



June 11, 2018

Docket No. 52-048

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. 413 (eRAI No. 9432) on the NuScale Design Certification Application

REFERENCE: U.S. Nuclear Regulatory Commission, "Request for Additional Information No. 413 (eRAI No. 9432)," dated April 10, 2018

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

The Enclosures to this letter contain NuScale's response to the following RAI Question from NRC eRAI No. 9432:

- 13.05.02.01-6

Enclosure 1 is the proprietary version of the NuScale Response to NRC RAI No. 413 (eRAI No. 9432). 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 and the enclosed responses make no new regulatory commitments and no revisions to any existing regulatory commitments.

If you have any questions on this response, please contact Steven Mirsky at 240-833-3001 or at smirsky@nuscalepower.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Zackary W. Rad". The signature is fluid and cursive, written over a horizontal line.

Zackary W. Rad
Director, Regulatory Affairs
NuScale Power, LLC

Distribution: Gregory Cranston, NRC, OWFN-8G9A
Samuel Lee, NRC, OWFN-8G9A
Prosanta Chowdhury NRC, OWFN-8G9A

Enclosure 1: NuScale Response to NRC Request for Additional Information eRAI No. 9432, proprietary



RAIO-0618-60380

Enclosure 2: NuScale Response to NRC Request for Additional Information eRAI No. 9432, nonproprietary

Enclosure 3: Affidavit of Zackary W. Rad, AF-0618-60381

NuScale Power, LLC

1100 NE Circle Blvd., Suite 200 Corvallis, Oregon 97330, Office: 541.360.0500, Fax: 541.207.3928
www.nuscalepower.com



RAIO-0618-60380

Enclosure 1:

NuScale Response to NRC Request for Additional Information eRAI No. 9432, proprietary



Enclosure 2:

NuScale Response to NRC Request for Additional Information eRAI No. 9432, nonproprietary

Response to Request for Additional Information Docket No. 52-048

eRAI No.: 9432

Date of RAI Issue: 04/10/2018

NRC Question No.: 13.05.02.01-6

REGULATORY BASIS REQUIREMENTS

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 52.47(a)(8) requires an applicant for a design certification to provide an FSAR (Final Safety Analysis Report) which includes the information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), with certain exceptions. Section 10 CFR 50.34(f)(2)(ii) requires an applicant to "Establish a program, to begin during construction and follow into operation, for integrating and expanding current efforts to improve plant procedures. The scope of the program shall include emergency procedures, ... "

TMI Action Plan Item I.C.1, a Post-TMI requirement approved by the Commission for implementation, requires the preparation of emergency procedure technical guidelines for development of the Emergency Operating Procedures (EOPs). Preparation of the technical guidelines is conducted in accordance with NUREG-0737, "Clarification of TMI Action Plan Requirements," and NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability," which also specify submittal of the technical guidelines to the NRC for review and approval.

Meeting the requirements of TMI Action Plan Item I.C.1 as prescribed in NUREG-0737, Section I.C.1, and Supplement 1 to NUREG-0737, Section 7, is acceptance criteria in SRP 13.5.2.1, "Operating and Emergency Operating Procedures." Design-specific Generic Technical Guidelines (GTGs), otherwise referred to as the Emergency Operating Guidelines (EOGs), will be used by COL applicants to develop their Plant-Specific Technical Guidelines (P-STGs), from which their EOPs will be developed, and are the responsibility of the DC applicant.

By letter dated November 30, 2017 (ADAMS Accession No. ML17334B822) NuScale submitted technical report TR-1117-57216, "NuScale Generic Technical Guidelines," for docketing.



ISSUE

The Core Heat Removal (CHR) Safety Function flowchart in Section 5.3 of the NuScale GTGs depicts the logic and specifies the operator actions necessary to assess and maintain the CHR Safety Function. The operator actions identified in the NuScale GTGs include verifying the automatic actuation of Engineered Safety Feature (ESF) Actuation System functions. {{

}}^{2(a),(c)} For consistency with the other “Operator Actions” specified in the Critical Safety Function (CSF) flowcharts for a failed ESF Actuation, the local action from outside the control room should also be included in the HP-3 decision point block on the CHR flowchart.

INFORMATION NEEDED

NRC staff requests that NuScale: (1) explain why the local action to de-energize the pressurizer heaters has been excluded from the HP-3 decision point block, when other local actions have been consistently identified throughout the CSF flowcharts, and (2) make any necessary changes to technical report TR-1117-57216 to ensure the completeness and accuracy of the NuScale GTGs.

NuScale Response:

The critical safety function flow charts are intended to provide a high level description of the expected plant response and operator actions to mitigate a condition when the expected response is not obtained. The accompanying text provides the detailed guidance needed to develop the required procedure actions. The section on HP-3 reads as follows:

"When parameters indicate that the pressurizer heater trip is required but not actuated, then any of the following actions are required (listed in order of preference):

- Manually initiate pressurizer heater trip system using the MPS manual actuation switches. This action is performed to ensure that a positive actuation signal is generated to the MPS to mitigate a potential failure of the voting logic module. There is no analysis required for this action; it is included as a consistent response to a failed ESFAS function.



- Perform actions outside the control room to manually trip the pressurizer heaters. This action is performed by manually opening the pressurizer heater breakers located in the reactor building within the MPS cabinet rooms."

Impact on DCA:

There are no impacts to the DCA as a result of this response.



RAIO-0618-60380

Enclosure 3:

Affidavit of Zackary W. Rad, AF-0618-60381

NuScale Power, LLC
AFFIDAVIT of Zackary W. Rad

I, Zackary W. Rad, state as follows:

1. I am the Director, 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 method by which NuScale develops its generic technical guidelines.

NuScale has performed significant research and evaluation to develop a basis for this method 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 No. 413, eRAI No. 9432. 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 June 11, 2018.



Zackary W. Rad