

NUCLEAR REGULATORY COMMISSION

[Docket No. 52-050; NRC-2023-0027]

NuScale Power, LLC

AGENCY: Nuclear Regulatory Commission.

ACTION: Standard design approval application; acceptance for docketing; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has accepted for docketing an application for standard design approval (SDA) of the US460 Small Modular Reactor (SMR) design submitted by NuScale Power, LLC (NuScale). The NRC is requesting comment on the SDA application in accordance with NRC regulations.

DATES: Submit comments by October 3, 2023. 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-2023-0027**. Address questions about Docket IDs 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:** Getachew Tesfaye, Office of New Reactors, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-8013, email: Getachew.Tesfaye@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID **NRC-2023-0027** when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action using any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2023-0027**.

- **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 ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **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-2023-0027** 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

By letter dated November 21, 2022 (ADAMS Accession No. ML22325A349), NuScale informed the NRC of its intent to submit an SDA application in stages, along with supporting technical reports, by December 31, 2022. By letter dated November 23, 2022, NuScale submitted the first part of its application (non-public, withheld pursuant to 10 CFR 2.390) for a standard design approval of the NuScale US460 SMR design, pursuant to Section 103 of the Atomic Energy Act of 1954, as amended, and part 52, subpart E, of title 10 of the *Code of Federal Regulations*

(10 CFR), “Licenses, Certifications, and Approvals for Nuclear Power Plants.”

Subsequently, NuScale submitted the remaining portions of its application in stages, between November 29, 2022, and December 31, 2022. The SDA application is available in ADAMS under Package Accession No. ML22339A066.

The NuScale US460 SMR is a pressurized-water reactor. The design is based on the Multi-Application Small Light Water Reactor developed at Oregon State University in the early 2000’s. The NuScale US460 SMR is a natural circulation light-water reactor with the reactor core and helical coil steam generator located in a common reactor vessel in a cylindrical steel containment. The NuScale power module is partly immersed in water in a safety related pool. The reactor pool is located below grade and is designed to hold up to six power modules. Each NuScale SMR has a rated thermal output of 250 megawatts thermal and an electrical output of 77 megawatts electric (MWe); accordingly, a plant containing six modules would have a total capacity of 462 MWe.

As described in the November 21, 2022, letter, the application contains the final safety analysis report (FSAR) chapters and parts thereof. Supporting technical reports are cited throughout the application, some of which are attached to the corresponding FSAR chapter; other technical reports cited in the application are available as standalone documents in ADAMS, if publicly available. Following these submittals, NuScale submitted additional supporting licensing topical reports (LTRs), which were required to be submitted before the SDA application could be accepted for review. By January 8, 2023, NuScale submitted these LTRs to the NRC. A notice of receipt and availability of this portion of the application was published in the *Federal Register* on March 17, 2023, (88 FR 16463).

On March 17, 2023 (ADAMS Accession No. ML23058A160), the NRC staff notified NuScale that its staged SDA application, the last submittal of which was

provided on December 31, 2022 (ADAMS Package Accession No. ML22339A066), will be considered tendered but not docketed until the Request for Supplemental Information (RSI) enclosed in the March 17 letter is submitted and the SDA application is found to be acceptable for detailed technical review by the staff. On July 14, 2023 (ADAMS Accession No. ML23195A092), NuScale submitted the response to the staff's RSI. Additionally, on July 17, 2023 (ADAMS Accession No. ML23198A244), NuScale submitted Licensing Topical Report (LTR) TR-131981, "Methodology for the Determination of the Onset of Density Wave Oscillations (DWO)," Revision 1, that incorporated changes resulting from NuScale's RSI response.

The NRC staff has determined that the SDA application, as supplemented, is acceptable for docketing under Docket No. 52-050. The NRC staff provided NuScale notice of the staff's determination that its application was acceptable for docketing by letter dated July 31, 2023 (ADAMS Accession No. ML23198A163).

III. Opportunity to Comment

In accordance with 10 CFR 2.110(b), the NRC staff is inviting public comments on the SDA application within 60 days of publication of this notice, for consideration by the NRC staff and Advisory Committee on Reactor Safeguards in their review of the application. Comments should be submitted as described in the **ADDRESSES** section of this document. The NRC staff will perform a detailed technical review of the SDA application and will document its safety findings in a safety evaluation report.

Docketing of the application does not preclude the NRC from requesting additional information from the applicant as the review proceeds, nor does it predict whether the Commission will grant or deny the application.

Dated: August 1, 2023.

For the Nuclear Regulatory Commission.

/RA/

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