



NUCLEAR REGULATORY COMMISSION

[NRC-2024-0217]

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

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft guidance; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is soliciting public comment on its draft Interim Staff Guidance (ISG) “Content of Risk Assessment and Severe Accident Information in Light-Water Power Reactor Construction Permit Applications.” This draft ISG clarifies the scope and depth of the NRC staff review of the content of risk assessment and severe accident information in a construction permit (CP) application for a light-water power reactor. The purpose of this draft ISG is to clarify existing guidance in NUREG-0800, “Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition (NUREG-0800, formerly issued as NUREG-75 087),” (“the SRP”; Ref. 1).

DATES: Submit comments by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods; however, the NRC encourages electronic comment submission through the Federal rulemaking website.

- *Federal rulemaking website:* Go to <https://www.regulations.gov> and search for Docket ID NRC-2024-0217. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email: Stacy.Schumann@nrc.gov. For technical questions, contact the individual listed in the “For Further Information Contact” section of this document.

- *Mail comments to:* Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Program Management, Announcements and Editing Staff.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Brian Benney, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-2767; email: Brian.Benney@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID NRC-2024-0217 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- *Federal Rulemaking Website:* Go to <https://www.regulations.gov> and search for Docket ID NRC-2024-0217.

- *NRC’s Agencywide Documents Access and Management System (ADAMS):* You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “Begin Web-based ADAMS Search.” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. The draft ISG, “Content of Risk Assessment and Severe Accident Information in Light-Water Power Reactor Construction Permit Applications,” is available in ADAMS under Accession No. ML24192A277.

- *NRC’s PDR:* The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR,

please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

B. Submitting Comments

The NRC encourages electronic comment submission through the Federal rulemaking website (<https://www.regulations.gov>). Please include Docket ID NRC-2024-0217 in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <https://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Discussion

The NRC anticipates the submission of power reactor construction permit (CP) applications in the next few years based on pre-application engagement initiated by several prospective applicants and vendors. The review of these applications falls within the two-step licensing process under part 50 of title 10 of the *Code of Federal Regulations* (10 CFR), “Domestic Licensing of Production and Utilization Facilities,” and involves the issuance of a CP before an operating license (OL). The NRC last issued a power reactor CP in the 1970s. Most recently, the NRC issued combined construction permit and operating licenses (combined licenses or COLs) for power reactors through the one-step licensing process under 10 CFR part 52, “Licenses, Certifications, and

Approvals for Nuclear Power Plants,” using the guidance in the SRP and Regulatory Guide (RG) 1.206, “Combined License Applications for Nuclear Power Plants (LWR Edition),” issued June 2007 (ADAMS Package Accession No. ML070720184). The NRC has periodically updated some of the SRP guidance and issued Revision 1 to RG 1.206, “Applications for Nuclear Power Plants,” in October 2018 (ADAMS Accession No. ML18131A181). The licensing process under 10 CFR part 50 allows an applicant to begin construction with preliminary design information instead of the final design required for a COL under 10 CFR part 52. Although the two-step licensing process provides flexibility and allows a more limited safety review before construction, the proceeding on the CP does not resolve issues that may be considered in the OL proceeding except in limited circumstances. In particular, the CP proceeding does not in most cases finally resolve requests for specific exemptions to 10 CFR part 50 regulatory requirements. The final safety analysis report (FSAR) submitted with the OL application must describe in detail the final design of the facility as constructed; identify the changes from the criteria, design, and bases in the CP preliminary safety analysis report (PSAR); and discuss the bases for and safety significance of the changes from the PSAR. Before issuing an OL, the NRC staff will review the applicant’s final design in the FSAR to determine whether all the Commission’s safety requirements have been met. The SRP contains the NRC staff review guidance for light-water reactor (LWR) applications submitted under 10 CFR part 50 or 10 CFR part 52. In addition to the CP review guidance in the SRP and RG 1.70, Revision 3, “Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” issued November 1978 (Ref. 6) (ADAMS Package Accession No. ML011340122), offers some insights on the level of detail that is required for the PSAR included in the CP application, but these insights may be limited to the degree that the guidance does not account for subsequent requirements, positions, or advances in technical knowledge. RG 1.206, Revision 1, provides guidance for 10 CFR part 52 applications, including for early site permits and COLs, as well as insights on the level of detail needed for final design information if the

CP applicant chooses to provide such information. On October 31, 2022, the NRC staff issued ISG DNRL-ISG-2022-01, "Safety Review of Light-Water Power Reactor Construction Permit Applications," (ADAMS Accession No. ML22189A099), to facilitate safety reviews of LWR CP applications and to supplement the guidance in the SRP. DNRL-ISG-2022-01 describes the regulatory requirements, applicable review guidance in the SRP, and special topics for an LWR CP application. DNRL-ISG-2022-01 provides guidance on the staff review of the preliminary design information in the PSAR including the description and safety assessment of the site on which the facility is to be located. DNRL-ISG-2022-01 does not provide specific information relevant to the review of probabilistic risk assessment and alternative risk evaluations supporting an LWR CP application but points generally to the SRP to provide the NRC staff with an acceptable approach for reviewing such information. The staff has developed this draft ISG to clarify the scope and depth of the staff review of the content of risk assessment and severe accident information in a CP application for a light-water power reactor.

III. Backfitting, Forward Fitting, and Issue Finality

This draft ISG provides guidance for the NRC staff review of light-water power reactor construction permit applications. Issuance of this ISG as final would not constitute backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and as described in NRC Management Directive (MD) 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests"; would not constitute forward fitting as that term is defined and described in MD 8.4; and would not affect the issue finality of any approval issued under 10 CFR part 52. The guidance would not apply to any current licensees or applicants or existing or requested approvals under 10 CFR part 52, and therefore its issuance cannot be a backfit or forward fit or affect issue finality.

Dated: January 13, 2025.

For the Nuclear Regulatory Commission.

Michelle Hayes,
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Office of Nuclear Reactor Regulation.

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