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Jennifer L. Uhle  
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1201 F Street, NW, Suite 1100  
Washington, DC 20004

SUBJECT: RESPONSE TO NUCLEAR ENERGY INSTITUTE LETTER CONCERNING  
TREATMENT OF FLEX IN THE SIGNIFICANCE DETERMINATION PROCESS

Dear Dr. Uhle:

Thank you for your December 20, 2019, letter in which the Nuclear Energy Institute (NEI) requested that the U.S. Nuclear Regulatory Commission (NRC) suspend plans to issue a pending revision to Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Specifically, your letter communicates a concern that the revision to Appendix A would discourage licensees from enhancing safety through the expanded use of diverse and flexible coping strategies (FLEX) equipment beyond their initial purpose (i.e., for mitigation of beyond-design-basis events). The NRC staff fully supports the use of FLEX to further enhance nuclear safety and welcomes your feedback on this subject.

We reviewed the information in your letter, along with the many perspectives provided by internal and external stakeholders, including nuclear industry representatives, since we began discussing this subject publicly in September 2018. After evaluating these perspectives, the NRC staff determined that the treatment of FLEX in the SDP is appropriate and fair, and that it does not discourage the expanded use of FLEX to enhance safety. The staff notes that in addition to enhancing safety, the expanded use of FLEX allows licensees greater operational flexibility by reducing baseline risk. For example, the NRC staff credits the expanded use of FLEX in evaluating requests for enforcement discretion, allowed outage time extensions, and risk-informed license amendments. The NRC staff also routinely credits the use of FLEX in the assessment of inspection findings for which FLEX can be used to mitigate the associated risk (e.g., findings involving emergency diesel generator unavailability). In some cases, crediting FLEX in this manner has appropriately resulted in findings of a lower color significance than would have been the case without credit for FLEX. However, as with any modification that improves a plant's baseline risk, there is an associated increase in risk if that modification is not appropriately implemented or maintained.

The primary objectives of the changes to Appendix A were to leverage the increased ability to quantitatively assess the significance of issues related to FLEX, to move away from using qualitative factors to assess the significance of inspection findings, and to improve the clarity and reliability of screening these findings. The NRC staff engaged in extensive stakeholder outreach before making this change and published the draft revision to Appendix A for external stakeholder input in July 2019. The NRC staff considered various internal and external inputs and modified the draft revision of Appendix A to have findings involving only a partial loss of FLEX function (versus a total loss of function) screen to Green. After notification of the Commission, the revision to Appendix A became effective on December 20, 2019.

The NRC's ability to quantitatively assess the risk significance of FLEX-related findings has significantly improved over the last several years. Thus, the revised Appendix A directs the NRC staff to perform a quantitative risk evaluation for FLEX-related findings that do not initially screen to Green using Appendix A (i.e., those findings involving a total loss of function). This evaluation will assess the total change in risk due to the performance deficiency using the NRC's probabilistic risk assessment models. This approach is consistent with the Commission's direction in the Staff Requirements Memorandum to SECY-13-0137, "Staff Requirements—SECY-13-0137—Recommendations for Risk-Informing the Reactor Oversight Process for New Reactors," dated June 30, 2014, which states, "The SDP should continue to place emphasis on the use of the existing quantitative measures of the change in plant risk for both operating and new reactors."

Consistent with the NRC's vision of becoming a modern, risk-informed regulator, the staff is placing a high priority on its efforts to provide FLEX credit across a variety of regulatory applications. The NEI, industry representatives, and external stakeholders have supported these efforts, and we look forward to continued engagement in the industry's efforts to enhance safety using FLEX. Specifically, the NRC will be discussing ways to enhance the use of FLEX at an upcoming Risk-Informed Steering Committee Meeting and at the 2020 Regulatory Information Conference. In addition, the NRC will participate in a FLEX summit with external stakeholders later this year to share operating experience, lessons learned, and best practices for enhancing safety by further leveraging FLEX.

If you have any questions, please contact Antonios Zoulis by telephone at 301-415-1209 or by e-mail to [Antonios.Zoulis@nrc.gov](mailto:Antonios.Zoulis@nrc.gov).

Sincerely,

**/RA/**

Ho K. Nieh, Director  
Office of Nuclear Reactor Regulation

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