

SMARTER FUEL CYCLE INSPECTION PROGRAM - IMPLEMENTATION PLAN

Inspection and Oversight Branch (IOB),
Division of Fuel Management (DFM),
Office of Nuclear Material Safety and Safeguards (NMSS)

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Overview

i On April 26, 2019, the NRC staff issued a working group (WG) charter to conduct a holistic assessment of the Fuel Cycle oversight program. The purpose of the assessment is to improve effectiveness and efficiency, while further integrating risk-informed insights to ensure the appropriate focus is applied to the areas most important to safety. The WG was composed of experienced staff and branch chiefs from NMSS and Region II. The WG used operating experience (both domestic and international), risk insights, inspection data, and lessons learned from previous events to assess the program and develop recommendations for enhancement.

The recommendations include changes to inspection frequency and level of effort that will ensure the appropriate focus is applied to inspection areas that provide the greatest safety benefit in determining that a facility is operating safely and in accordance with regulatory requirements.

The final report including WG recommendations was completed and made publicly available on March 18, 2020 (ADAMS Accession No. ML20073G659). The Director of the Division of Fuel Management (DFM) approved the recommendations in full and the final decision memo (ADAMS Accession No. ML20077L247) was issued on March 18, 2020.

Objective

Implement the WG recommendations to enhance inspection manual chapters (IMCs) and inspection procedures (IPs) related to fuel facilities as endorsed by the Director of DFM on March 18, 2020.

Specifically, the working group will be implementing the following recommendations:

1. The WG recommends an in-depth assessment of the scope of resident inspector guidance and its referenced procedures as part of the implementation phase of this initiative. The assessment should consider potential changes to ensure the scope of the resident inspector program is focused on the areas that provide the greatest safety benefit and should also consider recommendations provided by external stakeholders. Based on this review, further adjustment of inspection activities between regional and resident inspector activities may be recommended.
2. The WG recommends a reduction in the frequency of inspection to Tier 2 and Tier 3 inspection technical areas for licensees with an NRC-approved CAP.
3. The WG recommends the following inspection frequencies and hours based on the tier ranking of each of the inspection areas.
 - Tier 1 areas – annual inspection frequency and a minimum of 90 hours.
 - Tier 2 areas – biennial inspection frequency and a minimum of 60 hours.
 - Tier 3 areas – triennial inspection frequency and a minimum of 30 hours with a range of

hours to accommodate for any necessary adjustments on inspection scope based on the length of time between inspections.

4. *The WG recommends a revision to IMC 2600 to include an acceptable variance of plus or minus 10 percent in the core hours. In addition, language on the acceptable variance should be included in the resources estimate section for each inspection procedure.*
5. *The WG recommends incorporation of changes described in section D of the report (ML20073G659) along with the marked-up version of the Appendix B to IMC 2600 with the recommended hours and frequencies for each area of the core inspection program.*
6. *The WG recommends formalizing into the inspection program the results of the Operating Experience Program and the Fuel Cycle Inspection Assessment Program to determine, on a frequent basis, if changes to core inspection program are needed.*

Note: Recommendation 6 is not included in this implementation plan. NMSS/IOB is separately assessing enhancements to the Operating Experience Program and the Fuel Cycle Inspection Assessment Program. A formalized process for utilizing the results of these programs to recommend changes to the fuel facilities business line oversight program will be the scope of a separate assessment.

At a minimum, high-level considerations for conducting remote inspections should be included in this effort. The staff will be involved in conducting a more holistic lessons-learned evaluation as a result of modifications to the inspection program due to the COVID-19 public health emergency while these inspection procedures are being revised. Should this assessment result in potential changes to the inspection program guidance, the staff will be recommending those changes to DFM management via separate correspondence. Similarly, the staff will start the development of an appendix in parallel to the ongoing revisions to the inspection guidance for the timely disposition of very low safety significance issues tied to licensing basis and will build on this initial work in subsequent revisions.

Project Approach

The revisions to the IMC and IPs will be a closely coordinated effort between NMSS, Region II, and other HQ offices that will be affected by these revisions.

Staff from Headquarters (HQ) and Region II have been designated to lead the implementation of the approved recommendations. The implementation leads will disposition each recommendation and coordinate the revision of inspection documents, formal concurrence and comment resolution.

The Region II implementation lead in consort with regional and HQ technical area contacts are proposing revisions to the inspection guidance in accordance with the approved recommendations 2-5. Once the initial regional review of each document revision has been completed, the document will be sent to the NMSS IMC Coordinator to process in accordance with IMC 0040. The HQ implementation lead will work with the IMC coordinator to obtain formal concurrence from branch and division management. The HQ implementation lead will facilitate obtaining input for all technical areas and will coordinate with the Region II implementation lead and technical area contacts for resolution of comments as necessary. Whenever deemed necessary, the HQ project implementation lead will schedule meetings among technical experts to assist the timely resolution of comments.

The HQ implementation lead in consort with the regions will assess the scope of resident inspector guidance, and full implementation of recommendation 1 will follow additional public engagement with external stakeholders on resident inspector utilization. Any additional changes to the resident inspector guidance, outside of those identified in the recommendations 2-5, will be presented to DFM management with recommendations for the inspection program.

To the greatest extent possible, the IMC 0040 schedule will be staggered to facilitate the timely processing and issuance of the IPs to support full implementation of the enhanced inspection program in calendar year (CY) 2021.

Once the draft IMCs and IPs have been approved by DFM management, the implementation leads will ensure training is performed for all inspectors on the new IMCs and IPs. Final issuance of the revised IMCs and IPs will be performed by the NRC inspection manual lead in the Office of Nuclear Reactor Regulation (NRR). NMSS/DFM/IOB will maintain the schedule of planned document review and issuance milestones to help facilitate a more effective and efficient issuance process.

To communicate the status of the project, the implementation lead will ensure a project one-pager is updated monthly and shared with stakeholders. NEI drop-ins with NRC management, public venues, and periodic fuel cycle Cumulative Effects of Regulation meetings will also be used to keep external stakeholders informed.

Roles and Responsibilities

The implementation of the IMC and IP revisions will be executed by the HQ implementation lead, the Region II implementation lead, in coordination with the NMSS IMC coordinator for the fuel cycle oversight program and the HQ and regional technical area contacts.

Project Execution Timeline

The timeline for the issuance of the revised IPs and IMCs follows the process outlined in IMC 0040. This includes regional and other office review and comment resolution, subject matter expert branch chief, IOB branch chief, and Division management review and comment resolution, and the NRC inspection manual owner review and issuance in NRR.

Due to the volume of documents (approximately 40), IMC and IP revisions will be entered into the issuance process on a staggered schedule, and there will be considerable overlap for each IMC/IP. The dates identified below represent the latest date for the milestone to start and end.

NMSS/IOB is cognizant of the schedule challenges for this project due to the large amount of documents going through the IMC 0040 revision process; especially considering the parallel ISFSI inspection enhancement effort. Therefore, NMSS/IOB will closely monitor and manage the implementation of this project and balance this with the high number of concurrent high priority activities ongoing in DFM.

Description	Start Date	End Date
Project Start	March 2020	
Revise IMC/IP	3/30/2020	8/7/2020
Internal concurrence	8/10/2020	10/30/2020
Present project status at the Fall CER meeting. Present project status at RSLOs Call, ROP monthly call, and additional public venues, and drop-in meetings.	September/October 2020	
Revised IMC/IP issuance	12/4/2020	
Training completed on all revised IMC/IPs	12/18/2020	
Project End	12/31/2020	

A detailed schedule for the processing of all guidance documents is being maintained by DFM/IOB.

EXPECTED RESULTS

Revision of fuel cycle inspection guidance documents in accordance with the approved recommendations in support of full implementation by calendar year 2021. IOB staff will monitor implementation of the revised inspection program and will establish mechanisms for continuous feedback.

FUTURE ENHANCEMENTS

The staff is aware of several desired inspection enhancements in addition to those developed by the working group. The enhancements include, but are not limited to, a process to disposition issues of low safety significance, public health emergency/COVID-19 lessons-learned, and results from continued engagement with industry on inspection topics of interest. There are ongoing discussions with program stakeholders and DFM management on these areas that, depending on its complexity, may be incorporated into this effort or included in future enhancement efforts. IOB is tracking these additional enhancements for future revision to the IPs and IMCs to ensure they are prioritized and evaluated/implemented at the appropriate time, in coordination with DFM management and other stakeholders.