

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2021-0162]**

**Safety Review of Light-Water Power-Reactor Construction Permit Applications**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Draft interim staff guidance; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is soliciting public comment on its draft interim staff guidance (ISG), "Safety Review of Light-Water Power-Reactor Construction Permit Applications." The NRC staff is preparing for the review of construction permit applications. The purpose of this ISG is to clarify existing guidance and to assist the NRC staff in determining whether an application to construct a light-water power-reactor facility meets the minimum requirements to issue a construction permit.

**DATES:** Submit comments by January 28, 2022. 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 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-2021-0162**. 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:** Carolyn Lauron, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-415-2736, email: Carolyn.Lauron@nrc.gov.

**SUPPLEMENTARY INFORMATION:**

**I. Obtaining Information and Submitting Comments**

A. Obtaining Information

Please refer to Docket ID **NRC-2021-0162** 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-2021-0162**.

- **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, 301-415-4737, or by email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov). The draft ISG for the “Safety Review of Light-Water Power-Reactor Construction Permit Applications” is available in ADAMS under Accession No. ML21165A157.

- **NRC's PDR:** You may examine and purchase copies of public documents, by appointment, at the NRC's PDR, Room P1 B35, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. To make an appointment to visit the PDR, please send an email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov) or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. (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-2021-0162** 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. Background

The NRC anticipates the submission of power-reactor construction permit (CP) applications within the next few years based on preapplication engagement initiated by several prospective applicants. 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 and operating licenses (combined licenses (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 NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition” (<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/cover/index.html>); 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 standard review plan (SRP) guidance and issued Revision 1 to RG 1.206, “Applications for Nuclear Power Plants,” in October 2018 (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 design has less finality before the applicant commits to construction of the facility. The final safety analysis report (FSAR) submitted with the OL application should 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 applications submitted under 10 CFR Part 50 or 10 CFR Part 52. In addition to the CP review guidance in the SRP, RG 1.70, “Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” Revision 3, issued November 1978 (ADAMS Package Accession No. ML011340122), offers some insights on the level of detail that is required for the PSAR in support of the CP application, but these insights may be limited to the degree that the guidance does not account for subsequent requirements, NRC technical positions, or advances in technical knowledge. RG 1.206 provides guidance for 10 CFR Part 52 applications, including for early site permits and COLs, and includes insights on the level of detail needed for final design information if the CP applicant chooses to provide such information. The draft ISG discusses the use of these guidance documents and supplements the guidance in the SRP.

The NRC recently issued CPs for two nonpower production and utilization facilities—SHINE Medical Technologies, Inc., and Northwest Medical Isotopes, LLC. Some of the lessons learned from these reviews are applicable to the review of power-reactor CP applications, as discussed in the draft ISG. The draft ISG also discusses other issues pertinent to the safety review of CP applications for light-water power reactors, including the benefits accruing from preapplication engagement, the relationship between the CP and OL reviews, the NRC’s approach for reviewing applications incorporating prior NRC approvals, the potential effect of ongoing regulatory

activities on CP reviews, and licensing requirements for source, byproduct, and special nuclear material.

Dated: December 9, 2021.

For the Nuclear Regulatory Commission.

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Brian W. Smith, Director,  
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