U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Construction Oversight Program Update

Fuel Facilities Construction Oversight Workshop – August 15, 2023

Key Messages

- IMC 2694 update is required by procedure, and addresses at-risk construction and new facility types
- IP revisions are technology-neutral for Fuels Construction Inspection Programs (FCIPs) and are scalable and agile
- Construction inspection prioritizes those activities that are made inaccessible as part of the construction process, first of a kind, etc.

IMC 2694 Review and Update

- IMC 2694 (Why Update Now?):
  - NRC guidance requires a five-year review cycle for IMCs (IMC 0040: Preparing, Revising, and Issuing Document)
    - Incorporate lessons-learned
  - Preparing for ~10 major fuel cycle facility construction projects
    - Variety of new technologies
    - Variety of construction strategies

Existing Guidance

- IMC 2694 (Current Version):
  - Revised in 2017 to become a non-licensee-specific program for construction inspection.
- Existing Inspection Procedures
  - IPs referenced in IMC 2694 (current version):
    - Last used for MOX, a Cat. I facility, which includes Part 50 Appendix B requirements, and will remain available for future construction projects, as applicable.
    - Separate IP for each construction attribute.
  - IPs developed and used for NPUFs (used as basis for update)
    - Evaluate same construction attributes (structural, welding, electrical, etc.).
    - Group attributes into technology neutral, scalable and flexible single IP with multiple attachments.
    - Same approach is done for management measures/QA elements.

Timeline of Revision Project

May 2022:	NRC formulates a working group to identify appropriate procedures and manual chapter(s) for new construction activities at fuel facilities.
Jun. 2022:	NRC identifies IMC 2694 and associated IPs as applicable and in need of review.
Jul. 2022:	NRC subject matter experts (SMEs) gather materials and review lessons-learned from other nuclear construction projects to identify potential improvements.
Oct. 2022:	NRC presents at public stakeholder meeting a project to update and improve IMC 2694.
Oct. '22 – Mar. '23:	Initial revision and identification of knowledge gaps in "at-risk" construction.
Mar. '23:	NRC presents more details on IMC 2694 update at public stakeholder meeting and receives feedback from industry.
Mar. – Jul. 2023:	Revision continues, and knowledge gaps filled.
Jul. 2023:	"At-risk" construction letter issued to applicant.
Aug. 2023:	Construction Oversight Workshop – provide detailed examples of changes and solicit feedback during the revision process.

Proposed Draft Changes in IMC 2694

- Global Changes:
  - Minor edits throughout the document to improve clarity.
  - Shifted inspection focus attribute away from “QA Program” to focus on Management Measures.
  - Broadened language to be inclusive of at-risk construction considerations.
  - Broadened language to be inclusive of more facility/process types.
  - Added lessons-learned from nuclear construction – as applicable.
- Specific Changes
  - Inspection and Technical Personnel Considerations - deleted
  - Adjustment of assessment of licensee performance – desire for more real-time assessment.
  - Resident Inspectors – new section to discuss considerations for resident inspector needs.
  - Adding Appendices for master inspection plan (MIP) creation and report writing.
  - Update to Appendix A to list new IPs based on NPUF model.

Examples of Revisions

Please note that these are still “in-draft” and are not meant to convey a final regulatory position.

Specific Examples

- Consideration of Applicants

  04.06~~9~~ Licensee. In the context of this manual chapter, licensee may also include applicants for licenses under 10 CFR Part 70 who have submitted their license application and environmental review to the NRC for consideration.

- Inspecting "at-risk" activities

  06.~~06~~05 Inspection Requirements. Inspections will be based on 10 CFR Parts 21, 30, 40, 70, and other applicable regulations, commitments, and license conditions, included in the license application, as applicable. For facilities constructing prior to the issuance of a license (i.e., "at-risk"), inspections will be based on expected regulatory requirements, proposed facility design, and docketed design bases or proposed commitments. ~~Other documents to be referenced include the applicable ISA. Inspections will confirm that applicable regulations, requirements, and commitments have been met.~~ Selection of inspection attributes will be based on safety considerations, status of work activities, and performance.

Specific Examples

- Guidance for Developing a MIP

APPENDIX C

MASTER INSPECTION PLAN CREATION

1. GUIDANCE:

The safe construction and pre-operation of the facility is the ultimate responsibility of the licensee. The NRC shall ensure, through inspecting a sample of activities, that the licensee carries out these responsibilities in an effective manner. The CIP described in IMC 2694 and this Appendix, establishes the minimum core inspections necessary to provide the NRC stakeholders with reasonable assurance that the facility is constructed (and will be operated) in a safe manner. Additional inspections, audits, or other activities due to NRC- or licensee-identified deficiencies or self-revealing deficiencies may be necessary. The resolution of allegations or enforcement actions taken against licensees may also require additional inspections or impose new requirements.

Specific Examples

- Clarifying Scope

05.01 General. The CIP provides the inspection requirements for selectively assessing the adequacy of the IROFS and regulatory and safety-~~related~~ and security-related programs. This includes the implementation of the licensee's QA program (as applicable) and other management measures used to ensure the availability and reliability of ~~safety and safeguards~~ IROFS. Additionally, the CIP provides inspection requirements for programs that contribute to radiological health and safety and common defense and security.

Specific Examples

- Re-organization to include some lessons-learned

Emphasis should be placed on early identification of problems. Inspections will be conducted periodically throughout construction. Inspections will be scheduled early in the process during implementation of individual construction activities to develop confidence that the specific activities are being adequately performed at all stages. Comprehensive construction program reviews aimed at determining underlying causes and extent of problem areas should be conducted if NRC management concludes significant deficiencies are occurring. Inspection depth and frequencies may be expanded to ensure problem areas have been corrected (via program allowances, supplemental or reactive inspections). Corrective action programs are essential to effective resolution of individual deficiencies and programmatic issues. Inspection effort should be planned to include review(s) of corrective action program entries and whether the corrective action program is effective and implemented in accordance with applicable licensee procedures.

Moved from other section of IMC to “Focus of Inspection”

Specific Examples

- Inspection Related Communications:

06.~~08~~07~~Management~~ Entrance and Exit Meetings. Inspectors are required to meet with licensee management as part of every inspection. Inspectors should hold an entrance meeting with the senior licensee representative who has responsibility for the areas to be inspected. At the conclusion of an inspection, inspectors must discuss their preliminary findings and inspection results with the licensee's management at a scheduled exit meeting. Management entrance and exit meetings with licensee personnel should be scheduled to minimize the impact on other licensee activities necessary to ensure the safe and proper construction of the facility.

06.~~09~~08 Inspection Reports. Inspection findings shall be documented in inspection reports in accordance with the ~~applicable revision to~~current version of IMC 0616, "Fuel Cycle Safety and Safeguards Inspection Reports." When possible, inspection findings should be integrated into a single inspection report to encompass findings from in-office reviews and/or one or more visits by regional or headquarters inspectors. Special inspections may be documented in a separate inspection report. Inspection issues that cannot be resolved at the time of the inspection will be documented as ~~inspection follow-up items or~~ unresolved items in accordance with IMC 0616. The NRC Region II will track open items in Reactor Program System (~~an inspection program information management system~~RPS), and subsequent inspections will include resolution of these issues.

Path Forward

- Review and Consider feedback from Workshop and subsequent meetings (as applicable)
- Finalization of draft guidance
- Formatting draft guidance in accordance with NRC IMC
- NRC concurrence process
- Issuance

Questions?