



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

March 18, 2021

MEMORANDUM TO: Kevin Hsueh, Chief
Radiation Protection and Consequence Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Micheal Smith, Health Physicist **/RA/**
Radiation Protection and Consequence Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF NUCLEAR REGULATORY COMMISSION
PUBLIC MEETING ON FEBRUARY 25, 2021 TO DISCUSS
UPDATES TO THE RADIATION SAFETY SIGNIFICANCE
DETERMINATION PROCESSES

On February 25, 2021, the U. S. Nuclear Regulatory Commission (NRC) staff conducted a category 2 public meeting (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21048A354) to review changes to the reactor radiation safety significance determination process (SDP).

Purpose

Discuss changes the staff is proposing for Inspection Manual Chapter (IMC) 0609, Appendix (App) D and its corresponding basis document IMC 0308, Attachment (Att) 3, App D.

Meeting Summary

NRC staff's presentation (ADAMS Accession No. ML21055A021) began with an overview of the NRC's Principles of Good Regulation and a brief overview of the Reactor Oversight Process (ROP), the SDP and the inspection finding process. The NRC staff then reviewed recent activity associated with this project, to include publishing a draft SDP in 2018, receiving comments from the Nuclear Energy Institute (NEI) and then holding a public meeting on October 21, 2020. Then the NRC staff discussed the updates that are being proposed to the IMC 0609, App D and IMC 0308, Att 3, App D. Lastly, the NRC provided a projected schedule where the staff would determine the appropriate level of Commission interaction (i.e., approval

Enclosure:
Meeting Attendance List

CONTACT: Micheal Smith
301-415-3763
micheal.smith@nrc.gov

or notification) using the guidance for Reactor Oversight Process changes in Management Directive 8.13, "Reactor Oversight Process."

When discussing proposed guidance updates to the emergency response information section of the SDP, an industry representative commented on how certain sections of the SDP (i.e., radioactive effluent release program section) contain examples of "substantial" failures but other sections do not. The industry representative stated that they would work to develop some more quantitative examples for the staff to consider for input into the SDP.

In its discussions, the staff highlighted changes made to the draft SDP since the last public meeting on this topic (ADAMS Accession No. ML21039A660). The staff clarified that the proposed criteria for White significance for violations involving access authorization issues is that the licensee has granted access to an individual who cannot meet the licensee's requirements for trustworthiness and reliability. The staff updated the SDP diagram to clarify the concept of the "ineffective security zone" which is introduced and used in the proposed SDP.

An ineffective security zone is one where the licensee has failed to meet requirements in establishing a security zone such that a reasonable analysis would indicate the radioactive material is not protected from unauthorized access in a manner intended by 10 CFR Part 37. These findings would result from concurrent failures of the licensee's capability to control access to (10 CFR 37.47), and monitor and detect unauthorized access to the security zone without delay (10 CFR 37.49(a)(1) – (a)(2)). The staff clarified that failures to respond or report issues as required per 10 CFR 37.49(d) and 10 CFR 37.81 are proposed to be dispositioned using traditional enforcement as violations that may impact the ability of the NRC to perform its regulatory oversight function.

The staff removed the consideration for the "licensee to demonstrate no impact on material security," from the SDP diagram for Part 37, Subpart D violations. However, the SDP guidance that corresponds to this diagram still allows staff to consider information that describes reduced significance of findings in preplanning and coordination of radioactive material in transit. Lastly, regarding violations involving physical protection of material in transit, the staff expanded the types of violations that could result in a White finding as described in the SDP text.

The staff received comments and feedback from an industry representative regarding comments NEI submitted to the NRC in September 2018 (ML18264A305). NEI provided 8 comments in the following broad areas: (1) Concerns about the perceived subjectivity of the language used in describing what constitutes a substantial failure to implement the radioactive effluent release program; (2) A recommendation to remove solid radioactive waste reporting as a requirement for licensees through an update to RG 1.21 and to state that all solid radioactive waste reporting findings would be Green; and (3) A recommendation that the NRC consider average dose rates at 3-meters from packages containing low specific activity material rather than individual measurements. While the NRC has not formally responded to the September 2018 NEI letter, the comments in that letter have been addressed through a combination of content in the proposed SDP and basis document and through verbal interactions at multiple public meetings. For closure, the following discussion is provided:

- Regarding the criteria the staff would use to disposition substantial failures to implement the radioactive effluent release program, the basis for the staff's decision-making can be found in SECY-07-0112. The criteria for a substantial failure to implement the effluent program is a loss of effluent controls to an extent such that: (1) a substantial potential existed for exceeding the public as low as reasonably achievable (ALARA) dose criteria, but fortuitous events prevented the dose from exceeding ALARA thresholds; or (2) the licensee did not identify or evaluate the event when a compliant implementation of their effluent program would have alerted the licensee to the release. The SDP makes use of terminology such as "significant" and "gross" to ensure that findings of very low radiological significance are not dispositioned as White. The staff's intent is to identify findings that indicate additional NRC inspection is needed and to disposition those findings as White. The staff finds that this guidance is sufficient to meet its needs in dispositioning inspection findings in this area.
- Regarding the recommendation to remove solid radioactive waste reporting, the staff views this request as beyond the scope of the SDP revision effort. This requirement is commonly contained within licensee Technical Specifications, which can be modified by following the provisions of 10 CFR 50.90. As it pertains to the significance of findings involving deficiencies in solid radioactive waste reporting, the staff has included solid radioactive waste reporting within the regulatory basis description in Section 02.01 of the draft bases document. The staff would apply the effluent SDP to deficiencies involving radioactive waste reporting. Therefore, to the extent that such deficiencies do not reflect a significant failure to implement the effluent program and they do not result in a public dose exceeding the criteria described in the SDP, they would be Green.
- Regarding the recommendation that staff consider average dose rates at 3-meters from unshielded low specific activity material rather than individual measurements from the material, the staff does not agree with the recommendation, as presented. The recommendation confuses guidance pertaining to package surface surveys with requirements for determining the packaging requirements for radioactive material. In Section 02.04, "Radiation Limits Exceeded," of the SDP bases document, the staff describes a specific scenario where it would be acceptable for a licensee to average survey results over a small package surface area that is equivalent to the cross-sectional area of a radiation detection probe of a reasonable size. This guidance addresses specific instances where a very small area, oftentimes called a hotspot, exists on a package. In general, hotspots present a very low radiological safety risk; therefore, it is acceptable for licensees to use the averaging approach described in the bases document.

For certain shipments of low specific activity material, the Department of Transportation (DOT) regulations provide conditions for transporting packages that do not require NRC certificates of compliance. One of these conditions is that the external dose rate from the unshielded material may not exceed 1 rem/hr at 3 meters. If a package that is offered for transport does not meet the conditions set forth in the applicable DOT regulations, then that package must be shipped in an NRC certified package (i.e. a Type B package). The staff concluded that it would be inappropriate to apply an averaging approach to surveys containing low specific activity material for two primary reasons: (1) the survey is prescribed to be taken at 3 meters making the approach described above for using areas of the size of

the cross-section of a probe impractical; and (2) the purpose of the survey is to identify areas where radioactive material dispersed throughout the package has concentrated to such an extent that it meets the equivalent radiological significance as material that exceeds the Type A quantity. To identify an area in a package that exceeds the 3-meter dose rate criteria and then to artificially reduce that value by averaging it with other, lower dose-rate measurements would result in radiological risks exceeding that which is assumed for packages that are designed for normal conditions of transport.

Lastly, an industry representative presented a scenario where a Type B package was used to ship radioactive material but the package vent plug was incorrectly installed. The representative inquired as to what the expected outcome would be in this case. The outcome of this case would be dispositioned using a combination of the guidance that is applicable to deficiencies associated with certificates of compliance and package breach scenarios. Regarding the use of package breach guidance to disposition this case, the basis document instructs the staff to consider if package integrity, and thus material containment, would have been maintained. Such information would be considered during the staff's deliberations during the Significance and Enforcement Review Panel to arrive at an outcome that properly represents the significance of the finding in a risk-informed manner. The staff finds that there is sufficient guidance to resolve such a finding within the proposed SDP and Bases.

In closing the meeting, the staff mentioned that further discourse on this topic will occur during ROP Monthly meetings, and, specifically, that the staff will provide a status on this project as part of the agenda for the April 2021 meeting.

Public Comments

There were no comments from members of the public.

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ADimitriadis
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ADAMS Accession No: ML21078A504

OFFICE	NRR/DRA/ARCB	<u>NRR/DRA/ARCB</u>	<u>NRR/DRA/ARCB: BC</u>
NAME	DGarmon	MSmith	KHsueh
DATE	3/11/2021	3/18/2021	3/18/2021

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Meeting Attendance List:

Todd Keene	NRC	Jeffery Bollner	Callaway
Anthony Dimitriadis	NRC	Steve Martin	Excel Energy
Bill Rautzen	NRC	Clayton Stone	STP
Mike Franovich	NRC	Zachary Dibbern	STP
Kevin Hsueh	NRC	Bob Simmons	Dominion Energy
Micheal Smith	NRC	Nicole Good	STARS
David Garmon	NRC	Larry Nicholson	Certrec
Valerie Myers	NRC	Elizabeth Langille	PBA
Edward Stutzcage	NRC	Stephen Taylor	Southern Nuclear
Steven Orth	NRC	John Conly	Certrec
Robert Krsek	NRC	Robin Ritzman	Curtis-Wright
Duane White	NRC	Adam Horn	DTE
David Aird	NRC	Larry Nicholason	Certrec
David Pstrak	NRC	Karen Kim-Stevens	EPRI
Alex Garmoe	NRC	Thomas Roddy	Nuclear Power Ops
Robert Kellner	NRC	Greg Haught	APS
Paul Goldberg	NRC	Matt Duten	Public
David Furst	NRC	Deanne Raleigh	Curtis-Wright
George Smith	NRC	Sandy Koss	TVA
Natasha Greene	NRC	James Pak	Dominion Energy
Steven Bell	NRC	Bob Kidwell	Enercon Services
Marty Phalen	NEI	Maggie Staiger	NEI
Eric Krage	Energy Harbor	Bruce Rumans	DPE
Ellen Anderson	RSCS	David Gudger	Excelon
Laura Williams	ANI	Craig Sutton	PG&E
Marcia Anderson	ANI	Jerri Walker	DTE
Bernadette Humphry	PFED	David Geraes	Excel Energy
James Slider	NEI	Thomas J Lynch	USDOT
Coleman Miller	PG&E	Eli Crosby	
David Gerads	Excel Energy	Brian Dick	
Dan Shannon	Dominion Energy	Ryan Brooks	
Pam Dix	Salem		
Russell Thompson	TVA		
Patrick Asendorf	TVA		
Drew Richards	STP		
Michael Shannon	Consultant		
Claire Papas	AEP		
Clarence Gum	Dominion Energy		
Ryan Adams	WCNOC		
Matt Buten	Public		
Janet Schlueter	NEI		
Jerri Walters	DTE		

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