



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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June 30, 2021

MEMORANDUM TO: Shana R. Helton, Director
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

FROM: F. Paul Peduzzi, Chief *Francis Peduzzi*
Inspection and Oversight Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

SUBJECT: COMPLETED – IMPLEMENTATION OF SMARTER FUEL CYCLE
INSPECTION PROGRAM

By memorandum dated March 18, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20077L247), the Director of the Division of Fuel Management of the Office of Nuclear Material Safety and Safeguards endorsed the recommendations to build a smarter fuel cycle inspection program (ADAMS Accession No. ML20073G659).

On March 29, 2021, the staff documented the implementation of the working group recommendations to enhance fuel cycle inspection manual chapters and inspection procedures, as well as remaining actions for calendar year 2021 (ADAMS Accession No. ML21029A332).

This memorandum documents the closure the Smarter Fuel Cycle Inspection Program initiative, and all actions and assessments resulting from the working group recommendations endorsed in the March 18, 2020 memorandum.

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Enclosure:
Completed – Implementation of a Smarter
Fuel Cycle Inspection Program

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DOCUMENT DATE: June 30, 2021

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ADAMS Accession No.: ML21172A286

***via email**

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COMPLETED – IMPLEMENTATION OF A SMARTER FUEL CYCLE INSPECTION PROGRAM

Background:

On April 26, 2019, the U.S. Nuclear Regulatory Commission (NRC) established a working group to conduct a holistic assessment of the fuel cycle inspection program to improve the effectiveness and efficiency of the program (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19074A139).

In consideration of the agency's focus on transformation and innovation, the primary objective of the working group was to integrate risk-informed insights to ensure that the appropriate focus is applied to those areas most important to safety. The working group, composed of experienced staff from the Office of Nuclear Material Safety and Safeguards (NMSS) and Region II, used both domestic and international operating experience, risk insights, inspection data, and lessons learned to assess the program and develop recommendations for enhancement.

Recommendations and Implementation:

By memorandum dated March 18, 2020 (ADAMS Accession No. ML20073G659), the working group proposed a series of changes to the fuel cycle inspection program, including: (1) modifications to inspection frequencies and resource estimates associated with completion of inspection procedures, (2) modifications to inspection procedures to reduce overlaps, and (3) modifications to inspection frequencies of inspection procedures for facilities with an NRC--approved corrective action program.

The Director of Division of Fuel Management (DFM) of NMSS endorsed the working group's recommendations to build a smarter fuel cycle inspection program, with completion of updates to inspection guidance by December 2020, and implementation of inspection activities starting in calendar year 2021 (ADAMS Accession No. ML20077L247).

On April 26, 2019, the staff developed an Implementation Plan (ADAMS Accession No. ML20189A064) to implement the working group's recommendations as endorsed by the Director of DFM.

On March 29, 2021, the staff documented the implementation of the working group recommendations as well as remaining actions for calendar year 2021 (ADAMS Accession No. ML21029A332).

Implementation of Recommendations:

The following table summarizes the current status of the Smarter Fuel Cycle Inspection Program working group recommendations:

Recommendation		Planned Actions for 2021
1	Assessment of the scope of resident inspector guidance	The staff determined that several changes to inspection procedures made as a result of other Smarter Inspection revisions have improved the focus of the resident inspection program. Notably, additional

		<p>guidance was added to the suite of resident inspection procedures (IP 88135 – 88135. 22) to ensure resident inspection plans are developed using plant-specific risk information to determine what systems and activities are of higher risk significance given the plant configuration. This information is used to make adjustments to the inspection plan so as to inspect activities of higher risk significance as they occur.</p> <p>Additionally, to reduce duplication of efforts and increase efficiency, credit was given in certain regional IPs for facilities that have resident inspectors. For example, sections of IP 88030 <i>Radiation Protection</i> are omitted at facilities that have a resident inspector, since the scope is performed as part of the resident inspection program.</p> <p>The viability of suggestions provided by external stakeholders during early Smarter Inspection public meetings were evaluated. These included the transfer of additional IPs (such as waste management, transportation, fire protection, maintenance and surveillance, environmental) to the resident inspection program. The staff determined that the majority of these recommendations were addressed in some manner by other changes made to both resident and regional inspector guidance. For example, the inspection frequency of the transportation IP was changed to triennial, and the radiation protection IP provides for the omission of aspects that are inspected by the resident.</p> <p>The staff determined that the changes made to resident inspection guidance balanced a focus on areas that provide the greatest safety benefit with the need to maintain awareness of plant areas, equipment, and processes regardless of safety significance. The flexibility in the program should be maintained to ensure appropriate evaluation of all licensed activities and licensee performance and conformance to regulatory requirements.</p> <p>The staff does not recommend any other changes to the scope of the resident inspector program resulting from recommendations on the Smarter Inspection Program and relevant assessments.</p>
2	Reduction of frequency of inspection to Tier 2 and Tier 3 inspection technical areas for licensees with an NRC-approved CAP	Completed. See ADAMS Accession No. ML21029A332

<p>3</p>	<p>Recommends the following inspection frequencies and hours based on the tier ranking of each of the inspection areas.</p> <ul style="list-style-type: none"> ○ 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. 	<p>Completed. See ADAMS Accession No. ML21029A332</p>
<p>4</p>	<p>Revision to IMC 2600 to include an acceptable variance of plus or minus 10 percent in the core hours. Language on the acceptable variance should be included in the resources estimate section for each inspection procedure.</p>	<p>Completed. See ADAMS Accession No. ML21029A332</p>
<p>5</p>	<p>Incorporation of changes described in Section d. of the report (ADAMS Accession No. 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</p>	<p>Completed. See ADAMS Accession No. ML21029A332</p>
<p>6</p>	<p>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</p>	<p>The staff has initiated an effort to develop a comprehensive operating experience program for all business lines within NMSS. This effort will explore how an NMSS operating experience program can provide meaningful insights based on a variety of relevant data sources to identify trends, insights and lessons learned that can be communicated to stakeholders or applied in regulatory activities.</p> <p>The intent of this recommendation will be addressed under the broader NMSS operating experience effort and will be tracked internally.</p>