( )Y ( )N

RM 3. Security and Control of Radioactive Material

* Radioactive material is locked in storage when not in use. ( )Y ( )N
* Licensee maintains constant surveillance of material when in use. ( )Y ( )N
* Radioactive waste stored or stages appropriately in both restricted
and unrestricted areas. ( )Y ( )N
* Controls and security in place are commensurate with the risk from
the radioactive materials. ( )Y ( )N

RM 4. Waste Generation, Storage and Transportation

* Onsite waste storage complies with applicable requirements. ( )Y ( )N
* Staging for waste prior to onsite disposal or packing for offsite. ( )Y ( )N
* Disposal appropriate to limit/prevent access or migration of waste. ( )Y ( )N
* Shipment of waste offsite meets applicable requirements. ( )Y ( )N

RM 5: Public Dose, Effluent Releases and Environmental Monitoring

* Monitoring and public dose compliance continued from operations. ( )Y ( )N
* Licensee provided environmental data to NRC, as required. ( )Y ( )N
* Reporting requirements (and courtesy reporting), as required. ( )Y ( )N
* Effluent monitoring records and reporting as appropriate. ( )Y ( )N
* Total public dose within limits. ( )Y ( )N
* Dose assessment for spaces adjacent to radioactive material storage
locations performed and doses are appropriate for public. ( )Y ( )N

RM 6: Management Organization and Controls

* Management supports annual audits (including ALARA audit)
of the program. ( )Y ( )N
* RSO has authorities and resource needed to maintain the radiation
safety program. RSO considers ALARA ( )Y ( )N
* DP and schedules are in development or submitted to the NRC. ( )Y ( )N
* Licensee recordkeeping complies with Title 10 of the *Code of Federal
Regulations* (10 CFR) 30.36, “Expiration and termination of licenses
and decommissioning of sites and separate buildings or outdoor areas,”
§40.42, “Expiration and termination of licenses and decommissioning of
sites and separate buildings or outdoor areas,” and §70.38, “Expiration
and termination of licenses and decommissioning of sites and separate
buildings or outdoor areas.”. ( )Y ( )N

RM 7: Final Status Surveys (FSSs)

Not applicable.

Basis for Findings:

## 1.04. LICENSEE ACTIVITIES INSPECTED DURING DECONTAMINATION, DISMANTLEMENT, AND SITE REMEDIATION

RM 1: Observation of Decommissioning Activities

* Decontamination and remediation of the following are being performed
consistent with DP and sound industry practice. ( )Y ( )N
* Soil. ( )Y ( )N
* Sediment. ( )Y ( )N
* Surface Water. ( )Y ( )N
* Groundwater. ( )Y ( )N
* Decontamination and dismantlement of structures (buildings, utilities,
treatment lagoons, etc.). are being performed consistent with DP, radiation
protection plan and sound industry practice ( )Y ( )N
* Work planned and implemented to reduce plant footprint. ( )Y ( )N
* Facility license conditions are in place and met by licensee. ( )Y ( )N
* Support systems and services (e.g., lighting, water) are in place. ( )Y ( )N
* Workers conducting work as required by SOPs, RWPs,
or ALARA practices. ( )Y ( )N
* Hazard identification conducted and communicated to employees. ( )Y ( )N
* Controls in place to mitigate hazard and are appropriate for work
planned. ALARA considered in controls selection. ( )Y ( )N
* Licensee has adequate records for decommissioning activities performed
(e.g., decontamination and demolition of structures, decontamination
and remediation of soils, sediment, surface water and groundwater,
surveys of remediated facilities). ( )Y ( )N

RM 2: Occupational Radiation Safety

* Licensee has developed and implemented a training program for new
decommissioning activities (e.g., demolition of structures, excavation
of soil, etc.). Inspector determined program is adequate and the training
and qualification for employees is appropriate for their job responsibilities. ( )Y ( )N
* Work is performed in accordance with radiation protection program
requirements and good health physics practices. ( )Y ( )N
* All contaminated areas, waste processing areas, and waste handling
areas are posted in conformance with the regulations. ( )Y ( )N
* Licensee is conducting site characterization in accordance with
applicable radiation protection procedures. ( )Y ( )N
* Construction of new site features (e.g., roads, rail spurs, staging
areas, sediment control ponds) conforms to DP and does not
compromise health and safety of workers and public. ( )Y ( )N
* Routine contamination surveys are conducted in restricted and
unrestricted areas at the required frequency. ( )Y ( )N
* Ventilation or respiratory protection controls are in place, as required. ( )Y ( )N
* Employees performing surveys or sampling demonstrate proficiency
and an understanding of the use and limitations of the equipment. ( )Y ( )N
* Notices to employees and other NRC inspection information is
appropriately posted. Employees understand ALARA. ( )Y ( )N
* Dose assessments performed for incidents/accidents or as a result of
abnormal monitoring results. ( )Y ( )N
* Routine contamination and equipment release records are appropriate
(correct information, appropriate instrument, calibrated instrument). ( )Y ( )N
* Cross check of RWPs with bioassay and air sampling records indicated
that employees were appropriately qualified and results were converted
to dose. ( )Y ( )N
* Calibration and functional testing for instrumentation conducted and
documented as appropriate. ( )Y ( )N
* Training and qualification of employees appropriate for their job. ( )Y ( )N

RM 3. Security and Control of Radioactive Material

* Radioactive material is locked in storage when not in use. ( )Y ( )N
* Licensee maintains constant surveillance of material when in use. ( )Y ( )N
* Radioactive waste stored or stages appropriately in both restricted
and unrestricted areas. ( )Y ( )N
* Controls and security in place are commensurate with the risk from
the radioactive materials. ( )Y ( )N
* Containers for radioactive material are appropriately labelled. ( )Y ( )N

RM 4. Waste Generation, Storage and Transportation

* Licensee release and disposal of decommissioning wastes are consistent
with DP and approved by NRC for:
* Liquid wastes (e.g., groundwater, surface water, liquid from
treatment ponds, process liquids, etc.). ( )Y ( )N
* Solid wastes (e.g., building materials, process and other
facility equipment, concrete rubble, soil, etc.). ( )Y ( )N
* Onsite storage of low-level radioactive wastes from decommissioning
meets license conditions and guidance. ( )Y ( )N
* Packaging and shipment of radioactive waste materials meet
requirements in 40 CFR Parts 171-178 and 10 CFR Part 71. ( )Y ( )N
* Staging for waste prior to onsite disposal or packaging for offsite
disposal is appropriate to limit/prevent access or migration of the waste. ( )Y ( )N

RM 5. Public Dose, Effluent Releases and Environmental Monitoring

* Where active remediation is being performed, radiation levels in
unrestricted areas do not exceed 2 mrem in any hour. ( )Y ( )N
* Licensee provided environmental data to NRC, as required. ( )Y ( )N
* Reporting requirements (and courtesy reporting), as required. ( )Y ( )N
* Effluent monitoring records and reporting as appropriate. ( )Y ( )N
* Total public dose within limits. Public dose is ALARA. ( )Y ( )N
* Dose assessment for spaces adjacent to radioactive material storage
locations performed and doses are appropriate for public. ( )Y ( )N

RM 6: Management Organization and Controls

* Management supports annual audits (including ALARA audit)
of the program. ( )Y ( )N
* RSO has authorities and resource needed to maintain the radiation
safety program. RSO considers ALARA in planning. ( )Y ( )N
* DP and schedules are in place and approved by the NRC. ( )Y ( )N
* Licensee's recordkeeping is consistent with 10 CFR 30.35, 40.36,
and 70.25. ( )Y ( )N

RM 7: FSSs

Not applicable

Basis for Findings:

## 1.05. LICENSEE ACTIVITIES INSPECTED AFTER COMPLETION OF SITE REMEDIATION

RM 1: Final Review of Decommissioning Activities

* Licensee has adequate records for decommissioning activities performed
(e.g., decontamination and demolition of structures, decontamination and
remediation of soils, sediment, surface water and groundwater, surveys
of remediated facilities). ( )Y ( )N
* Licensee recordkeeping complies with 10 CFR 30.36, 40.42 and 70.38. ( )Y ( )N

RM 2: Occupational Radiation Safety

* Decommissioning activities were performed in accordance with the
radiation protection program. ALARA is considered in planning. ( )Y ( )N
* FSS conducted in accordance with the radiation program. ( )Y ( )N

RM 3. Security and Control of Radioactive Material

* Site security and control of radioactive materials was in accordance
with site conditions. ( )Y ( )N

RM 4. Waste Generation, Storage and Transportation

* Licensee release and disposal of decommissioning wastes were
consistent with DP and approved by NRC for:
* Liquid wastes (e.g., groundwater, surface water, liquid from treatment
ponds, process liquids, etc.). ( )Y ( )N
* Solid wastes (e.g., building materials, process and other facility
equipment, concrete rubble, soil, etc.). ( )Y ( )N
* Packaging and shipment of radioactive waste materials met requirements
in 40 CFR Parts 171-178 and 10 CFR Part 71. ( )Y ( )N

RM 5. Public Dose, Effluent Releases and Environmental Monitoring

* Effluent monitoring and public dose compliance during decommissioning
was appropriate throughout the decommissioning process. ( )Y ( )N
* Unrestricted release of materials and equipment was appropriate. ( )Y ( )N

RM 6. Management Organization and Controls

* Licensee has completed and submitted the necessary documentation
to support license termination. ( )Y ( )N

RM 7. FSSs

* Survey Instruments were applicable to the contaminants of interest. ( )Y ( )N
* Use of survey instruments was appropriate for the site. ( )Y ( )N
* Surveys were performed in accordance with the DP. ( )Y ( )N

Basis for Findings:

## 1.06. INSPECTION OF STANDARD FUEL CYCLE INSPECTION MODULES FROM THE OPERATIONAL PROGRAM

Identify the standard fuel cycle inspection modules to be covered during each inspection. Then identify the new activities, within the standard inspection modules, undertaken by the licensee during decommissioning. Some of the new licensee activities, as well as any other activities the inspector identifies, should be considered inspection items under the general set of health and safety inspection modules used in a typical fuel cycle facility inspection.

Attachment 1: Revision History for IP 88104

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Commitment Tracking Number | Accession NumberIssue DateChange Notice | Description of Change | Description of Training Required and Completion Date | Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information) |
|  | 1996 | Issued |  |  |
|  | ML01284008406/04/1997 | Revised for clarification | None | N/A |
|  | ML02190013607/03/02CN 02-026 | Revised for clarification | None | N/A |
| N/A | ML19064B36110/09/19CN 19-033 | Minor edits to clarify confirmatory survey requirements and provide consistency with IP83890 “Closeout Inspection and Survey.” Changes made in Section 3, “General,” and Section 3.2.c.,” Inspections after Remediation,” bullet 3. | None | ML19204A111 |
|  | ML22010A14312/15/22CN 22-026 | Revised to reflect risk-informed, performance‑based inspection philosophy. Reissued in its entirety due to substantial changes | TBD | ML22327A268 |