

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

February 26, 2024

MEMORANDUM TO:	Michelle W. Hayes, Chief Licensing and Regulatory Infrastructure Branch Division of New and Renewed Licenses Office of Nuclear Reactor Regulation
FROM:	James J. Shea, Project Manager / RA / Licensing and Regulatory Infrastructure Branch Division of New and Renewed Licenses Office of Nuclear Reactor Regulation
SUBJECT:	SUMMARY OF JANUARY 31, 2024, PUBLIC MEETING TO DISCUSS NRC STAFF WHITE PAPER ON RISK INSIGHTS AND SEVERE ACCIDENT VULNERABILITY INFORMATION FOR LIGHT-WATER REACTOR CONSTRUCTION PERMIT APPLICATIONS

On January 31, 2024, an observation public meeting was held by the staff of the U.S. Nuclear Regulatory Commission (NRC). The meeting addressed the level of detail on risk insights and severe accident information expected in an acceptable construction permit application for a light-water reactor (LWR) under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.34(a) and for approval of design features under 10 CFR 50.35. The meeting was a follow-up to previous public meetings held on July 27, 2023, and on March 30, 2023. The staff is seeking stakeholder input and feedback as it develops guidance on the level of detail on probabilistic risk assessment and severe accident evaluation information to be provided in the preliminary safety analysis report.

The following topics were discussed during this meeting:

- Provide overview of completed, draft NRC staff white paper (WP), "Guidelines for Risk Assessment and Severe Accident Information in a Light Water Reactor Construction Permit Application."
- Provide an opportunity to external stake holders to ask questions or comment on the draft NRC staff WP.
- Communicate the NRC staff's next steps.

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The NRC issued the public meeting notice on January 3, 2024, and posted it on the NRC public website (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24030A040). Prior to the meeting, the NRC staff submitted presentation slides that provided the highlights from the NRC staff WP for the meeting (ML24019A084).

Enclosed are the meeting agenda (Enclosure 1), list of attendees of the meeting (Enclosure 2), and the meeting summary (Enclosure 3).

Enclosures:

- 1. Meeting Agenda
- 2. List of Attendees
- 3. Meeting Summary

SUBJECT: SUMMARY OF PUBLIC MEETING TO DISCUSS NRC STAFF WHITE PAPER ON RISK INSIGHTS AND SEVERE ACCIDENT VULNERABILITY INFORMATION FOR LIGHT-WATER REACTOR CONSTRUCTION PERMIT APPLICATIONS DATED: FEBRUARY 26, 2024

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ADAMS Accession Nos.: Pkg: ML24047A231 Memo: ML24047A232 Slides: ML24019A084

Slides: ML24019A084		*via email		NRR-106
OFFICE	NRR/DNRL/NLIB:	NRR/DRA/PRA-C:	NRR/DNRL/NLIB:	NRR/DNRL/NLIB:
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DATE	2/14/2024	2/22/2024	2/21/2024	2/26/2024

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U.S. NUCLEAR REGULATORY COMMISSION SUMMARY OF THE JANUARY 31, 2024 PUBLIC MEETING TO DISCUSS NRC STAFF WHITE PAPER ON RISK INSIGHTS AND SEVERE ACCIDENT VULNERABILITY INFORMATION FOR LIGHT-WATER REACTOR CONSTRUCTION PERMIT APPLICATIONS

Meeting Agenda

Time	Торіс	Speaker	
10:00 am – 11:00 am	Introduction and	U.S. Nuclear Regulatory Commission	
	Presentation	(NRC)	
11:00 am – 11:30 pm	Public Questions	Public/NRC	

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Name	Organization	Name	Organization
Jim Shea	NRC	Nathan DeKett	GEH
Anders Gilbertson	NRC	Louis Lanese	GEH
Allen Fetter	NRC	Dennis Henneke	GEH
Victoria Huckabay	NRC	Matthew Warden	GEH
Martin Stutzke	NRC	Raymond Schiele	TVA
Malcolm Patterson	NRC	Scott Owen	TVA
Stacey Rosenberg	NRC	James Thornton	TVA
Hanh Phan	NRC	Michele Moorrees	TVA
Keith Tetter	NRC	Stephen Kimura	TVA
Joseph Colaccino	NRC	Dennis Petrarca	TVA
Todd Hilsmeier	NRC	Brian McDermott	TVA
Greg Cranston	NRC	Andrew Brenner	Holtec
Shilp Vasavada	NRC	Chris Vera-Burgos	Enercon
Carolyn Lauron	NRC	Kris Cummings	NEI
Stephanie Garza	NRC	Victoria Anderson	NEI
Meena Khanna	NRC	Andrew Brennon	External
Steven Alferink	NRC	Jana Bergman	External
Alissa Neuhausen	NRC	Jesse Morson	External
Samuel Lee	NRC	Clark Shurtlef	External
Sunwoo Park	NRC	Adam Stein	External
John Philip	NRC		
Marie Pohida	NRC		
Sunil Weerakkody	NRC		
Michelle Hayes	NRC		

List of Attendees

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Meeting Summary

Over the next few years, the U.S Nuclear Regulatory Commission (NRC) anticipates the submission of construction permit (CP) applications for light-water reactors (LWR) under Title 10 of the *Code of Federal Regulations* part 50, "Domestic Licensing of Production and Utilization Facilities." A CP is issued based on preliminary design information for a power reactor, documented in an applicant's preliminary safety analysis report (PSAR). When the plant construction is essentially finished, more complete design information is documented in a final safety analysis report (FSAR). Based on the FSAR, the staff issues an operating license (OL). The FSAR submitted with the OL application should describe the final design of the facility as constructed and must identify any changes from the criteria, design, and bases provided in the PSAR. Before issuing an OL, the NRC staff will review the applicant's final design to determine whether all the Commission's safety requirements have been met. The most recent guidance on how to conduct the review of such applications is found in interim staff guidance: DNRL-ISG-2022-01, "Safety Review of Light-Water Power Reactor Construction Permit Applications," issued in October 2022 (Agencywide Documents Access Management System (ADAMS) Accession No. ML22189A099).

The NRC staff's initiative and subsequent public engagements to date have stemmed from the need for guidance identified by internal and external stakeholders on the level of detail of risk insights and severe accident information in an acceptable 10 CFR 50 CP application. The NRC staff has engaged public stakeholders as the guidance was being developed starting with the March 30, 2023, initial public meeting (ML23104A314) and then with the second public meeting held July 27, 2023 (ML23243A010). During the March 30, 2023, public meeting the NRC staff proposed and solicited comments on the anticipated scope and level of detail for the probabilistic risk assessment (PRA) expected in a LWR CP application. During the second public meeting July 27, 2023, the NRC staff provided an update on the progress of the guidance development including the minimum level of detail and scope of the risk and severe accident information in the CP application.

Since that time, the NRC staff incorporated the stakeholder feedback from previous meetings and developed an NRC staff white paper (WP) with guidelines on the content of risk and severe accident information in a PSAR that was issued on November 30, 2023 (ML23326A185). The current public meeting, held on January 31, 2024, sought to get additional stakeholder feedback on the WP which provides the guidance for an acceptable minimum level of detail and scope of a PRA needed to support a LWR 10 CFR 50 CP application. The WP is specific to LWRs, including small modular reactors (SMRs). The staff emphasized that the guidance development includes collaboration with similar but distinct efforts for non-LWRs.

During the meeting, the staff summarized it's WP development approach, the minimum scope of PRA and non-PRA evaluations recommended in the WP, the collaboration with the NRC advanced reactor staff, and feedback from the various industry stakeholders. Significant stakeholder feedback that was addressed by the staff in the WP included providing clarity on the PSAR content versus the information available for audit, approaches to address external

hazards, guidance on content related to data analysis, self-assessment compared to peerreview and configuration control program information needed in the PSAR.

Throughout the meeting, NRC staff and attendees engaged in dialogue where the NRC staff provided clarifications on the information in the WP. The staff emphasized during this meeting that a PRA at the CP-stage does not need to demonstrate technical acceptability against endorsed PRA Standards. The NRC staff further pointed to the WP as stating that a PRA self-assessment should be performed at the CP-stage for the PRAs supporting the application commensurate with design readiness and that while a formal peer review against PRA standards provides the staff with additional confidence in the results of the PRA, it is not needed at the CP-state.

The meeting concluded with a discussion of the staff's next steps which are to incorporate the information in the WP into an interim staff guidance (ISG) document that would provide additional guidance specific to the PRA scope and information expected at the CP stage supplementing the CP specific guidance from DNRL-ISG-2022-01. Therefore, any further comments and suggested changes to the NRC staff guidance as outlined in the WP will be addressed by the NRC staff during the future NRC Interim staff guidance publishing and review process. The staff also encouraged design-specific pre-application engagements on this topic.