UNITED STATES
NUCLEAR REGULATORY COMMISSION
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February 2, 2023

MEMORANDUM TO: Barbara Hayes, Chief
External Hazards Branch
Division of Engineering and External Hazards
Office of Nuclear Reactor Regulation

FROM: Jenise Thompson, Geologist ***/RA/***
External Hazards Branch
Division of Engineering and External Hazards
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE NOVEMBER 29, 2022, PUBLIC MEETING WITH THE NUCLEAR ENERGY INSTITUTE TO DISCUSS THE STATUS OF ONGOING SEISMIC WORK UNDER THE PROCESS FOR THE ONGOING ASSESSMENT OF NATURAL HAZARDS INFORMATION (POANHI)

On November 29, 2022, the US Nuclear Regulatory Commission (NRC) conducted a public meeting with the Nuclear Energy Institute (NEI), Electric Power Research Institute (EPRI), and industry representatives to discuss the status of the ongoing seismic work to consider the NGA-East ground motion characterization model and updated site response methods within the Process for the Ongoing Assessment of Natural Hazards Information (POANHI) framework. The public meeting was held as a hybrid meeting with virtual and in-person participants. The meeting notice and agenda, dated November 15, 2022, are available in the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML22319A028. A list of attendees is provided in the enclosure.

The NRC slides presented for this public meeting are available under Accession No. ML22312A445. The NRC staff also provided the draft POANHI seismic hazard update report template under ADAMS Accession No. ML22312A418. Staff from the Nuclear Energy Institute (NEI) also presented at this public meeting and the slides are available under ADAMS Accession No. ML22333A719. During the public meeting, the NRC staff discussed the status of the project, including a projected timeline for internal completion of the first group of site-specific reports and more details on the next steps in the process.

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Enclosure
List of Attendes

Meeting Highlights:

Following opening remarks by both the NRC and NEI, the meeting started with an NRC presentation that addressed the following topics:

- Background on the creation of the POANHI framework and purpose of the meeting.
- Overview of seismic hazard characterization, including the implementation of NGA-East and updated site response analyses methods to better capture the uncertainty in hazard characterization.
- Detailed discussion of the seismic screening process under the POANHI framework, including decision points and opportunities for stakeholder interactions.
- Overview of further risk analysis steps.
- Explanation of seismic hazard report template.
- Schedule for completion of the first group of site-specific seismic hazard reports.

The NRC staff presented a flowchart showing the internal screening process they are following for the first group of central and eastern United States (CEUS) nuclear power plant (NPP) sites, which are shown on slide 15 of the NRC staff presentation. The staff clarified that if it encounters concerns with the seismic risk for a particular site, it will engage with the licensee to discuss any concerns before finalizing the site hazard report. During the later discussion period, the NRC staff also clarified that it will use existing communication channels in the Division of Operating Reactor Licensing (DORL) to facilitate these discussions with the licensee. These discussions would occur within the POANHI framework, so formal regulatory processes (e.g., 50.54(f) requests) would only be considered if the NRC staff determines that additional information is needed.

The NRC staff also provided an overview of the seismic hazard report template, which will include a detailed description of the data, models, and methods used by the NRC staff and will include the seismic hazard curves in an appendix. Provided that the staff screening evaluation does not identify any concerns, the cover letter to the hazard report will state that the NRC staff's POANHI evaluation is complete and that no regulatory action is needed by the licensee. If the NRC staff's screening process indicates a potential seismic risk issue, the NRC staff will engage with the licensee for further discussion, as stated above. The NRC staff shared a schedule with estimated completion dates for the first group of plants and noted that these dates represent the staff's completion of its seismic hazard assessment rather than issuance of the seismic hazard report. The seismic hazard report issuance will follow once both the NRC Senior Management Review Panel (SMRP) review and the screening process is complete.

The NEI presentation was structured around slides and open discussion between the NRC and representatives from NEI, EPRI and other industry participants. Following the NEI presentation there was a period of open discussion between the NRC staff and all attendees. These discussions are summarized by topic as follows.

Seismic Hazard and Risk

There were several questions on the information and data that the NRC staff is using or has access to in determining the updated seismic hazard. There was a question on which CEUS seismic source catalog will be used, recognizing that while most sites used Revision 7, some used Revision 8. The NRC staff clarified that it will be using the Revision 8 seismic source

catalog. There was a question from an industry representative regarding NRC staff access to plant level fragilities. The NRC staff clarified that they would use the most updated information available, which for the first group of plant sites is from the licensee's recent seismic probabilistic risk assessment (SPRA) submittals.

The NRC staff also clarified that they would use a simple average for the four calculated frequencies (1, 5, 10, and 100 Hz) for its seismic risk comparisons. There was discussion on the use of 100 Hz in this average. The NRC staff stated that 100 Hz was used as a surrogate for the peak ground acceleration in the NTTF R2.1 reevaluations and is consistent with the NRC's previous work. The NRC will provide the hazard curves for several spectral frequencies, including PGA, as part of the appendix to the hazard report. In addition, the NRC staff clarified that it would consider instances where the licensees used a different control point elevation for its SPRA site response analyses than the control point elevation used for the initial NTTF R2.1 seismic hazard evaluations.

The NRC staff asked NEI how they see the updated hazard assessments in the context of the PRA configuration control process. NEI clarified that all sites have a process for what is required for plant updates. In particular, if hazard changes trigger the process, a licensee would plan an update based on the model. Licensees also have an option to calculate another mean hazard to see if they agree with the hazard developed by NRC. Before moving into 10 CFR 50.69(e) process, all parties will need to understand what the new hazard might look like and how it should be handled. This discussion was specifically focused on understanding what would constitute a regulatory obligation.

Screening Process

NEI and EPRI questioned whether the NRC would consider using the low-hazard screening criterion that is recommended in the EPRI Seismic Evaluation Guidance: Screening, Prioritization and Implementation Details (SPID) guidance for the resolution of Fukushima Near-Term Task Force (NTTF) Recommendation 2.1 (R2.1). The NRC staff responded that the low hazard criterion, recommended by the SPID guidance, would be part of the staff's screening evaluation. NEI also asked where the conclusion for each plant site would be documented. The NRC staff indicated that the cover letter would document all conclusions.

EPRI questioned which baseline ground motion response spectrum (GMRS) the NRC will use for its screening evaluation of the plant sites, recognizing that some of the licensee's that performed NTTF R2.1 SPRAs have updated their GMRS. The NRC staff clarified that it will use the updated SPRA GMRS for its hazard screening comparison. For additional risk screening comparisons, if needed, the NRC staff will engage with the licensees that performed updated NTTF R2.1 SPRAs to obtain any additional data that it may need to complete its screening evaluation.

POANHI Framework

NEI and EPRI asked for clarification on how the first group of plants were selected and on the proposed completion schedule. The initial group of 13 plants were selected based on the licensees that performed SPRAs in response to NTTF R2.1. Although there is currently no schedule for completion of the remaining sites, when the first group of sites is complete, the NRC will do an internal assessment based on the results for the initial group of plants to determine next steps and the prioritization for assessing the next group of plants. The staff may look at the remaining sites by region to see where any efficiencies can be gained. .

The NRC staff provided clarification on the use of the SMRP, which will be convened as needed to consider the results of the seismic hazard evaluations but is not specifically called out in the staff Office Instruction, LIC-208, “Process for the Ongoing Assessment of Natural Hazards Information,” available in ADAMS under Accession No. ML19210C288. The NRC clarified that LIC-208 includes the option to create an advisory review board and the SMRP will function similarly, as a group of NRC managers who may potentially review and provide feedback on the completed work. In addition to feedback, the SMRP will provide direction on next steps, as needed.

There was also discussion on the timing of opportunities for stakeholder engagement. The NRC staff clarified that the initial POANHI evaluation is an internal process but that it will reach out to licensees for additional interactions, as needed, including public meetings to resolve any potential issues arising from the screening evaluation. In addition, there was a question of whether the staff will include the risk screening results in the report. The NRC staff clarified that the hazard report is intended to be an informational report and that the conclusions of the NRC staff’s hazard and risk screening will be documented in the cover letter to the report. As stated above, if there are potential seismic risk issues, the NRC staff will engage with the licensee before issuing the hazard report. As such, the cover letter will indicate that no regulatory action is necessary. The NRC was encouraged to identify and use touchpoints and verification with licensees to ensure staff are approaching the project appropriately and can adjust as we go.

EPRI also asked about the status of the question submitted to the POANHI seismic email account and expressed concerns about using the email when the process for receiving a response is unclear. The NRC staff clarified that a portion of its meeting presentation slides was informed by the question that staff received from EPRI and that a direct answer to the question will be included in the next POANHI annual report. The staff further noted that site-specific questions or information will be addressed in the site-specific reports, provided the email is submitted before the hazard report is finalized. For more generic questions, the NRC staff clarified that some summary information will likely be included in the POANHI annual reports. The NRC staff are also considering additional ways to communicate responses to generic questions in addition to the POANHI annual report.

There was a question about how a licensee may disagree with a finding and disposition that conflict. The NRC clarified that within the regulatory process there are steps that include request for information and dispositioning and licensees can use petition processes if there are questions on the licensing or oversight process. The goal is to use in-house information to evaluate and disposition at the lowest level possible based on safety significance, if that can’t be accomplished internally, the NRC will consider using other processes.

At the suggestion that EPRI involvement in this project would be beneficial, the NRC clarified that staff has leveraged an existing memorandum of understanding (MOU) with EPRI to discuss the technical issues in the past and these interactions have been helpful.

There was a question about plans to consider plants in the western United States (WUS) as new hazard information is developed. The NRC staff clarified that the current work is focused on the CEUS where NGA-East applies. However, because POANHI is not geographically limited, the process could be used for new information in the WUS.

Prior to the close of the meeting both the NRC and NEI provided closing remarks.

No regulatory decisions or commitments were made at this meeting. No comments were provided by the members of the public, and no public meeting feedback forms were received after the conclusion of this meeting.

Please direct any inquiries to me by e-mail at Jenise.Thompson@nrc.gov or to Laurel Bauer by e-mail at Laurel.Bauer@nrc.gov.

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ADAMS Accession Nos.:
ML22XXXXXX (Package)
ML22319A028 (Meeting Notice)
ML22312A445 (NRC Presentation Slides)
ML22312A418 (POANHI Seismic Hazard Update Draft)
ML22333A719 (NEI Presentation Slides)
ML23034A154 (Meeting Summary)

***via email** **NRR-106**

OFFICE	NRR/DEX/EXHB/Geologist	NRR/DEX/EXHB/Geologist	NRR/DEX/SL	NRR/DEX/EXHB/BC
NAME	JThompson*	LBauer*	CMunson*	BHayes*
DATE	1/26/2023	1/30/2023	2/2/2023	2/2/2023

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LIST OF ATTENDEES

NOVEMBER 29, 2022, PUBLIC MEETING WITH THE NUCLEAR ENERGY INSTITUTE TO DISCUSS THE STATUS OF ONGOING SEISMIC WORK UNDER THE PROCESS FOR THE ONGOING ASSESSMENT OF NATURAL HAZARD INFORMATION (POANHI)

Name	Affiliation	Name	Affiliation	Name	Affiliation
Alireza Nojavan	Not stated	Faramarz Pournia	Southern Nuclear	Barbara Hayes	NRC
Aly Nasser	Enteng	Frances Pimentel	NEI	Cliff Munson	NRC
Vince Andersen	Not stated	Brett Titus	NEI	De Wu	NRC
Victoria Anderson	NEI	John Richards	EPRI	Dogan Seber	NRC
Andrew Seifried	Not stated	Rob Choromokos	EPRI	Eric Benner	NRC
Thomas Basso	NEI	Philip Tarpinian	Constellation	Joseph Kanney	NRC
Jana Bergman	Curtiss Wright	Penny Selman	TVA	Kamal Manoly	NRC
Brian Derreberry	Not stated	Jeffrey Stone	Constellation	Laurel Bauer	NRC
Melanie Brown	Southern Nuclear	John Richards	EPRI	Michele Sampson	NRC
Corey Wilson	Not stated	Kevin Hasse	Not stated	Rasool Anooshehpoor	NRC
Matthew Degonish	Not stated	Se-Kwon Jung	Duke Energy	Scott Stovall	NRC
Denis Shumaker	PSEG	Larry Lee	Jensen Hughes	Steven Alferink	NRC
Devon Gallagher	Not stated	Roy Linthicum	Not stated	Sunwoo Park	NRC
Rachid Dia	Not stated	Andrea Maioli	Not stated	Shilp Vasavada	NRC
Steven Dolley	Inside NRC	Andrew	Not stated	Vladimir Graizer	NRC
Bradley Wicker Dolan	TVA	Mohamed Talaat	Not stated	Weijun Wang	NRC
Doug Rapp	Energy Harbor	Nozar Jahangir	Not stated	Jenise Thompson	NRC
Emma Redfoot	Not stated	Masoud Poul	Not stated	Ed Miller	NRC

Enclosure

Name	Affiliation	Name	Affiliation	Name	Affiliation
Enrique Melendez Asensio	Consejo Seguridad Nuclear	Benny Ratnagaran	Southern	Hosung Ahn	NRC
John Freeman	Constellation	Robert Rishel	Duke Energy	Justin Hiller	Ameren Missouri
Gabriel Toro	Not stated	Rob Drsek	Energy Harbor	Bill Horstman	Diablo Canyon
Gary DeMoss	Not stated	Robin McGuire	Not stated	Ingrid Nordby	X-Energy
Gregory Hardy	Simpson, Gumperez & Heger	Marco Ruvalcaba	Not stated	Jeremy Graham	DESC Generation
Edwin Haun	Constellation	Janet Schlueter	NEI	Jey Sekaran	DC Cook
Matthew Wilmers	NPPD	Habib Shtaih	Columbia	Fred Hazbourn	Constellation
Frank Syms	Not stated	Russell Thompson	TVA	William Webster	Not stated
Alexander Trifanov	NS&L	Joe Vasquez	Not stated		