

February 14, 2025

Docket No. 52-050

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

SUBJECT: NuScale Power, LLC Response to NRC Request for Additional Information
No. 032 (RAI-10297 R1) on the NuScale Standard Design Approval
Application

REFERENCE: NRC Letter to NuScale, "Request for Additional Information
No. 032 (RAI-10297 R1)," dated October 31, 2024

The purpose of this letter is to provide the NuScale Power, LLC (NuScale) response to the referenced NRC Request for Additional Information (RAI).

The enclosure to this letter contains the NuScale response to the following RAI question from NRC RAI-10297 R1:

- NonLOCA.LTR-55

Enclosure 1 is the proprietary version of the NuScale Response to NRC RAI No. 032 (RAI-10297 R1, Question NonLOCA.LTR-55). NuScale requests that the proprietary version be withheld from public disclosure in accordance with the requirements of 10 CFR § 2.390. The enclosed affidavit (Enclosure 3) supports this request. Enclosure 2 is the nonproprietary version of the NuScale response.

This letter makes no regulatory commitments and no revisions to any existing regulatory commitments.

If you have any questions, please contact Amanda Bode at 541-452-7971 or at abode@nuscalepower.com.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 14, 2025.

Sincerely,



Mark W. Shaver
Director, Regulatory Affairs
NuScale Power, LLC

Distribution: Mahmoud Jardaneh, Chief New Reactor Licensing Branch, NRC
Getachew Tesfaye, Senior Project Manager, NRC
Thomas Hayden, Project Manager, NRC

Enclosure 1: NuScale Response to NRC Request for Additional Information RAI-10297 R1,
Question NonLOCA.LTR-55, Proprietary Version

Enclosure 2: NuScale Response to NRC Request for Additional Information RAI-10297 R1,
Question NonLOCA.LTR-55, Nonproprietary Version

Enclosure 3: Affidavit of Mark W. Shaver, AF-179402

Enclosure 1:

NuScale Response to NRC Request for Additional Information RAI-10297 R1,
Question NonLOCA.LTR-55, Proprietary Version

Enclosure 2:

NuScale Response to NRC Request for Additional Information RAI-10297 R1,
Question NonLOCA.LTR-55, Nonproprietary Version

Response to Request for Additional Information Docket: 052000050

RAI No.: 10297

Date of RAI Issue: 10/31/2024

NRC Question No.: NonLOCA.LTR-55

Issue

As a result of the NRC staff's Quality Assurance Program (QAP) implementation inspection in February 2024, the NRC staff understands that the Non-LOCA LTR is controlled as a licensing product within NuScale, and the document itself is not considered to be the Non-LOCA Evaluation Model (EM). It is the NRC staff's understanding that information presented in the Non-LOCA LTR is derived from engineering documents. As such, the NRC staff needs to determine if there is information presented or conclusions stated in the Non-LOCA LTR, which is drawn from engineering documents that are not subject to design verification consistent with 10 CFR 50 Appendix B in accordance with Part II, "Quality Assurance Program Description Details," Section 2.3.1, "Design Verification" of Topical Report MN-122626, Revision 1-A, "NuScale Power, LLC Quality Assurance Program Description" (ML24033A318) (hereafter referred to as QAPD LTR). This includes information subject to Part III, "Nonsafety-Related Structures, Systems, and Components (SSC) Quality Control," Section 3.1.3, "Design Control" in the QAPD LTR, regardless of whether the verification process has been conducted in accordance with this section of the QAPD LTR, since the Section 3.1.3 verification is not required to conform to 10 CFR 50 Appendix B.

Information Requested

a) Provide a list of any such documents that have not undergone design verification as described above. For any of these documents not already available in eRR for staff audit, provide those additional documents available for audit. NuScale may choose to provide any relevant information regarding which portions of the LTR or conclusions those documents support.

b) In addition, provide a listing of any section of the Non-LOCA LTR that are either not considered part of the EM or not directly supported by engineering documents that are part of the EM.

NuScale Response:

The NRC staff provided a list of NuScale internal documents during the review of TR-0516-49422-P, “Loss-of-Coolant Accident (LOCA) Methodology”, TR-124587-P, “Extended Passive Cooling (XPC) and Reactivity Control Methodology”, and TR-0516-49416-P, “Non-Loss-of-Coolant Accident Analysis Methodology”, that the NRC staff’s technical reviewers were concerned did not meet pertinent Quality Assurance requirements. NuScale reviewed each of the 29 unique documents identified with a “QA flag” indicator, noting that the original list included one document three times (previous discussions referred to 31 total documents):

- For 26 of these documents, applicable 10 CFR 50, Appendix B / ASME NQA-1 requirements associated with verification have been met.
 - Procedural instructions, including verification of implementation, in place at the time each document was prepared and approved were evaluated against the requisite criteria for verification, regardless of the classification on the document.
- Final review of one document, EE-T080-13757, Rev. 2, “NuScale Integral System Test (NIST-1) Facility Scaling Analysis”, is complete and the status is detailed in Note 2 of Table 1.
- Two documents are governed by other processes and or procedures, not the design control process.
 - One document, SDR-0619-7331, Rev. 1, NIST-2 Facility Description Report, was generated under a vendor’s 10 CFR 50, Appendix B quality program and accepted by NuScale.
 - The second document, SwTR-0304-17153, Rev. 9, NRELAP5 Software Test Report, is governed by the NuScale software program, which identifies software integrity level (SIL) 3 software as safety-related and requires appropriate verification in those implementing procedures. The NRELAP5 code is classified as SIL3.

An evaluation has been initiated within NuScale’s Corrective Action Program to assess adequacy of processes and procedures that govern the development and maintenance of

Table 1: NuScale Internal Documents the NRC Staff Provided

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Impact on Topical Report:

There are no impacts to Topical Report TR-0516-49416, Non-Loss-of-Coolant Accident Analysis Methodology, as a result of this response.

Enclosure 3:

Affidavit of Mark W. Shaver, AF-179402

NuScale Power, LLC

AFFIDAVIT of Mark W. Shaver

I, Mark W. Shaver, state as follows:

- (1) I am the Director of Regulatory Affairs of NuScale Power, LLC (NuScale), and as such, I have been specifically delegated the function of reviewing the information described in this Affidavit that NuScale seeks to have withheld from public disclosure, and am authorized to apply for its withholding on behalf of NuScale.
- (2) I am knowledgeable of the criteria and procedures used by NuScale in designating information as a trade secret, privileged, or as confidential commercial or financial information. This request to withhold information from public disclosure is driven by one or more of the following:
 - (a) The information requested to be withheld reveals distinguishing aspects of a process (or component, structure, tool, method, etc.) whose use by NuScale competitors, without a license from NuScale, would constitute a competitive economic disadvantage to NuScale.
 - (b) The information requested to be withheld consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), and the application of the data secures a competitive economic advantage, as described more fully in paragraph 3 of this Affidavit.
 - (c) Use by a competitor of the information requested to be withheld would reduce the competitor's expenditure of resources, or improve its competitive position, in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.
 - (d) The information requested to be withheld reveals cost or price information, production capabilities, budget levels, or commercial strategies of NuScale.
 - (e) The information requested to be withheld consists of patentable ideas.
- (3) Public disclosure of the information sought to be withheld is likely to cause substantial harm to NuScale's competitive position and foreclose or reduce the availability of profit-making opportunities. The accompanying Request for Additional Information response reveals distinguishing aspects about the response by which NuScale develops its NuScale Power, LLC Response to NRC Request for Additional Information (RAI No. 10297 R1, Question NonLOCA.LTR-55) on the NuScale Standard Design Approval Application.


NuScale has performed significant research and evaluation to develop a basis for this response and has invested significant resources, including the expenditure of a considerable sum of money.

The precise financial value of the information is difficult to quantify, but it is a key element of the design basis for a NuScale plant and, therefore, has substantial value to NuScale.

If the information were disclosed to the public, NuScale's competitors would have access to the information without purchasing the right to use it or having been required to undertake a similar expenditure of resources. Such disclosure would constitute a misappropriation of NuScale's intellectual property, and would deprive NuScale of the opportunity to exercise its competitive advantage to seek an adequate return on its investment.
- (4) The information sought to be withheld is in the enclosed response to NRC Request for Additional Information RAI 10297 R1, Question NonLOCA.LTR-55. The enclosure contains the designation "Proprietary" at the top of each page containing proprietary information. The information considered by NuScale to be proprietary is identified within double braces, "{{ }}" in the document.

- (5) The basis for proposing that the information be withheld is that NuScale treats the information as a trade secret, privileged, or as confidential commercial or financial information. NuScale relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC § 552(b)(4), as well as exemptions applicable to the NRC under 10 CFR §§ 2.390(a)(4) and 9.17(a)(4).
- (6) Pursuant to the provisions set forth in 10 CFR § 2.390(b)(4), the following is provided for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld:
- (a) The information sought to be withheld is owned and has been held in confidence by NuScale.
 - (b) The information is of a sort customarily held in confidence by NuScale and, to the best of my knowledge and belief, consistently has been held in confidence by NuScale. The procedure for approval of external release of such information typically requires review by the staff manager, project manager, chief technology officer or other equivalent authority, or the manager of the cognizant marketing function (or his delegate), for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside NuScale are limited to regulatory bodies, customers and potential customers and their agents, suppliers, licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or contractual agreements to maintain confidentiality.
 - (c) The information is being transmitted to and received by the NRC in confidence.
 - (d) No public disclosure of the information has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or contractual agreements that provide for maintenance of the information in confidence.
 - (e) Public disclosure of the information is likely to cause substantial harm to the competitive position of NuScale, taking into account the value of the information to NuScale, the amount of effort and money expended by NuScale in developing the information, and the difficulty others would have in acquiring or duplicating the information. The information sought to be withheld is part of NuScale's technology that provides NuScale with a competitive advantage over other firms in the industry. NuScale has invested significant human and financial capital in developing this technology and NuScale believes it would be difficult for others to duplicate the technology without access to the information sought to be withheld.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 14, 2025.



Mark W. Shaver