



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

August 21, 2025

MEMORANDUM TO: Cindy Rosales-Cooper, Chief
Policy and Oversight Branch
Division of Preparedness and Response
Office of Nuclear Security and Incident Response

FROM: Ngola A. Otto, Project Manager /RA/
Licensing Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JUNE 4, 2025, MEETING BETWEEN THE
NUCLEAR ENERGY INSTITUTE REPRESENTATIVES AND THE
U.S. NUCLEAR REGULATORY COMMISSION STAFF ON
EMERGENCY PREPAREDNESS PROGRAM IN RESPONSE TO
NUCLEAR ENERGY INSTITUTE'S INPUT ON RECENT
EXECUTIVE ORDERS

On June 4, 2025, the U.S. Nuclear Regulatory Commission (NRC) staff held a meeting with representatives from the Nuclear Energy Institute (NEI). There were NRC staff in-person attendees at their headquarters office in Rockville, Maryland and others joined online via Microsoft Teams. Industry representatives and members of the public also joined via Microsoft Teams. The purpose of the meeting was for the NRC staff and NEI representatives to discuss NRC's Emergency Preparedness (EP) Program in response to NEI's input on recent Executive Orders (EOs). NEI had provided four EP related recommendations in its letter to the NRC Executive Director of Operations (EDO) on the recent EOs dated February 10, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML25058A144). The meeting notice and information used to facilitate the NRC staff's discussion with NEI can be found in ADAMS at Accession Nos. ML25139A569 and ML25163A280 respectively.

During the meeting the NRC staff sought clarification on the four recommendations from NEI.

Recommendation (a)

"Given the current understanding of plant safety, we believe the requirement for a 10-mile Emergency Planning Zone (EPZ) for a large light-water reactor is unnecessarily conservative. The emergency preparedness (EP)-related regulations for large plants should be amended to allow an applicant or licensee to determine the size of a facility's EPZ using the risk-informed

CONTACT: Ngola Otto, NRR/DORL
301-415-6695
Nadir Chaudhry, NSIR/DPR
301-415-4055

and performance-based approach described in the EP for Small Modular Reactors (SMRs) and Other New Technologies (ONTs) final rule 9. In addition, the amended regulations should also grant the applicant or licensee the option of developing a performance-based emergency plan in accordance with the requirements in 10 CFR [Title 10 of the *Code of Federal Regulations*] 50.160.”

NEI described that the proposal was not suggesting that large light-water reactor (LLWR) EPZ sizes would be the same as the EPZ sizes of SMRs or ONTs but was suggesting that the sizing criteria of 10 CFR 50.33, “Contents of applications; General Information,”(g)(2) be applied to LLWRs. This would in effect replace the generic approach of 10 CFR 50.47, “Emergency Plans,” and NUREG-0396 (ML051390356), “Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants,” with a site-specific determination informed by a modern understanding of plant risk. In effect, NEI is seeking the same risk-informed performance-based framework discussed for SMRs and ONTs to be made available to LLWRs.

NRC staff responded that the NRC staff understood the scope of the recommended action. The scope was extensive, but the proposal is written in such a way that it could be discussed internally to decide on a proper course of action, but staff has not reached such a point yet. NRC staff asked about the benefits being sought by the proposal to improve effectiveness or efficiency without reducing public health and safety and asked if there was any additional context NEI could provide regarding those tangential benefits.

NEI responded by stating that NEI’s generic comment is that no licensee should have to sustain unnecessary regulatory burden. NEI believes that because NUREG-0396 is based on a very old reactor safety study and leads to a one-size-fits-all approach to EPZs, it should not be a modern regulatory approach. NEI suggested that one method of resolution to the proposal could involve integrating the language of 10 CFR 50.33(g)(2) in to 10 CFR Part 50, Appendix E, or pointing to 50.33(g)(2) in Appendix E, indicating that this would necessitate a regulatory change, followed by guidance development, but also noted that some of the existing guidance such as Regulatory Guide (RG) 1.242, Revision 0 (ML23226A036), “Performance-Based Emergency Preparedness for Small Modular Reactors, Non-Light-Water Reactors, and Non-Power Production or Utilization Facilities,” was readily adaptable to incorporate such a change.

Recommendation (b)

“The NRC should revise and risk-inform the 10 CFR 50.54(q) evaluation process using the approach found in the recently revised EP significance determination process. Under the new approach, only changes affecting risk-significant planning standards would require a “reduction in effectiveness” review.”

NEI clarified that the approach referred to in this proposal is addressed in Enclosure 5 of SECY-19-0067, “Recommendations for Enhancing the Reactor Oversight Process.” NEI understands that the SECY was pulled back for various reasons and that an SRM came out in 2021 for NRC staff to withdraw the SECY and pursue the changes individually. A quote from Enclosure 5, “Emergency Preparedness Area,” of this SECY discusses revised regulations such that licensee emergency plan changes related to (1) risk-significant planning standard functions and (2) non-risk-significant planning standard functions that impact the ability to implement risk-significant planning standard functions would be required to have a review performed in accordance with 10 CFR 50.54(q) to determine if the change is a reduction in effectiveness and continues to meet regulatory requirements. NEI believes that this is a risk-informed approach

and is aligned with an approach approved by the Commission to go into the EP Significance Determination Process, that the planning standard functions that could lead to greater-than-green findings would be treated analogously to reduction in effectiveness evaluations so that there is consistency.

The NRC understands the reference to Enclosure 5 of SECY-19-0067. The NRC staff asked if the scope of the changes sought by the proposal would include a rulemaking change to 50.54(q) to specifically limit the reduction in effectiveness review to proposed changes to the planning standards in 10 CFR 50.47(b)(2), (4), (5), (8), (9), and (10), and all other planning standards would only need a review to ensure compliance with appropriate regulation is maintained, thereby not having to do a reduction in effectiveness review as currently described in RG 1.219 (ML16061A104), "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors."

NEI confirmed that this was the correct interpretation of the proposal.

NRC staff asked if this change could possibly increase the risk of missing any critical emergency plan degradations.

NEI acknowledged that any time something is changed there is the potential to miss something, but that NEI does not believe this change increases the risk.

NRC staff pointed out that not every licensee has developed their emergency plan in the format of 10 CFR 50.47(b)(1)-(16) and asked what the sensitivity would be to having NEI make sure that the format of emergency plans is laid out in the planning standard methods, if the NRC took on this proposal.

NEI acknowledged that emergency plan format may be impacted if this proposal were to go through and indicated that every licensee has a change evaluation process that they go through, but that this proposal was unrelated to the format of the emergency plans.

NRC staff noted that another requirement is to cross-reference planning standards to a licensee's emergency plan where that planning standard is addressed. If the emergency plan is not set up in the format of what has been endorsed in NUREG-0654, the regulatory level of effort to ensure that there are no unintended parts scattered across different sections become greater. NRC staff inquired as to the level of effort that would be required to get consistency in format to aid in timely reviews and inspections.

NEI commented that he did not feel that there was any contingent tie between implementing this proposal and the format of emergency plans.

Recommendation (c)

"The NRC should revise 10 CFR 50.54(t) to remove all EP program review requirements after a plant has operated for over eight years, except for the review of state and local interfaces."

NEI acknowledged that Revision 7 of RG 1.101 (DG-1423), "Emergency Planning and Preparedness for Nuclear Power Reactors," was currently going through the review process to allow the use of the reactor oversight process (ROP) to extend the frequency of 50.54(t) reviews from 12 months to 24 months, meaning there is linkage between the ROP and 50.54(t) as it concerns review frequency, but not review content. NEI feels that the extension in frequency is

a positive but is suggesting that the requirement of the content of reviews after 8 years is removed, except for the state and local interfaces. NEI suggested the 8-year timeframe because it related to the frequency of exercise cycles, but the timeframe does not necessarily need to be 8 years. NEI's perspective is that once an emergency program has been established, their experience has been that the benefit from reviews is not commensurate with the resources needed to perform them. Change control processes exist in case degraded performance needs to be accounted for by licensees, but NEI's perspective is that this does not need to be regulated. NEI feels that this approach is more performance-based.

The NRC staff responded to the comments with an acknowledgement that the draft of Revision 7 to RG 1.101 has been out and publicly socialized but is awaiting administrative process to go through completion before publication.

The NRC staff asked if there were any potential impacts or unforeseen consequences that could affect alignment with Federal Emergency Management Agency (FEMA) or state/local partners from NEI's perspective.

NEI stated that they could not envision any adverse impacts because most of the elements of 50.54(t) are onsite elements, and that NEI still believes keeping reviews of the state/local interfaces is important.

Recommendation (d)

"The NRC should revise exercise requirements so that scenarios drive demonstration of the initial plant and offsite response organization responses (i.e., those within approximately the first five hours) to the most likely accident sequences identified by each site's Probabilistic Risk Assessment [(PRA)]."

(NEI) explained that the motivation for this proposal was to fix what NEI sees as negative training for licensees and offsite response organizations (OROs). As demonstrated by the NRC's State-of-the-Art Reactor Consequence Analyses, scenarios that rapidly evolve into conditions with significant radiological releases are extremely unlikely, therefore practicing those events constantly is a setup for negative training. NEI believes scenarios should be focused on realistic event sequences through PRA-based scenarios that maintain a focus on key skills such as emergency classification and notifications, radiological assessment, potential barrier failures, dose projections, Protective Action Recommendation (PAR) development based on plant conditions, activation of Emergency Response Organizations (ERO) and Emergency Response Facilities (ERF) in coordination with OROs. To enable the use of realistic scenarios, NEI understands there may be a regulatory need to observe much more unlikely sequences, so NEI is proposing that the demonstration of those situations could be accomplished in out of sequence demonstrations, in things like tabletops for dose assessment or PAR development for significant releases. The idea is to create realistic, likely scenarios that provide training value for licensees and OROs.

NRC staff asked if any of these proposed tabletops have been attempted as a proof of concept to see how communications would benefit everybody and if there has been any work done on this conceptually.

NEI stated that work had not been done on the generic level specific to this recommendation, but licensees do run scenarios that have only plant condition-based PARs, so there is some experience with that. NEI also referred to a requirement in 10 CFR Part 50, Appendix E,

requiring licensees to occasionally address scenarios that have either no release or minimal releases, which has been problematic to implement due to some interface issues with FEMA. NEI acknowledged that FEMA is also looking at exercise scenario requirements, having conducted four listening sessions earlier this year with many OROs and they received similar messages. Some OROs found it more challenging to come up with what they found as a sound PAR decision for a plant condition-based situation. NEI feels that licensees should be training and evaluating things that are most likely to occur, because they have limited time to practice all the different evolutions, so it makes sense to focus practicing most of these key skills which can still be seen in PRA-based scenarios.

NRC staff commented that one of the lessons learned from Fukushima was that they had not exercised their staff on a response from an unlikely scenario. This was a lesson learned that the NRC has applied. NRC staff inquired as to whether this proposal would be indicative of a return to pre-Fukushima mentality where we are not having scenarios that go beyond what we would generally expect.

NEI acknowledged that there may be some key skills that would not be demonstrated in likely scenarios, but that those could be demonstrated out of sequence. For example, PAR formulation for situations out to 10 miles could be tabletop scenarios without imparting the negative training aspects that NEI sees affecting the broader organization.

NRC staff mentioned that the NRC is actively engaged with FEMA related to the recent issues with no/min release scenarios and when scenarios do not drive PAR decisions beyond 3 miles because of a desire to have field team and emergency operations center demonstrations. The NRC regulatory requirements for exercise scenarios come from 10 CFR Part 50, Appendix E (IV)(f)(2)(b) and (c), for onsite and offsite respectively. These are typically done in an integrated fashion because it is best practice, but they are not required to be. There is also a requirement for an 8-year exercise cycle under Appendix E (IV)(f)(2)(j). Many licensees are now on their second 8-year cycle and this issue did not come up during the first cycle because guidance in NUREG-0654 and FEMA's REP Program Manual suggested the allowance of a combination of the hostile-action based drill with the no/min release scenario, if this did not occur two times in a row. Now on the second 8-year cycle, a couple years ago, the language in the FEMA REP Program Manual implied that if there is no release, OROs do not need to participate. This put the licensees in a compliance conundrum because the licensee would then be in non-compliance with 10 CFR Part 50, Appendix E (IV)(f)(2)(c), if the participation level was not appropriate for the regulations. Based on this context, the question was raised if there was anything in the NRC regulatory structure currently that precludes a scenario such as the one recommended in the proposal.

NEI acknowledged that the proposal would require rulemaking and noted that although outside of the scope of this meeting, a recent EO that was issued also recommended a reform of the NRC and a wholesale review of regulations to be more risk-informed. As such, regulations related to scenario requirements could be candidates for that review. Another approach besides out of sequence demonstrations could be changes to exercise cycles, with more scenarios that are likely scenarios, and fewer that still exist for less likely high consequence scenarios.

NRC staff asked what is stopping a licensee from doing exactly what this proposal suggests, other than considerations from FEMA, noting that the NRC is actively working with FEMA and their interpretation of the regulations, but that regulatory compliance always remains with the NRC. If NEI had a reason for this proposal could not be done, there may be an opportunity for future meetings on this topic, and NEI should reach out to NSIR management to discuss further.

NEI noted that answering the question can be complicated because of other aspects of the regulatory framework and FEMA's take in their guidance as to what they understand some of those requirements to necessitate on their end. If NRC staff decided they wanted to go down that path, NEI would be open to more conversations about it, but more research would need to be done before fully answering a question like that.

NRC staff asked if NEI had considered what the PRA cutoff might be in the proposal.

NEI acknowledged that there would have to be one, but that has not been defined yet, as NEI is still gathering NRC's perspective.

NRC staff noted that nothing in the regulation is driving the method of exercises, whether they be tabletops, full activation, etc. and asked if NEI's idea would be that part of the NRC's consideration should be to discuss the available methods of demonstrating compliance with requirements or specifically stating exercise methods that would not be in compliance.

NEI responded that NEI will consider this question for potential future discussions.

Public Comments:

Joy Jiang of Breakthrough Institute asked what the next steps were and if there was a timeline that could be expected for the NRC to provide feedback on this letter.

NRC staff noted that these proposals and EOs are just a few of many that the NRC is still in the process of understanding the scope of, and that there are still some issues to address with the ADVANCE Act. Today's meeting was to get clarity from NEI on its perspectives so there is currently no timeline because as an agency, the NRC is still evaluating the EOs at the Commission and EDO level, but this meeting was to seek clarity to provide details to leadership when needed.

In closing, there were discussions on the next steps. NEI was recommended to review the draft of RG 1.101, Revision 7, to understand any ambiguity issues and to consider the discussion on exercise methods and anything in the regulatory structure that would preclude basing scenarios on anything NEI wants including PRA (short of the diversity of scenarios required every 8 years) in order to determine the need to reconvene on any further discussion that is needed. The NRC staff plans to conduct follow-up discussions with NEI on the recommendations discussed at the meeting. The NRC is juggling several items right now to determine priorities for organizing its effectiveness and efficiency under the direction of the EOs. This summary can be found in ADAMS at Accession No. ML25163A128.

Docket No. 99902028

Enclosure:
List of Attendees

List of Attendees

Meeting between the Nuclear Energy Institute and the U.S. Nuclear Regulatory
Commission on the NRC Emergency Preparedness Program in Response to
NEI's Input on Recent Executive Orders

June 4, 2025

10:00 am – 11:30 am

<u>NAME</u>	<u>ORGANIZATION</u>
Laurel Bauer	Nuclear Regulatory Commission (NRC)
Ankur Bhattacharya	NRC
Nadir Chaudhry	NRC
Kylar Coleman-Foley	NRC
Joel Jenkins	NRC
Jessie Quichocho	NRC
Cindy Rosales-Cooper	NRC
Don Johnson	NRC
Eric Schrader	NRC
Mike McCoppin	NRC
Jared Nadel	NRC
Miguel Hernandez	NRC
Jeff Herrera	NRC
Jonathan Fiske	NRC
Charles Murray	NRC
Dwayne Myal	NRC
Ngola Otto	NRC
Mike Waters	NRC
Alyse L. Peterson	NYSERDA
Andrew Warwick	

Enclosure

<u>NAME</u>	<u>ORGANIZATION</u>
Brian L. Mount	
Bruce Foreman	Federal Emergency Management Agency (FEMA)
Christina Nelson	Constellation Nuclear
Daniel Rose	
Dave Grabaskas	
David Louis Daigle	
David Young	NEI
Edith Williams	FEMA
Eric White	
Ernest F. Bates	
Fred Madden	Certrec
Gregory P. Norris	
Harley D. Hutchins	
Jana Bergman	
Jesse S. Brown	Constellation Nuclear
Jin L	
John M. Perkins	
Joseph P. DeBoer	Constellation Nuclear
Joy Jiang	The Breakthrough Institute
Kelly Faver	
Linda M. Sewell	
Lindsay Vance	TerraPower
Lisa Matis	
Maddie Blalock	Senate Environment and Public Works Committee
Michael Finnegan	
R. Keith Brown	

<u>NAME</u>	<u>ORGANIZATION</u>
Richard Mothena	
Robert Sandford	
Rory F. Flynn	Constellation Nuclear
Sari Alkhatib	
Sean Zalesny	Nuclear Energy Institute
Shaina L. East	
Steve Barr	Public Service Electric and Gas Co.
Tanya Hockett	
Tyran Tharp	Dominion Energy South Carolina, Inc.
Wendy Reid	

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