

March 07, 2011

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

SUBJECT: Request for Additional Information No. 5452 (NRC Project 0769)

REFERENCE:

- 1) **Letter from NRC Requesting Additional Information No. 5452, dated February 3rd, 2011 (NRC Project 0769)**
- 2) **NuScale Topical Report: Quality Assurance Program Description for Design Certification of the NuScale Power Reactor, Revision 0, October 2010 (NP-TR-1010-859-NP)**

NuScale hereby submits a response to the Request for Additional Information (RAI) No. 5452, dated February 3, 2011 (Reference 1). The RAI and this response pertain to NuScale Topical Report NP-TR-1010-859-NP (Reference 2). Responses to specific questions from the RAI are provided in Enclosure 1. Enclosure 2 includes a marked up version of the Topical Report that incorporates the changes identified in Enclosure 1.

If you should have questions or concerns please direct them to Derick Botha at (541) 207-3931 or at dbotha@nuscalepower.com.

Sincerely,



Edward G. Wallace
Senior Vice President, Regulatory Affairs

Enclosure 1: NuScale Power, Inc. Responses to NRC RAIs on NP-TR-1010-859-NP, Rev 0.
Enclosure 2: Markup of NuScale Topical Report: Quality Assurance Program Description for Design Certification of the NuScale Power Reactor, Revision 0, October 2010 (NP-TR-1010-859-NP)

cc: Michael Mayfield, NRC TWFN-6 E04
Stuart Magruder, NRC, TWFN-9 F27
Greg Cranston, NRC, TWFN-9 F27

Document components:

1. NP-TR-1010-859-NP QA Program Description for Design Certification of the NuScale Power Reactor.pdf, 474,054 byte size

NuScale Power, Inc.

Enclosure 1

NuScale Response to Request for Additional Information No. 5452

- **Question 17.5-1**

During its review of the NuScale Topical Report, the NRC staff identified several inconsistencies in the document that appear to be typographical errors or inadvertent additions/omissions. Accordingly, please address the below items to clarify whether this assumption is correct and revise the topical report as necessary:

- **Question 17.5-1a**

Section 2.1.4.2 (Page 16 of 48) - There is additional text at the end of the section that does not appear to be consistent with the rest of the document.

NuScale Response

The Topical Report has been revised to remove the text “Insert into document. Delete DCD Project Manager Section.”

- **Question 17.5-1b**

Section 2.4.1 (Page 24 of 48) - It appears that three exceptions/clarifications are made to NQA-1-2008, Requirement 4; however, there are only two bullets in this section. Please clarify whether the second indented paragraph is an independent exception, or whether it is a part of the previous clarification.

NuScale Response

There are only two exceptions/clarifications. The second indented paragraph is a part of the first exception/clarification.

- **Question 17.5-1c**

Section 2.6.3 (Page 27 of 48) - The NQA-1-2008 requirement number to which NuScale is committing is not present.

NuScale Response

This section of the Topical Report has been revised to recite Requirement 6, Sections 100 through 300.

– **Question 17.5-1d**

Section 2.16.2 (Page 40 of 48) - In the NQA-1-2008 commitment section, the applicable section of Requirement 16 is omitted. Revising the text to read "...Requirement 16, Section 100" would be consistent with the rest of the QAPD.

NuScale Response

The Topical Report has been revised to read as follows:

"In establishing provisions for corrective action, NuScale commits to compliance with NQA-1-2008, Requirement 16, Section 100."

– **Question 17.5-1e**

Section 2.17.1 (Page 41 of 48) - It is not stated that Nonmandatory Appendix 17A-1, Section 200, is associated with NQA-1-2008, and could be misconstrued as an appendix to Regulatory Guide 1.28, Revision 4.

NuScale Response

The Topical Report has been revised to clarify that Appendix 17A-1 pertains to NQA-1, as follows:

"The records and retention times are based on Regulatory Position C.1 of Regulatory Guide 1.28, Revision 4, and NQA-1-2008, and NQA-1a-2009 addenda, Nonmandatory Appendix 17A-1, Section 200 as applicable for the DC project."

– **Question 17.5-1f**

Section 2.18.1 (Page 42 of 48) - The final sentence of the section reads: "Audits of suppliers of safety-related components and/or services are conducted as described in Section 2.7.1." Adding "in this document" to the end of the sentence would be consistent with the rest of the QAPD.

NuScale Response

The Topical Report, Section 2.18.1 has been revised to read as follows:

"Audits of suppliers of safety-related components and/or services are conducted as described in Section 2.7.1 in this document."

- **Question 17.5-2**

The acceptance criterion of SRP 17.5, Section C.1.q, states that quality assurance personnel are included in the documented review and concurrence of quality-related procedures associated with design consistent with the requirements of 10 CFR 50.34(f)(3)(iii)(C).

Please describe how this requirement is being met in the proposed NuScale QAP for the NuScale Power Reactor design certification project.

NuScale Response

The NuScale QA organization performs an independent review of quality related procedures identified and developed by NuScale. In Section 2.3 second paragraph of the Topical Report, it is stated “Design documents are reviewed by individual’s knowledge in QA to ensure the documents contain the necessary QA requirements”. This statement has been revised to read as follows:

“The development of quality-related procedures shall be reviewed and concurred by QA personnel before they are issued for implementation to ensure documents contain the necessary QA requirements.”

- **Question 17.5-3**

Section 2.7.1, “Acceptance of Item or Service,” of the NuScale QAPD states that for the design certification project, verification actions include testing, as appropriate. However, Section 2.11, “Test Control,” of the QAPD notes that NuScale does not perform test activities in the design certification phase, except for computer software testing. Instead, testing services will be performed by suppliers/contractors as necessary.

Please clarify the scope of testing services envisioned for procurement during the NuScale Power Reactor design certification project, as well as the role NuScale will play in testing associated with design verification, including the control of measuring and test equipment (M&TE).

NuScale Response

Section 2.11 is correct; NuScale will not directly perform testing, other than for computer software. Through procured test services, NuScale Power is performing design verification testing activities such as the Multi-Application Small Light Water Reactor (MASLWR) test facility program and fuel assembly design and performance tests. In these instances, NuScale Power is preparing the test program, preparing the appropriate test predictions, reviewing the test results and applying the results of the tests in the design certification program.

For procured services, the requirements in Topical Report Section 2.7.1 relative to the control of measuring and test equipment (M&TE) are imposed via procurement technical specifications as part of the purchase orders for these services.

- **Question 17.5-4**

Section 2.7.1, "Acceptance of Item or Service," of the NuScale QAPD states that provisions are made for accepting purchased items and services, such as source verification, receipt inspection, certificate of conformance (CofC), and document reviews (including certified material test reports/certificate (CMTR)).

Please explain why CofCs and CMTRs are within the scope of the QAP for the NuScale Power Reactor design certification project or delete them from the QAPD.

NuScale Response

The design certification project includes testing services that are being purchased. Certificates of conformance or material test reports may be received for purchased items or services related to these testing services.

- **Question 17.5-5**

In Section 2.7.2, "NQA-1-2008 with NQA-1a 2009 Commitment / Exceptions," of the NuScale QAPD, NuScale commits to compliance with NQA-1a-2009, Requirement 7, and Sections 100 through 800, with several clarifications and exceptions.

Please verify that this is the appropriate method for referencing the 2009 Addenda to NQA-1-2008, and that the reference should not instead be NQA-1-2008, with NQA-1a 2009, as is consistent with the rest of the NuScale QAPD.

NuScale Response

The appropriate method of referencing NQA-1 is NQA-1-2008, and NQA-1a-2009 addenda. Section 2.7.2 "NQA-1-2008 with NAQ-1a 2009 Commitments / Exceptions" has been revised to read as follows:

"In establishing procurement verification controls, NuScale commits to compliance with NQA-1-2008, and NQA-1a-2009 addenda, Requirement 7, Sections 100 through 800, with the following clarifications and exceptions:"

- **Question 17.5-6**

Section 2.7.2, “NQA-1-2008 with NQA-1a 2009 Commitment / Exceptions,” of the NuScale QAPD describes an exception to NQA-1-2008 (with a2009 Addenda) for purchasing commercial-grade calibration services. Commercial-grade calibration services appear to be outside the scope of the NuScale Power Reactor design certification project since the majority of testing services will be performed by suppliers/contractors as necessary.

Please explain why this exception is applicable to the QAP for the NuScale Power Reactor design certification project.

NuScale Response

For procured test services, contractors may perform testing activities under the NuScale QAP that include procurement of commercial-grade calibration services. The requirements in Topical Report Section 2.7.2 relative to the purchasing of commercial-grade calibration services are imposed via procurement technical specifications as part of the purchase orders for these services.

- **Question 17.5-7**

Section 2.11, “Test Control,” of the NuScale QAPD states that suppliers “...will be required to either have a test control program meeting the following requirements or conduct testing under the NuScale Quality Program.”

Please clarify whether the “NuScale Quality Program” is equivalent to the NuScale Quality Assurance Program (QAP), the Quality Management Plan (QMP), the Project Quality Plan (PQP), or some combination thereof.

Similarly, address this issue in Section 2.12, “Control of Measuring and Test Equipment,” Section 3.1.11, “Test Control,” and Section 3.1.12, “Control of Measuring and Test Equipment,” of the NuScale QAPD.

NuScale Response

The reference to “NuScale Quality Program” in Sections 2.11, 2.12, 3.1.11, and 3.1.12 has been revised to state “NuScale Quality Assurance Program (QAP)”, which consists of the Quality Management Plan (QMP), the Project Quality Plan (PQP) and associated implementing documents as stated in Section 1.1 of this Topical Report. Sections 2.11, 2.12, 3.1.11, and 3.1.12 have been revised to read as follows:

“...under the NuScale Quality Assurance Program (QAP).”