

# INSPECTION MANUAL

NMSS/DFM

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## INSPECTION PROCEDURE 88030

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### RADIATION PROTECTION

Effective Date: January 27, 2026

PROGRAM APPLICABILITY: IMCs 2600 B, 2694 A, 2696 A

#### 88030-01 INSPECTION OBJECTIVES

- 01.01 Determine that the licensee's performance is in accordance with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20. Focus will be on compliance with regulatory requirements and license requirements.
- 01.02 The scope of the review should cover activities performed and records created since the last inspection.

#### 88030-02 INSPECTION REQUIREMENTS

- 02.01 Radiation Protection and as low as reasonably achievable (ALARA) Program Implementation
  - a. **Verify the licensee's documentation and implementation of the radiation protection program and ALARA program are in accordance with 10 CFR 20.1101 and the license for the facility.**

Specific Requirements

    1. Verify the performance of the radiation protection **program** is being documented in accordance with 10 CFR 20.1101(a) and implemented in accordance with the license requirements. Verify the functions and responsibilities **of the radiation protection program are** independent from operations as specified by the license application. Determine if the **program is** in compliance with the license requirements.
    2. Evaluate any change that occurred in the radiation protection program's organization. If applicable, verify that the new personnel satisfy the position-specific requirements outlined in the license application.
    3. Determine that program performance is being reviewed, at least annually, for content and implementation in accordance with 10 CFR 20.1101(c).
    4. Verify that the licensee has conducted audits or assessments in the area of radiation protection and is in compliance with license requirements, as applicable.
    5. Determine whether the licensee is identifying issues in the **area** of radiation protection, entering them into a corrective action program (**CAP**), and **correcting the condition as** required by license, procedure, and/or NRC requirements. Licensees

with an approved CAP will have their corrective action program inspected in accordance with IP 88161. Corrective actions as a result of violations will be inspected in accordance with IP 92702.

6. Verify that the licensee has maintained records pertaining to the radiation protection program, including audits, assessments, and/or program content reviews, for 3 years after the record was made in accordance with 10 CFR 20.2102.
7. Verify that safety-significant changes to procedures in the area of radiation protection were in compliance with regulatory and license requirements.
8. Verify that safety-significant changes were made in accordance with the procedure revision process, as applicable.
9. Determine that the ALARA program is in compliance with 10 CFR 20.1101(b) and the license requirements.
10. Determine whether the ALARA Committee and/or other plant safety committee meetings, if required, are conducted in accordance with the license application.

## 02.02 Training

- a. **Review training records for compliance with 10 CFR 19 and the license.**

### Specific Requirements

1. Review training records to verify compliance with 10 CFR 19.12, "Instructions to Workers." Verify that employees receive the training at the frequency specified in the license application, if applicable.
2. Review training in the area of radiation protection and evaluate if training is in compliance with license requirements.

## 02.03 Safety-Significant Events

- a. **Determine whether the licensee has implemented a means to review and evaluate safety-significant events in the area of radiation protection as per license requirements. Review events involving licensed material that occurred since the last IP 88030 inspection.**

### Specific Requirements

1. Determine whether the licensee has implemented a means to review and evaluate safety-significant events in the area of radiation protection as per license requirements. Review events involving licensed material since the last IP 88030 inspection.
2. Determine if the events affected worker health and safety or occurred as a result of a deficiency in the radiation protection program. Determine if the event condition(s) resulted in a violation of an applicable regulatory requirement. Evaluate the significance of the event.

3. Determine if the event met reportability requirements. Verify that the licensee complied with reportability requirements for:
  - (a) the loss of control or theft of material (10 CFR 20.2201 and 20.2202(b));
  - (b) incidents and exposures (10 CFR 20.2202 and 20.2203);
  - (c) overexposures (10 CFR 20.2202(a) and 20.2203);
  - (d) 10 CFR 40.60 reporting requirements, if applicable;
  - (e) 10 CFR 70.50, 70.52, 70.74, and Part 70 Appendix A reporting requirements, if applicable; **and**
  - (f) **license** requirements, as applicable.

#### 02.04 Radiation Exposure Controls

- a. **Verify that the licensee implements process controls to limit occupational dose to as low as reasonably achievable with an emphasis on engineered controls.**

##### Specific Requirements

1. Verify the licensee is in compliance with the license requirements **or procedures for implementation of radiation exposure controls.**
2. Verify that the licensee uses, to the extent practical, process or engineering controls to **get** occupational doses ALARA in accordance with 10 CFR 20.1101(b).
3. Verify that the licensee uses, to the extent practical, process or engineering controls to **keep** the concentration of airborne radioactive material in **compliance** with 10 CFR 20.1701.

#### 02.05 Calibration and Radiation Surveys

- a. **Verify the radiation survey program is documented and implemented in accordance with 10 CFR 20 and the license application.**
- b. **Verify the licensee uses appropriate equipment and instruments for performing contamination and radiation surveys.**
- c. **Verify the equipment and instruments are calibrated in accordance with 10 CFR 20 and the license application.**

##### Specific Requirements

1. Verify that instruments and equipment used for quantitative radiation measurements are calibrated periodically in accordance with 10 CFR 20.1501(c).
2. **Determine that the performance of radiation detection instruments and equipment is in accordance with license requirements and procedures.**

3. Determine that the survey equipment utilized is reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations or quantities of radioactive material, and **any** potential radiological hazards as required by 10 CFR 20.1501(a).
4. Verify that the licensee is in compliance with contamination control and/or contamination surveys as required **by** the license.
5. Determine that the licensee performs radiation surveys in accordance with 10 CFR 20.1501(a) and (b) and the license requirements.
6. Verify that the contamination survey and radiation survey programs **comply with** posting requirements in 10 CFR 20.1902 and the license application.
7. Verify that the contamination and radiation survey records are maintained in accordance with 10 CFR 20.2103 and the license application.

02.06 Postings and Labeling

- a. **Verify the Licensee is posting areas and labeling containers and sealed sources in accordance with 10 CFR 20 and the license.**

Specific Requirements

1. Determine if the licensee has posted areas in the facility in accordance with 10 CFR 20.1902 and 10 CFR 20.1903. **NOTE: This is not required for facilities with a resident inspector program.**
2. Determine if the licensee is in compliance with other posting requirements specified in the license and/or procedures. **NOTE: This is not required for facilities with a resident inspector program.**
3. Determine if the licensee is labeling packages and containers that contain **radioactive** material in accordance with 10 CFR 20.1904 and 20.1905. **NOTE: This is not required for facilities with a resident inspector program.**
4. Determine if the licensee is in compliance with other labeling requirements specified in the license or procedures. **NOTE: This is not required for facilities with a resident inspector program.**
5. Determine if the licensee **or a contractor** performs leak test surveys of radioactive sealed sources in accordance with license requirements. if the licensee **or a contractor** performs leak test surveys of radioactive sealed sources in accordance with license requirements.
6. Verify the storage of sealed sources is in accordance with 10 CFR 20.1903(c).

02.07 Posting of Notices

**NOTE:** This section is not required for facilities with a resident inspector program.

a. **Determine if the licensee is posting Notices in accordance with 10 CFR 19.11.**

Specific Requirements

1. Inspect bulletin boards or other common places where NRC Form 3, "Notice to Employees," is posted.
2. Determine whether any Notices of Violation involving radiological working conditions, proposed impositions of civil penalties, or NRC orders are posted by the licensee within 2 working days of its receipt from NRC. Verify that licensee responses were posted within 2 working days of their submittal to the NRC. Verify that both documents remained posted for at least 5 days or until corrective action for the violation is complete; whichever is later.

02.08 Access Control

a. **Verify licensee is implementing access controls for high and very high radiation areas in accordance with 10 CFR 20.**

Specific Requirements

1. Determine if the licensee has maintained control of access to high and very high radiation areas, if applicable, in accordance with 10 CFR 20.1601 and 20.1602. Verify that the licensee is in compliance with license requirements and is following licensee procedures.
2. Verify that individuals entering a high or very high radiation area are monitored for occupational exposure in accordance with 10 CFR 20.1502(a)(4).

02.09 Licensed Material Control

a. **Verify the licensee has implemented the appropriate controls for licensed material in accordance with 10 CFR 20.**

Specific Requirements

1. Determine that the licensee has secured licensed materials which are stored in controlled or unrestricted areas from unauthorized removal or access in accordance with 10 CFR 20.1801.
2. Determine that the licensee has controlled and maintained constant surveillance of licensed material that is in a controlled or unrestricted area, not in storage, in accordance with 10 CFR 20.1802.

02.10 Dose Assessment Program

- a. **Verify that occupational internal, external, and cumulative doses are being collected, evaluated, and calculated correctly in accordance with 10 CFR 20 and the license application.**

Specific Requirements

1. Review dose assessment documentation and verify that the results are less than the limits in 10 CFR 20.1201, 20.1207, and 20.1208.
2. Verify that the licensee correctly calculated the dose to workers since the last inspection. Verify that the dose calculations are calculated using conservative assumptions and meet the intent of the regulations.
3. Verify that the internal dose results were determined in accordance with 10 CFR 20.1204. Verify that internal dose was monitored in accordance with 10 CFR 20.1502(b).
4. Determine if the summation of external and internal doses is in accordance with 10 CFR 20.1202.
5. Verify that the licensee incorporated the occupational dose of an individual received during the current year at a different NRC-licensed facility in accordance with 10 CFR 20.2104.
6. Determine if the licensee is maintaining records of dose in accordance with 10 CFR 20.2106, at least annually, and is utilizing NRC Form 5 record keeping format.

02.11 Dosimetry

- a. **Verify the internal and external dosimetry programs are documented and implemented in accordance with 10 CFR 20 and the license.**
- b. **Verify the licensee is using accredited processors for both their internal and external dosimetry programs.**
- c. **Verify the programs are maintaining the required records.**

Specific Requirements

1. Determine if the bioassay program, if applicable, is in compliance with the license requirements.
2. Determine if record retention is in accordance **with** 10 CFR 20.2103(b)(3).
3. Determine if the **whole-body** counting program is in compliance with the license requirements, if applicable.
4. Verify that the licensee monitors employees for occupational exposure to radiation who are likely to receive, in one year, a dose in excess of the 10 CFR 20.1502(a) **limits**.

5. Determine that personnel dosimeter processors maintain accreditation from National Voluntary Laboratory Accreditation Program in accordance with 10 CFR 20.1501(d).

#### 88030-03 RESOURCE ESTIMATE

The resource estimate to perform this inspection procedure are identified **in IMC 2600 Appendix B. The estimates are for broad resource planning and are not intended as measures for judging the inspector's or region's performance. Actual inspections may require substantially more or less time, depending on the circumstances.**

#### 88030-04 PROCEDURE COMPLETION

Implementation of each applicable inspection requirement will constitute completion of this procedure. Individual inspection samples and breadth of review will be determined by the inspector based on requirement compliance, risk-significance of activity, and extent of the activity or records available. The procedure is complete when each applicable inspection requirement has been addressed.

#### 88030-05 REFERENCES

- 10 CFR 19, "Notices, Instructions, and Reports to Workers: Inspection and Investigations"
- 10 CFR 20, "Standards for Protection against Radiation"
- 29 CFR 1910.134, "Occupational Health and Safety Standards; Respiratory Protection"
- IMC 2600, "Fuel Cycle Facility Operational Safety and Safeguards Inspection Program"
- NUREG 1556, "Consolidated Guidance for Material Licenses," Volume 11, Appendix **M, "Model Leak Test Program," February 2017 (ML17059D332)**
- NUREG/ CR-0041, "Manual of Respiratory Protection against Radioactive Material," Revision 1, January 2001
- Regulatory Guide (RG) 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures as Low as Is Reasonably Achievable," Revision 2, **August 2016**
- RG 8.13, "Instruction Concerning Prenatal Radiation Exposure," Revision 3, June 1999
- RG 8.15, "Acceptable Programs for Respiratory Protection," Revision 1, October 1999
- RG 8.2, "Guide for Administrative Practices in Radiation Surveys and Monitoring," Revision 1, May 2011
- RG 8.21, "Health Physics Surveys for Byproduct Material at NRC-Licensed Processing and Manufacturing Plants," Revision 1, October 1979
- RG 8.24, "Health Physics Surveys During Enriched Uranium-235 Processing and Fuel Facilities," Revision 2, June 2012

RG 8.25, "Air Sampling in the Workplace," Revision 1, June 1992

RG 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure," Revision 1, February 1996

RG 8.34, "Monitoring Criteria and Methods to Calculate Occupational Radiation Doses," July 1992

RG 8.36, "Radiation Dose to the Embryo/ Fetus," July 1992

RG 8.40, "Methods for Measuring Effective Dose Equivalent from External Exposure," July 2010

RG 8.7, "Instructions for Recording and Reporting Occupational Radiation Exposure Data," Revision 4, **May 2018**

RG 8.8, "Information Relevant to Ensuring the Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Is Reasonably Achievable," Revision 3, June 1978

RG 8.9, "Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program," Revision 1, July 1993

END

Attachment:

1. Revision History for IP 88030

Attachment 1: Revision History for IP 88030

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-decisional, Non-public Information)
N/A	ML061710070 07/28/06 CN 06-019	IP 88030 has been issued because of the need for a new Inspection Procedure for Radiation Protection.	None	ML061710084
	ML13311A692 03/06/14 CN 14-007	<p>Significantly revised to:</p> <ul style="list-style-type: none"> <li>Format to IMC 0040</li> <li>Delete reference to Special Planned Exposure</li> <li>Delete reference of Dose to Public now included in IP 88045</li> <li>Add chemical toxicity of uranium</li> <li>Add Stop Work Authority</li> <li>Added Exempt Quantity reference in sealed source section.</li> <li>Delete reference to reporting requirements in 10 CFR 30-39 &amp; 72 and added reporting requirements in Part 76.</li> <li>Added PAPR and PAPH interpretation for transparency and consistency.</li> <li>Added ventilation and whole body counting sections.</li> <li>Added applicable sections from IP 88005 (management organization).</li> <li>Added section regarding 19.12 from IP 88010 (operator training)</li> <li>Added Reference section.</li> <li>Deleted reference to 20.1203 as fuel facilities do not have the correct source material to have an external dose exposure from airborne particulates.</li> </ul> <p>Changed the IP from being an annual inspection with 32 hours to two, rotating biennial inspections with 32 hours each or 64 hours total.</p>	None	ML13347A931

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-decisional, Non-public Information)
N/A	ML20328A118 01/29/21 CN 21-007	Revision to implement the recommendations from the Smarter Inspection Program (ML20077L247 and ML20073G659). Deleted Appendix A, "Program, Monitoring, and Controls" and Appendix B, "Exposure Controls and Dose Analyses" and moved applicable sections into the main body of the procedure.	Complete by January 2021	N/A
N/A	ML26007A170 01/27/26 CN 26-002	Revision to implement the Advanced Act recommendations, and to fix issues caused by the Smarter Inspection Program revisions, including moving Rad Waste content to the Transportation IP.	N/A	N/A