

July 26, 2016

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Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject:** Comments on Draft Appendix O SDP for Mitigating Strategies

**Project Number: 689**

Dear Mr. Sanfilippo:

On behalf of the nuclear industry, the Nuclear Energy Institute (NEI)<sup>1</sup> offers the attached comments on the proposed Appendix O to NRC Inspection Manual Chapter 0609<sup>2</sup>, "Post Fukushima Mitigating Strategies Significance Determination Process (Orders EA-12-049 and EA-12-051)." This SDP would initially apply to performance deficiencies arising from inspections of mitigating strategies implementation beginning with Temporary Instruction 2515/191<sup>3</sup>, now in use. These comments are based on information presented by the staff in the last ROP public meeting (May 18, 2016)<sup>4</sup>. In addition, these comments reflect the imperative behind the NRC's Project AIM and the industry's Delivering the Nuclear Promise initiative: keeping the NRC and industry resources focused on what matters most to safety and reliability.

In previous status reports on the development of the proposed Appendix O, the staff initially expressed interest in combining this SDP with that of Inspection Manual Chapter 0609, Appendix L<sup>5</sup> which applies to

<sup>1</sup> NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

<sup>2</sup> Inspection Manual Chapter 0609, Appendix O, Post Fukushima Mitigating Strategies Significance Determination Process (Orders EA-12-049 and EA-12-051), April 20, 2016, ADAMS accession number ML16055A351.

<sup>3</sup> TI 2515/191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staff/Multi-Unit Dose Assessment Plans", ADAMS accession number ML15257A188.

<sup>4</sup> NRC Memorandum, "Summary of the Reactor Oversight Process Working Group Public Meeting Held on May 18, 2016", ADAMS accession number ML16152A556; and staff presentation slides from this meeting, available under ADAMS accession number ML16132A390.

<sup>5</sup> Inspection Manual Chapter 0609, Appendix L, B.5.b Significance Determination Process, December 24, 2009, ADAMS accession number ML093520169.

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findings related to so-called B.5.b inspections. In the last public meeting, the staff indicated that they had elected to create a separate SDP for Mitigating Strategies, despite the similarity of the beyond-design-basis nature of both the B.5.b and Mitigating Strategies scenarios. NEI believes the public interest would be better served by a single SDP that would apply to both B.5.b and Mitigating Strategies-related findings.

It is also important to note that in the basis for the existing Appendix L<sup>6</sup>, the staff provides what appears to be a sound rationale for *not* doing exactly what the proposed Appendix O does—depend on the qualitative SDP (Appendix M<sup>7</sup>) for determining the significance of inspection findings. The staff has not yet made publicly available the basis for the proposed Appendix O, so at this point outside stakeholders do not yet know how the NRC supports avoiding Appendix M in the one case (B.5.b) but depending on it in the other (Mitigating Strategies).

Making the proposed Appendix O dependent on Appendix M is problematic for another important reason: Appendix M itself is undergoing a major revision.<sup>8</sup> NEI would prefer to see an evaluation process that, at minimum, provides specific criteria for the significance determination, as is done with the B.5.b SDP. At the same time, NEI does not see how the NRC can justify a significance determination process that could potentially conclude that a Mitigating Strategies-related (i.e., a beyond-design-basis) finding should be Greater than Green.

Additional information and comments are provided in the attachment.

If you have questions, please contact me.

Sincerely,



James E. Slider

Attachment

c:        Mr. Christopher G. Miller, NRR/DIRS, NRC  
          Mr. Russell A. Gibbs, NRR/DIRS/IPAB, NRC

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<sup>6</sup> Inspection Manual Chapter 0308, Attachment 3, Appendix L, Technical Basis for B.5.b Significance Determination Process, May 9, 2014, ADAMS accession number ML100220219, beginning on page 2.

<sup>7</sup> Inspection Manual Chapter 0609, Appendix M, Significance Determination Process Using Qualitative Criteria, April 12, 2012, ADAMS accession number ML101550365.

<sup>8</sup> NRC has embarked on a project to revise Appendix M by early 2017, proposing to substantially revise the criteria for entry into Appendix M and for judging the effect on defense-in-depth and combining those judgments into an overall conclusion about risk significance.

## **Attachment – NEI Comments on Proposed Appendix O SDP for Mitigating Strategies**

Following are comments developed by the NEI Reactor Oversight Process Task Force on the draft SDP for Mitigating Strategies.<sup>1</sup> This SDP would apply initially to findings from inspections performed under Temporary Instruction 2515/191<sup>2</sup>.

### **1. General Comments**

- a) SINGLE SDP: The staff originally proposed merging the existing B.5.b SDP (IMC 0609, Appendix L) with the proposed Mitigating Strategies SDP (IMC 0609, Appendix O). Because of the overlap in capabilities utilized in B.5.b and Mitigating Strategies scenarios, NEI believes a single SDP is still the right approach. If NRC insists on retaining separate B.5.b and Mitigating Strategies SDPs, the criteria presented in the Appendix L SDP should be revised downward to better align the B.5.b SDP results with actual low risk significance and with other SDP thresholds.
- b) SCOPE OF INSPECTION: TI 2515/191 includes as an Objective the inspection of implementation of communications and staffing plans. The proposed SDP is silent on the treatment of findings related to communications and staffing. How will NRC handle any such findings?
- c) CROSS-REGIONAL PANEL: The Cross-Regional Panel is mentioned on page 2, in the introduction to Section 4.0, "Guidance". The charter for this panel is available in ADAMS and should be included in the references listed in Section 5.0.

### **2. Title: *"Post Fukushima Mitigating Strategies Significance Determination Process (Orders EA-12-049 and EA-12-051)".***

- a) WORDING OF TITLE: To be consistent with TI 2515/191, the title of Appendix O should be written as follows: "Significance Determination Process for Mitigation Strategies and Spent Fuel Pool Instrumentation Orders".

### **3. Section 1.0, "Purpose", lines 6-8: *"Entering into this appendix presumes that the performance deficiency is of more than minor significance using the guidance in IMC 0612, Appendix B – Issue Screening."***

- a) REFERENCE TO IMC 0612, APP. E: Right after the mention of Appendix B, shouldn't this sentence also mention IMC 0612, Appendix E, "Examples of Minor Issues", as part of the issue screening process?
- b) IMC 0612 EXAMPLES: To support the above, IMC 0612, Appendix E, should be revised to include examples that would apply to a mitigating strategies-related problem.

### **4. Section 4.0, "Guidance", page 3, general comment on the use of screening questions**

- a) NEED FOR CRITERIA: Affirmative responses to any one of the five questions in this section direct the user to IMC-0609, Appendix M, for a qualitative SDP. The five screening questions are broadly worded, in effect deferring the hard choices about the significance determination to Appendix M. Thus, Appendix M serves as a catch-all to this draft Appendix O. Yet neither Appendix O nor Appendix M provides specific criteria for making the significance determination. With Appendix M undergoing revision, no one knows what result the Appendix O/Appendix M combination will yield once implemented. Hence, what the draft Appendix O presents is a coarse screen that throws the tough decisions over to a yet-to-be-defined set of criteria for a future revision of Appendix M. The NRC should reconsider this approach.

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<sup>1</sup> Inspection Manual Chapter 0609, Appendix O, "Post Fukushima Mitigating Strategies Significance Determination Process (Orders EA-12-049 and EA-12-051)", ADAMS accession number ML16055A351.

<sup>2</sup> TI 2515/191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staff/Multi-Unit Dose Assessment Plans", ADAMS accession number ML15257A188.

## Attachment – NEI Comments on PI&R Revision

- b) BDB GTG?: What would be the basis on which NRC would screen anything associated with Beyond Design Basis events to a Greater than Green outcome? Based on the improbability of most Beyond Design Basis events, the right SDP should be as simple as a single question: "For all findings related to the Mitigating Strategies, Spent Fuel Pool Instrumentation and BWR Hardened Vent orders, screen to Green."
- c) CRITERIA IN APP. O: IMC 0609, Appendix L provides B.5.b-specific criteria for screening B.5.b findings without reference to IMC 0609, Appendix M. Why is the Appendix L approach not also suitable for the proposed Appendix O? [The basis for the Appendix L avoidance of Appendix M is provided below.]
- d) APPLICABILITY OF APP. M: IMC-0308, Attachment 3, Appendix L, says the following:

*"The staff recognized that Appendix M was not the right significance determination process (SDP) tool to evaluate the significance of B.5.b findings because of "the beyond design basis" nature of the findings. All B.5.b scenarios are initiated by events that are beyond the design basis of the plant. Since these events are outside the baseline risk of the plant, assessing the significance of findings quantitatively would result in an inflated significance. Appendix M, although a qualitative risk tool, is focused on determining if the licensee is operating within its design basis by assessing safety attributes, such as safety margin and defense-in-depth. To deal with the unique nature of the B.5.b inspection finding, the staff recognized the need to develop a specific qualitative significance determination model based on expert judgment, focused on defense-in-depth, informed by stakeholder input. To ensure a consistent assessment of findings identified during B.5.b inspections, the staff, with input from industry stakeholders, developed a special SDP for TI 2515/171. This SDP focused on performance deficiencies affecting the feasibility of multiple strategies that have a greater significance than those deficiencies that affect the feasibility of a single strategy. The NRC issued TI 2515/171, Appendix C, on May 16, 2008, and an SDP tailored to B.5.b requirements. The staff incorporated this SDP into Revision 1 of the TI, and issued the TI for use on July 25, 2008."*

Why doesn't this argument apply equally well to the draft Appendix O?

- 5. **Section 4.0, "Guidance", page 3, Question 2: "Does the inspection finding involve equipment used for Mitigating Strategies that would result in a complete loss for more than 72 hours of one or more functions to maintain or restore core cooling, containment pressure control/heat removal and/or spent fuel pooling cooling capabilities?"**
  - a) BASIS: What is the basis for 72 hours?
  - b) COMPARABILITY: A precise limit of 72 hours seems needlessly restrictive in comparison with, for example, technical specification limits that allow 72 hours of unavailability plus time to change plant modes for equipment of greater risk significance than equipment used in Mitigating Strategies.
  - c) WOULD: The use of the word "would" ("...that would result in...") is speculative, imprecise and subjective. This appears contrary to the principles of good regulation. How will the NRC minimize or eliminate the problem of defining and interpreting this key term?
  - d) NOTE: In the Note below Question 2, the words "there are" can be deleted: "In situations where there are multiple means..."

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- 6. Section 4.0, “Guidance”, page 3, Question 3: “Does the inspection finding involve procedures and/or training for Mitigating Strategies that would result in the complete loss of one or more functions needed to maintain or restore core cooling, containment pressure control/heat removal and/or spent fuel pooling cooling capabilities?”**
  - a) BASIS: What is the basis for this question? If an equipment problem results in loss of function but it can be corrected in less than 72 hours, Appendix O would not direct the user to Appendix M. On the contrary, if a procedure problem results in loss of function, even if it can be corrected in less than 72 hours, Appendix O would direct the user to Appendix M. What is the basis for this differing treatment of equipment problems versus procedure problems corrected within 72 hours?
  - b) WOULD: The use of the word “would” (“...that would result in...”) is speculative, imprecise and subjective. This appears contrary to the principles of good regulation. How will the NRC minimize or eliminate the problem of defining and interpreting this key term?
- 7. Section 4.0, “Guidance”, page 3, Question 4: “Is the inspection finding associated with a licensee facility that has a documented (e.g., FSAR, IPEEE, or other licensee external hazard analysis paper) external event hazard initiating event frequency greater than 1E-6 per year?”**
  - a) BASIS FOR 1E-6: What is the basis for the threshold value of 1E-6 per year? At some sites, BDB external event frequencies are greater than the 1E-6 threshold value. For them, this question would throw all findings over to Appendix M.
- 8. Section 4.0, “Guidance”, page 3, Question 5: “Does the finding involve significant programmatic issues in two or more of the following areas such that implementation of the Mitigating Strategies Program would be unsuccessful: (1) equipment monitoring and/or reliability; (2) procedures used for Mitigating Strategies; (3) training developed/implemented for Mitigating Strategies?”**
  - a) BASIS: What is the basis for this question? Why is two programmatic areas the right threshold?
  - b) QUESTIONS 5 vs. 2 & 3: In practice, what would Question 5 capture that Questions 2 and 3 would not?
  - c) PROGRAM: To what does the proper noun “Mitigating Strategies Program” refer? Is this intended to apply to the Final Integrated Plan, just Mitigating Strategies, or something else that comprises a recognizable “program”? Or is the word “programmatic” intended to be a synonym of “systematic” or “pervasive” without reference to a specific plant program?
  - d) WOULD: The use of the word “would” (“...that would result in...”) is speculative, imprecise and subjective. This appears contrary to the principles of good regulation. How will the NRC minimize or eliminate the problem of defining and interpreting this key term?
  - e) EXPOSURE: The wording of Question 5 makes no mention of exposure time. Why not?