

NRC INSPECTION MANUAL

NMSS/DFM

INSPECTION PROCEDURE 88202

INSPECTIONS OF OPERATIONAL READINESS DURING CONSTRUCTION OF FUEL CYCLE FACILITIES

PROGRAM APPLICABILITY: IMC 2600, 2694

88202-01 INSPECTION OBJECTIVES

- 01.01 Determine if a uranium enrichment facility or fuel cycle facility has been constructed in accordance with the requirements of the license.
- 01.02 Determine if any licensing conditions, requiring an operational readiness review (ORR) prior to operation of a fuel cycle facility or change, have been satisfied.
- 01.03 Verify the final design/as-built configuration of the facility and the associated management measures have been developed and implemented in accordance with the licensee's commitments that are reflected in the license or license amendment.
- 01.04 Evaluate the status of the construction of the facility and identify areas where construction is incomplete.
- 01.05 Evaluate construction and pre-operational testing, as applicable, including identification of incomplete system acceptance and testing by the applicant or licensee.
- 01.06 Evaluate the applicant's or licensee's readiness to perform activities safely, during operation of the facility.
- 01.07 Evaluate the status of open items and their safety significance.

Note: Title 10, of the *Code of Federal Regulations* (10 CFR) 40.41(g) and 10 CFR 70.32(k) prohibit operation of a uranium enrichment facility until the Commission verifies through inspection that the facility has been constructed in accordance with the requirements of the license. Activities that fall outside the scope of construction may proceed without the need for NRC approval.

88202-02 INSPECTION REQUIREMENTS

- 02.01 Inspection Completion Status for the Fuel Cycle Facility (FCF) Construction Inspection Program (CIP) or Major Modifications.

Verify that all inspections required for completion of the FCF CIP or major modifications have been completed.

02.02 Pre-Operational Testing.

Evaluate the completion of pre-operational testing activities required by the facility licensing documents, as applicable.

02.03 Construction Status for New Construction or Major Modifications.

- a. Verify that new safety-significant construction activities or construction activities of items required by the license will be completed prior to authorization as required.
- b. Document the status of the licensee or applicant's new construction activities or major modification activities.

02.04 Operational Programs and Management Measures (MMs) Implementation for Operations

Verify operational programs and MMs, including administrative items relied on for safety (IROFS), required by the facility licensing documents, as applicable. Inspection planning should identify which, if any, operational programs and MMs need to be included in the ORR. Operational programs are those programs required to be implemented by the licensee during operations, but which might not have been implemented during construction (e.g., criticality safety, radiation protection, applicable license conditions, etc.).

02.05 Open Items from Previous Inspections or Other Activities

- a. Verify the status of significant items requiring corrective action. Such items might include significant NRC inspection findings, construction open items, licensee-identified deficiencies, license conditions related to operation, etc. A significant item is an item that must be dispositioned before the authorization to possess licensed nuclear material is issued.
- b. Review any Construction Open Items or Unresolved Items that need to be completed prior to operation of the facility and then verify the plans for completing the required actions.
- c. If items are not closed, verify that planned actions support the issuance of the authorization to process special nuclear material (SNM).

88202-03 INSPECTION GUIDANCE

General Guidance

- a. For uranium enrichment facilities, the NRC's authorization to operate and process SNM will not be issued until the Commission verifies through inspection that the facility has been constructed in accordance with the requirements of the license, as required by 10 CFR 40.41(g) and 10 CFR 70.32(k), as applicable. Similarly, for new FCF other than uranium enrichment facilities, or for major modifications to existing fuel cycle facilities that require a license amendment in accordance with 10 CFR 70.72, the license or amendment may include a license condition that specifies that an ORR must be conducted before operation to verify that the new facility or changes have been constructed in accordance with the requirements of the license.

- b. An ORR is typically performed in stages by a multidisciplinary inspection team(s) to ensure that the programmatic commitments made by licensee are properly applied in the as-built facility and to verify the facility can be operated safely within the intended safety basis. The ORR is intended to verify the final design/as-built configuration of the facility and the associated MMs (e.g. operating procedures, operator training, surveillances, preventative maintenance programs) have been developed and implemented in accordance with the licensee's commitments that are reflected in the license or license amendment.
- c. An ORR is a tool to provide input for NRC decision-making regarding the issuance of the authorization to possess and process SNM. The resulting inspection report(s) will serve as the vehicle for informing Office of Nuclear Material Safety and Safeguards (NMSS) management of the status of the CIP implementation and the readiness of the licensee to begin operating the facility.

Note: The process of notifying a licensee that the authorization to process SNM has been approved is addressed through office instructions and not in this Inspection Procedure (IP).

- d. The inspection planning process for ORRs, such as the scope of and schedule for the inspection, will depend on the specifics of the facility being inspected.
- e. The ORR should be scheduled after construction is substantially complete or broken up into smaller ORR's / inspection teams to account for activities of importance occurring during the construction phase (e.g., passive IROFS, building IROFS).
- f. Region II should coordinate with NMSS, the Office of Nuclear Security and Incident Response and (if appropriate) the Office of Enforcement in the planning for the ORR. Items to be considered for inclusion in the inspection include:
 1. Status of significant findings identified either by the licensee (10 CFR 70, etc.) or by the NRC during previous inspections.
 2. Status of operational programs (e.g., operator training, criticality safety, material control and accounting, environmental, radiation protection, security, etc.) and MMs. If operational programs are to be included in the scope of the inspection, Region II staff should coordinate with the relevant organizations to ensure that the inspection team includes personnel with the appropriate technical expertise.
 3. Adverse trends or problem areas identified through the assessment process described in Inspection Manual Chapter (IMC) 2694, "Fuel Cycle Facility Construction and Pre-Operational Readiness Review Inspection Program."
 4. Pre-operational testing activities (e.g., IROFS testing/calibrations).
 5. Safety-significant items and services (SSIS) including structures, systems, and components turnover process from construction to operation.
 6. Licensee use of contractors and turnover of SSIS from contractor to licensee control.
- g. This IP addresses suggested topics for inclusion in the ORR. Inspection planning may identify some topics which are not applicable/appropriate for the specific facility being

inspected. Inspection planning may also identify additional topics to be inspected beyond those directly addressed in this IP.

- h. The inspection report(s) documenting the ORR will be prepared, approved, and released in accordance with IMC 0616, "Fuel Cycle Safety and Safeguards Inspection Reports."

03.01 Inspection Completion Status for the CIP or Major Modifications

- a. If all required inspections have been completed, this should be noted in the inspection report. If additional inspections are needed, they may be incorporated into the overall ORR, using the appropriate IPs, including IP 88200, "Inspections of Safety Significant Items and Services During Construction of Fuel Cycle Facilities," and IP 88201, "Inspection of MMs during Construction of Fuel Cycle Facilities."
- b. If the remaining inspections cannot be completed during the ORR, this should be noted in the inspection report, along with a listing of the remaining inspections to be completed.

03.02 Pre-Operational Testing

When additional inspections of pre-operational testing are needed (either to support the completion of the CIP or major modifications, or to address findings, adverse trends, etc.) the inspections can be performed during the ORR using the applicable sections of the appropriate IP (e.g., Appendix H of IP 88201, "Inspection of Management Measures during Construction of Fuel Cycle Facilities," IP88015, "Nuclear Criticality Safety," IP 88055, "Fire Protection"). When all inspections in an area (e.g. criticality accident alarm system, fire protection systems) are complete, document completion in the inspection report.

03.03 Construction Status for New Construction or Major Modifications

If construction of safety-significant items is complete, note this in the inspection report. When additional inspections of construction are needed, the inspections can be performed during the ORR using the applicable sections of the appropriate IP. If construction of the item is not complete, verify that construction schedules support issuance of the NRC's authorization to the applicant or licensee to process licensed material, and identify any remaining construction activities that still need to be inspected related to this item.

03.04 Operational Program and Management Measures Implementation for Operations

- a. Operational program inspections during an ORR are not intended to take the place of licensing reviews, nor perform a complete program review for existing programs that have been previously inspected, in the case of existing licensees completing a major modification. The focus of the inspection should be on the readiness of the license to implement operational programs described in licensing documents (e.g., the radiological protection program would be described in licensing documents, and it would be reviewed/approved by the NRC during licensing. The inspection should focus on whether the licensee will be ready to implement the approved program following applicable license application conditions or material license safety conditions such as having adequate implementing documents, personnel training, etc.).

- b. ORR scoping for existing licensees conducting major modifications inspected under IMC 2600, "Fuel Cycle Facility Operational Safety and Safeguards Inspection Program," should consider the differences in existing programs and MMs when determining inspection samples. Existing programs or MMs that did not change or have no impact on the major modification should not be inspected. Additionally, inspectors should consider what programs and MMs, if any, were previously inspected during the major modification inspection period, to prevent duplication efforts, when possible.
- c. ORR scoping for new licensees completing construction of a new facility inspected under IMC 2694 should include newly developed operational programs and MMs. Additional inspection samples may be needed to verify reasonable assurance that the licensee will safely operate. Additionally, staff should consider what programs and MMs, if any, were previously inspected during the construction inspection period, to prevent duplication efforts, when possible.
- d. Inspections of operational programs and MMs should be performed by personnel with the appropriate expertise.
- e. Inspectors should use existing operational IPs as defined in IMC 2600, "Fuel Cycle Facility Operational Safety and Safeguards Program," such as IP 88020, "Operational Safety," IP 88030, "Radiation Protection," etc., as guidance for performing the operational readiness program inspections. Additionally, IP 88201 can be utilized when inspecting MMs. This IP specifically provides guidance for MM inspections using NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility," as guidance.
- f. Inspectors should consider existing construction IPs as defined in IMC 2694, "Fuel Cycle Facility Construction and Pre-Operational Readiness Review Inspection Program," such as IP 88200, "Inspection of Safety Significant Items and Services during Construction of Fuel Cycle Facilities," IP 88201, "Inspection of Management Measures during Construction of Fuel Cycle Facilities," etc., as guidance for performing operational readiness program inspections.
- g. Inspectors should consider the possibility of unique challenges caused by natural phenomena hazards such as common cause failures and abnormal operating conditions. Inspectors should review the Emergency Plan to confirm licensees are prepared to prevent and/or mitigate the consequences of credible natural phenomena hazards. Temporary Instruction 2600/016, "Inspection of Activities Associated with NRC Generic Letter 2015-01," may also provide guidance when addressing natural phenomena hazards.

03.05 Open Items from Previous Inspections or Other Activities

Inspection issues that cannot be resolved at the time of the inspection will be documented as Construction Open Items if the issue was identified during at-risk construction or Unresolved Items (URIs) if a license has been issued.

88202-04 RESOURCE ESTIMATE

The resource estimate for conducting the operational readiness inspection is approximately 400–1600 hours of direct inspection effort. The scope of the inspections may vary based on the

number of technical areas, program areas, and IROFS that are ready and available for inspection. These hours for operational readiness inspections may be spread out over multiple inspections, as necessary. These hours are an estimate; staff will continually assess the hours spent on a particular construction project and adjust the estimate based on operating experience and complexity of the project.

88202-05 PROCEDURE COMPLETION

Implementation of this IP is considered complete when the activities identified during the inspection planning process for the ORR have been inspected, and any issues appropriately dispositioned. Procedure completion is dependent on the specific facility and will be as determined in the Principal Inspection Plan for the facility.

88202-06 REFERENCES

Generic Letter 2015-01, "Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities"

IMC 2600, "Fuel Cycle Facility Operational Safety and Safeguards Program"

IMC 2694, "Fuel Cycle Facility Construction and Pre-Operational Readiness Review Inspection Program"

NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility," dated March 2002

Temporary Instruction 2600/016, "Inspection of Activities Associated with NRC Generic Letter 2015-01"

END

Attachment 1: Revision History for IP 88202

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 No. (Pre-Decisional Non-Public Information)
	ML25357A162 02/10/26 CN 26-006	Initial issuance. Initial issue to provide guidance for the inspections of operational readiness during construction of fuel cycle facilities.	N/A	N/A