



POLICY ISSUE

(Notation Vote)

September 22, 2022

SECY-22-0089

FOR: The Commissioners

FROM: Daniel H. Dorman
Executive Director for Operations

SUBJECT: RECOMMENDATION FOR ENHANCING THE EMERGENCY
PREPAREDNESS SIGNIFICANCE DETERMINATION PROCESS FOR
THE REACTOR OVERSIGHT PROCESS

PURPOSE:

The purpose of this paper is to request Commission approval of a recommendation to enhance the Emergency Preparedness (EP) Significance Determination Process (SDP) for the Reactor Oversight Process (ROP). The U.S. Nuclear Regulatory Commission (NRC) staff developed this recommendation based on suggestions from both internal and external stakeholders on ways to make the ROP more risk-informed and performance-based. This paper does not address any new commitments or resource implications.

SUMMARY:

The staff considered a stakeholder recommendation to enhance the EP SDP, previously documented in SECY-19-0067. "Recommendations for Enhancing the Reactor Oversight Process," dated June 28, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19070A050). The staff's subsequent request to withdraw this paper was approved by the Commission in Staff Requirements Memorandum (SRM)-19-0067, dated August 5, 2021 (ADAMS Accession No: ML21217A284). The staff's recommendation regarding the EP SDP is the same as was proposed in SECY-19-0067. Specifically, the staff is recommending a change to the greater-than-green significance determination for specific

CONTACT: Don A. Johnson, NSIR/DPR
(301) 287-9230

planning standards from Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b). Only those planning standards that are risk significant and those considered significant for effective implementation of the site-specific emergency plan, will have greater-than-green significance for EP inspection findings.

The discussion that follows adopts the following definitions from the SDP in NRC Inspection Manual Chapter 0609, "Significance Determination Process," dated November 9, 2020 (ADAMS Accession No: ML20267A146).

- Green findings are defined as, in part, "...a green significance indicates that licensee performance is acceptable and cornerstone objectives are fully met with nominal risk and deviation."
- White findings are defined as, in part, "...a white significance indicates an acceptable level of performance by the licensee, but outside the nominal risk range. Cornerstone objectives are met with minimal reduction in safety margin."

Section II.I.1(a) of Management Directive 8.13, "Reactor Oversight Process," dated January 16, 2018, states that the staff should present changes to the fundamental elements of the ROP framework, which includes assessment inputs, to the Commission for approval. No additional issues or concerns were identified related to this recommendation.

BACKGROUND:

A nuclear power reactor licensee is required by 10 CFR 50.47(b) to meet the 16 planning standards established in 10 CFR paragraphs 50.47(b)(1) through (b)(16). During the development of the EP cornerstone of the ROP, a group of EP subject matter experts, including NRC staff and industry stakeholders, with input from the public, developed the EP SDP that is documented in Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," dated September 22, 2015 (ADAMS Accession No. ML15128A462). The EP SDP provides examples of findings for consideration when issues are discovered during EP inspections, including during exercises and drills. Of these 16 Planning Standards, 4 are considered risk-significant planning standards. These risk-significant planning standards contain the most essential functions of EP to ensure adequate measures are taken to minimize the risk to the public should a radiological emergency occur at the facility because they have a direct relationship with public health and safety. The four risk significant planning standards are:

- paragraph 50.47(b)(4) - timely and accurate classification of emergency events;
- paragraph 50.47(b)(5) - timely and accurate notification of responsible offsite response organizations (OROs) of an emergency classification and the alert and notification of the public on instructions to take protective action;
- paragraph 50.47(b)(9) - dose assessments of radioactive releases and monitoring of offsite consequences; and
- paragraph 50.47(b)(10) - in part, development, and transmittal of protective action recommendations to responsible OROs for offsite protective action decisions. This planning standard also addresses onsite protective actions but that is not considered to be risk significant.

Currently, performance deficiencies for the four risk significant planning standards could have white, yellow, and red (i.e., greater-than-green) significance. For a red significance to be

assessed, a risk-significant planning standard would not have been implemented during an actual event in which there were measurable impacts to public health and safety. This is not to say that findings related to the other 12 planning standard functions may not warrant enforcement action, but they do not have the same impact on public health and safety as findings in the risk-significant planning standards. In other words, an EP inspection finding in any of other planning standards would not result in a measurable impact on public health and safety directly (i.e., without a corresponding finding in the four risk-significant planning standards).

In response to input from external stakeholders and to identify enhancement opportunities to the current SDP, including those of a transformative nature, the staff performed a focused self-assessment that included a review of the EP SDP procedural guidance and recommendations, as well as comments and suggestions collected from internal and external stakeholders on the adequacy of the current process. The staff has determined that there is a valid justification to revise the methodology on risk-informing the planning standard functions. This revised risk-informed methodology would assess significance of planning standard functions based upon their impact on the ability to implement a risk-significant planning standard function. This revision in methodology in risk-informing planning standard functions would ensure that greater-than-green findings will only be issued for performance deficiencies related to their impact on public health and safety. The current greater-than-green significance assessed for the four risk-significant planning standard functions will remain the same.

The staff determined that, of the remaining 12 planning standards, 2 have a direct relationship with the effective implementation of risk-significant planning standard functions and of the site-specific emergency plan. These two are:

- paragraph 50.47(b)(2) – on shift and augmented emergency response organization staffing; and
- paragraph 50.47(b)(8) – emergency response facilities and equipment.

Accordingly, the staff proposes treating these two planning standards the same way the four risk-significant planning standards are treated under current practice. Following such a change, the significance of inspection findings for these six planning standards could result in greater-than-green significance if the significance-determination evaluation determines that the public risk from the issue warrants an escalated finding.

Note that 10 CFR 50.47(b)(14), which is based on exercise critique effectiveness, was initially included along with 10 CFR 50.47(b)(2) and 10 CFR 50.47(b)(8) in SECY-19-0067, but the staff subsequently determined that no change was needed because the EP SDP already allows for greater-than-green significance determination if the exercise critique fails to capture performance deficiencies that impact a risk significant planning standard.

DISCUSSION:

Though the staff finds the current EP SDP to be effective, the staff did identify an opportunity to enhance the EP SDP by focusing greater-than-green significance-determination evaluations on only the four risk-significant planning standards and the two planning standards related to effective emergency plan implementation. This would allow for a more effective use of staff resources by further risk-informing the EP SDP and streamlining this SDP by focusing greater-than-green significance on only these areas.

Following the change, a finding that results in white finding significance (i.e., outside the nominal risk range) can only be reasonably attributed to a finding in one of the four risk-significant planning standards, or in one of the two planning standards that impact the effective implementation of the site emergency plan and thus potentially impact the ability of the licensee to meet the four risk-significant planning standards. All the other planning standards would not meet the threshold of a white finding, and while the issue may continue to be a finding within the EP cornerstone, there would be nominal risk to the public. Issues related to the risk-significant planning standards can continue to have greater-than-white significance with no change to the EP SDP. In addition, actual events with findings associated with a risk-significant planning standard can still be considered for greater-than-white significance (i.e., no change is proposed for the EP SDP). The impact of this change would be to enhance the EP SDP by only focusing on those planning standards with the greatest potential impact on public health and safety thus making the overall process more efficient.

The other 10 planning standards do not directly impact the effective implementation of the site-specific emergency plan to ensure compliance with the risk-significant planning and are paraphrased as follows:

- paragraph 50.47(b)(1) – documentation of OROs organization charts and responsibilities;
- paragraph 50.47(b)(3) – documentation of applicable letters of agreement or memorandums of understanding between licensee and OROs;
- paragraph 50.47(b)(6) – documentation of communication methods to emergency personnel and to the public;
- paragraph 50.47(b)(7) – documentation of how public information is provided (brochures, calendars, etc.);
- paragraph 50.47(b)(11) – documentation of emergency worker radiological exposure controls;
- paragraph 50.47(b)(12) – documentation of medical response arrangements;
- paragraph 50.47(b)(13) – documentation of recovery and reentry procedures;
- paragraph 50.47(b)(14)¹ – documentation of training requirements, including drills and exercises;
- paragraph 50.47(b)(15) – documentation of ORO training to support onsite radiological events; and
- paragraph 50.47(b)(16) – documentation of licensee EP staff training to maintain the EP program and procedures.

The proposed changes to the EP SDP risk inform the planning standards based upon impact on public health and safety (i.e., risk-significant planning standards) and those with a direct impact on effective implementation of the licensee's emergency plan. The table below shows the proposed changes in the greater-than-green significance of EP findings.

¹ A 'failure to critique' an issue discovered during drills and exercises can result in a greater-than-green significance determination if the issue impacts a risk-significant planning standard directly, or indirectly via 50.47(b)(2) or (b)(8); i.e., it is not the 'failure to critique' itself that would be considered for greater-than-green significance, it is the impact the issue has on the aforementioned planning standards.

Table 1

Planning Standards	Current EP SDP Significance	Proposed EP SDP Significance	Comments
10 CFR paragraphs 50.47(b)(1), (3), (6), (7), (11), (12), (13), (14)*, (15), and (16)	white or green	green	*(b)(14) findings can result in greater-than-green significance if it impacts a risk-significant planning standard
10 CFR paragraphs 50.47(b)(2), and (8)	white or green	no change	planning standards with direct impact on emergency plan implementation
10 CFR paragraphs 50.47(b)(4), (5), (9), and (10)	Yellow, white, or green	no change	risk-significant planning standards

Stakeholder Interactions

The staff discussed the status of its review on its proposed resolutions to recommendations from internal and external stakeholders including the industry, members of the public, and nongovernmental organizations. The proposed changes to the EP SDP were received favorably by all stakeholders. The staff hosted public meetings on September 20, 2018 (ADAMS Accession No. ML18271A089); November 15, 2018 (ADAMS Accession No. ML18348B256); December 13, 2018 (ADAMS Accession No. ML18353A800); December 14, 2018 (ADAMS Accession No. ML18355A510); January 10, 2019 (ADAMS Accession No. ML19036A562); January 17, 2019 (ADAMS Accession No. ML19044A692); February 28, 2019 (ADAMS Accession No. ML19060A128); March 7, 2019 (ADAMS Accession No. ML19088A137); March 27, 2019 (ADAMS Accession No. ML19113A034); and April 24, 2019 (ADAMS Accession No. ML19134A334).

Proposed Options

To enhance the EP SDP, the staff is proposing the following options for Commission consideration:

Option 1: Maintain the current EP SDP.

In this option, the staff would continue to assess significance of inspection findings in the EP cornerstone using the present methodology.

Pros:

- The current EP SDP is well understood and would require no additional resources or training.
- The guidance for assessing significance of EP performance deficiencies is adequate.

Cons:

- The methodology for evaluating the significance of EP inspection findings will continue to consider all planning standards for greater-than-green significance which is an inefficient use of inspection resources when evaluating performance deficiencies associated with

the 10 planning standards that have little to no direct impact on public health and safety, or the ability to effectively implement the emergency plan.

Option 2: Revise the EP SDP risk-informed methodology used to evaluate the significance of EP inspection findings.

Pros:

- This option would enhance the EP SDP by aligning the significance of EP inspection findings with the associated risk(s) from the applicable planning standards.
 - Only the four risk-significant planning standards, and the two planning standards related to effective implementation of the emergency plan, meet the definition of greater-than-green significance.
- This enhancement to the EP SDP will employ a risk-informed approach and improve the effective use of staff resources evaluating the significance of EP inspection findings by focusing on those planning standards with significant impact on public health and safety.

Cons:

- The staff considered that this change could result in a misperception that the other planning standards that do not reach greater-than-green significance for EP inspection findings are not important elements of the emergency plan even though no comments were provided to this effect. The staff discussed this potential concern during the stakeholder engagement sessions as a precautionary measure to ensure that this potential misperception does not occur. The staff will also provide adequate documentation in the EP SDP related to the importance of all the planning standards in the emergency plan, and that this change is intended to adequately risk-inform inspection finding significance and not prevent EP inspection findings from being issued in any planning standard.

RECOMMENDATION:

The staff recommends that the Commission approve Option 2 to modify the EP SDP such that only inspection findings for EP inspection findings associated with the four risk-significant planning standards, as well as the two planning standards identified as necessary for effective implementation of the emergency plan, may be assessed with greater-than-green. This would provide a consistent risk-informed approach to evaluating the significance of EP inspection findings.

RESOURCES:

This paper does not address any new commitments or resource implications.

COORDINATION:

The Office of the General Counsel reviewed this paper and had no legal objection.
The Office of the Chief Financial Officer reviewed this paper for resource implications and does not have any objections.

Daniel H. Dorman
Executive Director
for Operations

SUBJECT: RECOMMENDATION FOR ENHANCING THE EMERGENCY PREPAREDNESS
SIGNIFICANCE DETERMINATION PROCESS FOR THE REACTOR
OVERSIGHT PROCESS DATED: September 22, 2022

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OFFICE	NSIR/DPR/POB	NSIR/DPR/POB	NRR/DRO/IRAB	NSIR/DRO	OCFO
NAME	D. Johnson	M. McCoppin	P. McKenna	C. Miller	R. Allwein
DATE	7/19/2022	7/28/2022	8/15/2022	8/17/2022	8/15/2022
OFFICE	NSIR/DPR	OGC	RidsNsirMailroom	NSIR/FO	OEDO
NAME	K. Brock	M. Carpentier	C. Raynor	M. Gavrilas	DDorman
DATE	8/16/2022	9/14/2022	9/14/2022	9/16/2022	9/ 22 /2022

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