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Draft Interim Staff Guidance: Content of Risk Assessment and Severe Accident Information in Light Water Power Reactor Construction Permit Applications

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Organization: Nuclear Energy Institute

General Comment

See attached file(s)

Attachments

02-18-25_NEI Comments on Draft DRA-ISG-2024-XX (Docket ID NRC-2024-0217)

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Washington, DC 20555-0001
ATTN: Program Management, Announcements and Editing Staff

Subject: Comments on Draft DRA-ISG-2024-XX, "Content of Risk Assessment and Severe Accident Information in Light-Water Power Reactor Construction Permit Applications" (Docket ID NRC-2024-0217)

Submitted via Regulations.gov

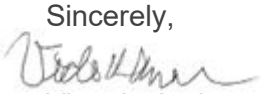
Program Management, Announcements and Editing Staff:

The By Federal Register (FR) notice (90 FR 4806) dated January 16, 2025, the Nuclear Regulatory Commission (NRC) requested comments on draft Interim Staff Guidance (ISG) document, "Content of Risk Assessment and Severe Accident Information in Light-Water Power Reactor Construction Permit Applications." This draft ISG is based on a previously issued NRC staff white paper, on which the Nuclear Energy Institute (NEI)[1] provided verbal comments during a January 31, 2024, public meeting. NEI appreciates the resolution of several of those comments in this draft ISG. A number of these comments remain open in this draft ISG, such as those requesting the addition of specific provisions for exclusion of hazards for which the impact on plant safety is negligible. Industry comments on this draft ISG are enclosed, and we appreciate your consideration of these comments as the ISG is finalized. In particular, several of these comments highlight that many portions of the ASME/ANS PRA Standard cannot be met at the Construction Permit stage, such as those related to human reliability and data. The ISG should be revised to appropriately reflect a reasonable PRA scope, should PRA information be used in support of a Construction Permit Application.

[1] The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

We appreciate the opportunity to provide our perspective on this important regulatory matter. If you have questions or require additional information, please contact me at vka@nei.org.

Sincerely,



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Attachment

C: Ms. Meena Khanna, NRR/DRA
Ms. Stacey Rosenberg, NRR/DRA
Ms. Alissa Neuhausen, NRR/DRA

Attachment

Detailed Comments on Draft DRA-ISG-2024-XX, "Content of Risk Assessment and Severe Accident Information in Light-Water Power Reactor Construction Permit Applications"

- The first sentence in the Guidance section of the ISG states that "This document provides guidance to the staff on the acceptability of the description of the PRA and its results and severe accident information in [Preliminary Safety Analysis Reports] PSARs." Please clarify if this is intended to mean guidance on acceptability of the descriptions of PRA information in the PSAR, or acceptability of the actual PRA model information and results provided in the PSAR.

- The draft ISG provides guidance on the PRA information required for a construction permit application (CPA) submittal. However, for each of the items discussed, it is not consistently clear if the information is required to be included in the PSAR or if it should be available in separate source documents and analyses supporting the CPA. This should be clarified in the ISG.

- The draft ISG provides minimum elements and scope for a CPA, some of which may not be available at the current stage of design and PRA model development. Please note/clarify which of these are required for acceptance of the CPA submittal for review, and which could be provided later as supplemental information during the review process. Please also clarify under which circumstances PRA information would be required to support a CPA, and which it would not be (e.g. Part 50 vs. Part 52).

- During the design phase, as aspects impacting risk become known, changes are made to improve risk profiles and overall results. Design improvements may result in changes in actual physical locations of equipment and plant layout. Therefore, discussion of intermediate preliminary results of risk evaluations and dominant risk contributors from some of the hazard models (Fire, Flooding, Seismic, etc.) in the design-phase may not be appropriate for the PSAR as design progresses.

- The hazard assessments requirements appear to go beyond traditional requirements. Traditionally, design for SR SSCs to a design basis hazard level set in accordance with traditional guidance (RG 1.76, RG 1.29, RG 1.59) is acceptable.

- Use of PRA should not be required to determine licensing-basis events. The Standard Review Plan chapter 15 Events, combined with the additional events required by regulation, should be sufficient.

- Page 8 states that Capability Category I is acceptable at the Construction Permit (CP) stage, however, it should be clarified that some supporting requirements will be not applicable or not reviewed. This will provide consistency with what is stated on Page 5 and is particularly relevant for Supporting Requirements related to data and human reliability analysis.

- Page 8 states that the staff encourages the use of PRA for hazards that cannot be screened out at the CP stage. However, there may be hazards for which PRA does not offer additional insights at the CP stage, and this should be accounted for in this guidance. Additionally, per the NRC's PRA Policy Statement, PRA should be used consistent with the state of practice. As the state of the practice for hazards is not sufficient for development of a full PRA model, it is inappropriate for the NRC to encourage use of PRA for these hazards.

- NRC recently provided guidance in RG 1.253, “Guidance for a Technology-Inclusive Content-of-Application Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors,” on the scope of PRA expected at the CP phase for applicants following the Licensing Modernization Project (LMP) methodology. LMP relies on PRA to an extent greater than other licensing application approaches, and therefore should set an upper limit for NRC expectations of a PRA at the CP phase.
    - RG 1.253 states, “The CP applicant may disposition certain hazards by crediting DBHLs in lieu of explicitly modeling these hazards in the PRA or accounting for them through a risk-informed supplementary evaluation.” Therefore, it is not appropriate for this ISG to suggest that hazard risk evaluations are required, SR hazard design should be sufficient, in line with the guidance in RG 1.253.
    - Table A-1 of RG 1.253 does not have the Plant Operating State (POS) element in the “minimal” column. Therefore, it is not appropriate for the ISG to set a “Low-power and shutdown risk evaluation” as a minimum requirement. Traditional analysis of lower modes as discussed in the SRP should be acceptable.