



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

PLEASE RESPOND BY:
July 30, 2021

COMSECY-21-0010

July 16, 2021

MEMORANDUM TO: Chairman Hanson
Commissioner Baran
Commissioner Wright

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: REVISION OF THE REACTOR OVERSIGHT PROCESS PUBLIC
RADIATION SAFETY SIGNIFICANCE DETERMINATION
PROCESS

The purpose of this paper is to request Commission approval and provide notification of specific changes in accordance with the guidelines in Management Directive (MD) 8.13, "Reactor Oversight Process," dated January 16, 2018. Specifically, the U.S. Nuclear Regulatory Commission (NRC) staff is requesting Commission approval of one change to incorporate guidance for dispositioning inspection findings related to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 37, "Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material," within the Reactor Oversight Process (ROP) Public Radiation Safety Significance Determination Process (SDP) as described in Inspection Manual Chapter (IMC) 0609, Appendix D, "Public Radiation Safety Significance Determination Process," and IMC 0308, Attachment 3, Appendix D, "Technical Basis for Public Radiation Safety Significance Determination Process." Additionally, staff is providing notification of two updates to the Public Radiation Safety SDP. The current proposed draft of the SDP revision, including both clean and track changes versions, can be found in Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML21147A302.

BACKGROUND:

The Public Radiation Safety Cornerstone of the ROP consists of multiple program areas that have the potential to impact the public: Radioactive Material Control, Radioactive Effluent Release, Radioactive Environmental Monitoring, Transportation, and Land Disposal of Radioactive Waste. The Public Radiation Safety SDP is designed to provide a means by which the NRC can assess the significance of inspection findings in these program areas during routine plant operations or abnormal operational occurrences at civilian nuclear power plants (NPPs). Findings associated with these program areas are typically identified as a result of NRC inspections performed under the baseline Inspection Procedure 71124, "Radiation Safety—Public and Occupational"; are self-revealed; or are identified by NRC licensees.

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The final rule for 10 CFR Part 37 amending regulations to establish security requirements for the use and transport of category 1 and category 2 quantities of radioactive material was published in Volume 78 of the *Federal Register* (FR), page 16921 (78 FR 16921), on March 19, 2013, with an implementation date of March 19, 2014. The rule established physical security and other requirements for the possession and use of Category 1 and Category 2 quantities of radioactive material to provide reasonable assurance that these types of radioactive materials are adequately protected from theft and diversion. Nuclear power reactor licensees are subject to the requirements of 10 CFR Part 37.

Following the implementation of the rule, the staff completed onsite inspections under Temporary Instruction 2800/041, Revision 1, "10 CFR Part 37 Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material at Facilities with a 10 CFR Part 73 Physical Protection Program," issued July 1, 2015, to verify compliance with the rule at NPPs. Since the ROP did not address the implementation of the 10 CFR Part 37 final rule, Part 37 violations have been dispositioned using the traditional enforcement process. After reviewing the results of these inspections, the staff concluded that, overall, nuclear power reactor licensee performance related to 10 CFR Part 37 was adequate. Furthermore, the staff concluded that oversight of 10 CFR Part 37 at NPPs should be fully incorporated into the ROP baseline inspection program to provide consistency for disposition of violations identified at NPPs, and to allow 10 CFR Part 37 violations to be dispositioned under the same risk-informed, performance-based framework under the ROP.

When evaluating which ROP cornerstone should include the oversight of 10 CFR Part 37, the staff initially considered and ultimately decided against including the oversight of 10 CFR Part 37 in the Physical Security Cornerstone. The Physical Security Cornerstone focuses on the protection of special nuclear material, which is outside the scope of 10 CFR Part 37. The staff concluded that the oversight of 10 CFR Part 37 fits best under the Public Radiation Safety Cornerstone of the ROP because the cornerstone contains guidance for the oversight of radioactive materials security, other than special nuclear material, at NPPs. Specifically, the oversight of performance related to the requirements of 10 CFR 20.1801, "Security of stored material," and 10 CFR 20.1802, "Control of material not in storage," is conducted within the Public Radiation Safety Cornerstone, which can be leveraged in implementing an oversight process for 10 CFR Part 37. Furthermore, the staff believes that the reactor health physics inspectors are most qualified to identify Category 1 and Category 2 quantities of material and that the impact of deficiencies (e.g., potential impact from exposures to the public) in licensee performance falls within the Public Radiation Safety Cornerstone.

Subsequently, in 2020, the staff implemented a revision to baseline Inspection Procedure 71124.08, "Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation," to provide formal guidance for the oversight of 10 CFR Part 37 at NPPs. This necessitated the development of guidance to disposition inspection findings under the ROP. The proposed SDP revision consists of broad areas including access authorization, physical protection of radioactive material on site, and physical protection of radioactive material in transit, that align with the 10 CFR Part 37 rule. The proposed SDP revision is informed by examples in Section 6.12, "Materials Security," of the NRC Enforcement Policy.

In general, the proposed SDP revision seeks to remain consistent with the NRC Enforcement Policy outcomes for violations of materials security requirements while allowing 10 CFR Part 37 violations at NPPs to be dispositioned under the risk-informed, performance-based framework of the ROP. Specifically, the staff will focus existing inspection resources in a risk-informed manner on areas such as transportation of 10 CFR Part 37 material and 10 CFR Part 37

material stored outside of a plant's security protection area. The inclusion of 10 CFR Part 37 in the ROP will allow for the consideration of mitigating factors such as defense in depth and relevant physical features of the material and reactor facility that may mitigate the likelihood of theft and diversion. For example, the staff recognizes that the security apparatus at commercial NPP facilities is robust and exceeds the requirements of 10 CFR Part 37 for material that is stored inside the protected area. Additionally, the physical form of the material in combination with the presence of highly trained security personnel at these facilities provides an additional deterrent that may be considered when evaluating the risk significance of 10 CFR Part 37 performance deficiencies at NPPs. Consideration of these potential mitigating factors at NPPs, when appropriate, allows the NRC to arrive at a risk-informed conclusion that appropriately communicates the significance of a violation to the public and the licensee, and that appropriately guides the application of NRC inspection resources under the ROP.

In addition, the staff has identified a need to update the SDP guidance to help disposition certain transportation-related inspection findings that the SDP does not currently cover, such as findings where a licensee used the incorrect packaging for radioactive material shipments. Since 2014, the NRC staff has identified multiple instances in which a licensee used the incorrect packaging. The SDP did not cover this scenario, which required the staff to use the guidance in IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," to disposition the findings because this guidance was the best tool within the ROP at the time. However, the use of Appendix M did not provide the clarity and specificity needed to support a timely disposition of these findings.

Furthermore, based on recent lessons learned from transportation-related inspection findings for Point Beach Nuclear Plant and Grand Gulf Nuclear Station (ADAMS Accession Nos. ML21039A709 and ML21040A231), the proposed SDP revision clarifies the significance of violations pertaining to licensees providing incorrect emergency response documentation to drivers of radioactive material shipments. Specifically, the current version of the SDP provides virtually no gradation or guidance on considering risk information in assessing the significance of these types of transportation-related findings. This could lead inspectors to screen essentially all more-than-minor performance deficiencies associated with shipment-related emergency response information to a White significance, which is inconsistent with the ROP objectives of assessing licensee performance in a risk-informed manner.

DISCUSSION:

Commission Approval Item

The staff has concluded that violations of 10 CFR Part 37 at NPPs should be dispositioned under the ROP to fully incorporate the oversight of 10 CFR Part 37 at NPPs into the ROP. In addition, the staff has determined that 10 CFR Part 37 best fits under the Public Radiation Safety Cornerstone of the ROP because the cornerstone already contains guidance for the control of radioactive material, other than special nuclear material, at NPPs. The staff concludes that these proposed changes to incorporate 10 CFR Part 37 into the SDP require Commission approval, consistent with the guidelines in SRM-COMSECY-16-0022 (ADAMS Accession No. ML17132A364), as implemented in MD 8.13, Directive Handbook Section II.I.1.(b).

Commission Notification Items

The staff is notifying the Commission of two proposed updates to the SDP guidance for dispositioning findings associated with the transportation of radioactive materials from NPPs:

- (1) Incorrect Radioactive Material Transportation Packaging: The staff has concluded that revisions to the Public Radiation Safety SDP are necessary to provide guidance on dispositioning findings associated with the transportation of radioactive material by nuclear power reactor licensees. Specifically, the staff plans to update the SDP to address licensee use of the incorrect packaging for radioactive material shipments. This change is necessary because the current version of the SDP assumes that the licensee uses the correct packaging and then a performance deficiency occurs. This notification item is consistent with the guidelines in MD 8.13, Directive Handbook Section II.I.2.(a), because the proposed changes do not represent a significant change requiring approval, since the staff is formalizing the methodology that was used to disposition previous inspection findings based on the guidance in IMC 0609, Appendix M.
- (2) Transportation Emergency Response Information: The staff has concluded that the SDP needs to clarify the significance of violations involving licensees providing incorrect emergency response documentation to drivers for radioactive material shipments. These changes will clarify the intent of the SDP and establish more consistent, risk-informed outcomes. This notification item is consistent with the guidelines in MD 8.13, Directive Handbook Section II.I.2.(a), because the proposed changes do not represent a significant change requiring approval, since the staff is providing amplifying guidance on how to apply the existing methodology to determine significance for these violations.

Stakeholder Interactions:

The staff has engaged with both internal and external stakeholders on multiple occasions about the SDP revision. The staff engaged internal stakeholders from the regions and other NRC headquarters' offices when developing the draft SDP revision. The staff in the Office of Nuclear Reactor Regulation, the Office of Enforcement, and the Office of Nuclear Material Safety and Safeguards spent significant effort collaborating to identify differences between the staff's draft SDP revision and the NRC Enforcement Policy. The staff determined whether any differences identified were appropriate; if they were not, the staff made the necessary changes to maintain compatibility between materials and reactor programs in a risk-informed, performance-based manner for dispositioning 10 CFR Part 37 inspection findings. The staff issued the draft SDP revision for a 30-day internal formal comment period in accordance with IMC 0040, "Preparing, Revising and Issuing Document for NRC Inspection Manual," issued July 23, 2020. The staff received several comments that resulted in improvements to the draft SDP revision. In addition, for the transportation-related updates, the staff coordinated with representatives from the U.S. Department of Transportation (DOT) to ensure that the staff was satisfying the intent of the NRC-DOT memorandum of understanding to collaborate on regulatory efforts. The DOT representatives understood the NRC staff's approach and were supportive of the staff's efforts to update the transportation-related guidance in the SDP.

The staff held two public meetings, on October 21, 2020, and February 25, 2021, focusing on the staff's plans to update the Public Radiation Safety SDP. In preparation for the February 2021 public meeting, the staff made the draft SDP revision publicly available (ADAMS Accession No. ML21049A364) to allow external stakeholders an opportunity to provide feedback to the NRC staff. After the February 2021 public meeting, the Nuclear Energy Institute

submitted feedback on the draft SDP revision for the staff's consideration in a letter dated April 9, 2021 (ADAMS Accession No. ML21104A411). Overall, the industry stakeholders were satisfied with the draft SDP revision issued in February 2021, and the staff considered their feedback and reflected it in the current proposed SDP revision (ADAMS Package Accession No. ML21147A302). The staff did not receive any substantive feedback from members of the public.

Recommendation:

The staff recommends that the Commission approve the staff's proposed changes to incorporate the disposition of inspection findings related to 10 CFR Part 37 within the Public Radiation Safety SDP.

The Office of the General Counsel has reviewed this paper and has no legal objection.

SECY, please track.

cc: SECY
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SAFETY SIGNIFICANCE DETERMINATION PROCESS DATE: July 16, 2021

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