

# PUBLIC SUBMISSION

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Safety Review of Light-Water Reactor Construction Permit Applications

**Comment On:** NRC-2021-0162-0005  
Safety Review of Light-Water Power- Reactor Construction Permit Applications

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## Submitter Information

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## General Comment

Submittal of NEI supplemental comments on draft ISG "Safety Review of Light-Water Power-Reactor Construction Permit Applications," 87 Federal Register 27195 [Docket ID: NRC-2021-0162]

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## Attachments

05-23-22 NRC\_NEI Supplemental Comments on draft LWR CP ISG

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May 23, 2022

Mr. Brian Smith  
Director, Division of New and Renewed Licenses  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
*Submitted via regulations.gov*

**Subject:** Submittal of NEI supplemental comments on draft ISG "Safety Review of Light-Water Power-Reactor Construction Permit Applications," 87 Federal Register 27195 [Docket ID: NRC-2021-0162]

**Project Number:** 689

Dear Mr. Smith:

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI)<sup>1</sup> appreciates the opportunity to provide additional comments on the U.S. Nuclear Regulatory Commission (NRC) draft interim staff guidance (ISG), "Safety Review of Light-Water Power-Reactor Construction Permit Applications." In December 2021, NRC published the ISG for public comment and on January 19, 2022, as part of an Advanced Reactor Stakeholder Meeting, NRC presented details of the ISG. This engagement helped focus our initial comments that were submitted on January 28, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML220039A110).

On May 6, 2022 NRC reopened the public comment period for the draft ISG (ADAMS Accession No. ML21165A157) to receive comments on two topics addressed by comments submitted during the initial comment period. We appreciate the opportunity to supplement our initial comments and note that as NRC is actively preparing guidance or positions on issues that are integral to application review, care should be taken to coordinate NRC staff guidance development for maximum regulatory clarity and stability. NEI's response to the two questions posed in the Federal Register Notice are as follows:

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<sup>1</sup> 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.

Mr. Brian Smith

May 23, 2022

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NRC FRN Question 1. If the NRC were to develop an acceptance review template for light-water power-reactor construction permit applications, what specific information should the template provide that is not currently available in the draft ISG or the NRC's primary review guidance for a construction permit application, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: [Light-Water Reactor] Edition?"

NEI Response:

The draft ISG (DNRL-ISG-2022-XX) currently provides high-level statements but doesn't provide sufficient details for an applicant to have assurance of what information would be required in the construction permit (CP) application. Additional detail associated with what specific information a staff reviewer would be looking for would be a great help. A table or checklist that denotes minimum information required for a CP application that does not request finality should be provided as a baseline, i.e., include a complete composite listing of the applicable regulations and associated Regulatory Guides. Additional information pertaining to CP applications requesting finality in one or more targeted areas could be included to reflect the option (not requirement) to provide additional information in some CP applications.

For example, the draft ISG is not clear on what information is necessary for the instrumentation and control aspects of a design specifically for a CP. The draft ISG discusses several areas of focus but also highlights the value of design-specific review standard guidance that was developed as part of design certification reviews under Part 52. This creates uncertainty regarding the information for a Part 50 CP compared to Part 52 applications.

NRC FRN Question 2. Are there specific review areas where the draft ISG requests a level of detail in the construction permit application that is inconsistent with previous construction permit applications? If so, which specific review areas are involved and how is the level of detail inconsistent with previous construction permit applications?

NEI Response:

The text of the draft ISG should avoid the impression that the only acceptable CP application is one with a finalized design. The draft ISG appears to indicate that a design would need to be sufficiently far along in design finalization to enable the use of a Part 52 process, in which case there is no benefit in using the Part 50 CP process. The examples below appear to be for a CP application that is requesting finality in some portion of the application. Such examples do not reflect the minimum information required for a CP application that does not seek finality.

A specific example can be found in the transient and accident analyses section where the text states "the review of transients and accident analyses requires an evaluation of analytical methods, inputs, and results of analyses." Detailed transient and accident analyses require the design to be sufficiently complete to support the finalization of the safety analysis report (SAR), which occurs at

the operating license stage. It is assumed that this does not reference final analyses which would require the incorporation of as-built conditions and be reflective of the final safety analysis report (FSAR) or operating license.

Additionally, the text in that section states "the reviewer verifies that the applicant systematically analyzed and evaluated the limiting events in each category using a detailed quantitative analysis." This seems to imply that all events are required to be fully analyzed for the CP application. A CP should not need design finalization.

Furthermore, the statement that "all credible accidents are considered and evaluated during the CP application stage" is very open ended. Additional details are needed to constrain the extent to which credible accidents need to be evaluated in a preliminary fashion, so that evaluations that are provided/requested for a CP application are not more than would be necessary for a Part 52 combined license application, which is how previous CP applications were undertaken.

All three of these transient and accident analyses section examples indicate that the level of design completion required would be beyond that traditionally required for a CP application. However, other parts of the draft guidance appear to reflect a different interpretation. One part references 10 CFR 50.35 and denotes technical and design information may reasonably be left for a later stage of licensing. We believe that the latter is the correct interpretation and suggest that other parts of the draft ISG should be aligned to reflect this interpretation throughout (e.g., minimum requirements for transient and accident analyses in a CP application would reflect bounding, not detailed analyses).

Thank you for your time and attention to this important matter. Clarification in the guidance on the appropriate minimum level of detail to meet CP application requirements will be very helpful to ensure that prospective applicants appropriately determine whether to use the Part 50 or Part 52 licensing process. If you have any questions or require additional information, please contact Ben Holtzman at [bah@nei.org](mailto:bah@nei.org) or 202.739.8031.

Sincerely,



Katherine R. Austgen

c: Carolyn Lauron, NRC/NRR/DNRL  
Joseph Sebrosky, NRC/NRR/DANU