RAIO-0318-59203

March 20, 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 Supplemental Response to NRC Request for Additional Information No. 157 (eRAI No. 9033) on the NuScale Design Certification Application

REFERENCES:
1. U.S. Nuclear Regulatory Commission, "Request for Additional Information No. 157 (eRAI No. 9033)," dated August 08, 2017
2. NuScale Power, LLC Response to NRC "Request for Additional Information No. 157 (eRAI No.9033)," dated September 14, 2017

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

The Enclosure to this letter contains NuScale's supplemental response to the following RAI Question from NRC eRAI No. 9033:

- 16-12

This letter and the enclosed response 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,

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

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Enclosure 1: NuScale Supplemental Response to NRC Request for Additional Information eRAI No. 9033

Enclosure 1:

NuScale Supplemental Response to NRC Request for Additional Information eRAI No. 9033

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NuScale Power™

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

eRAI No.: 9033
Date of RAI Issue: 08/08/2017

NRC Question No.: 16-12

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 state that a design certification (DC) applicant and a combined license (COL) applicant, respectively, are to propose technical specifications (TS) prepared in accordance with 10 CFR 50.36 and 50.36a. 10 CFR 50.36 sets forth requirements for TS to be included as part of the operating license for a nuclear power facility. The model standard technical specifications (STS) in the following documents provide NRC guidance on format and content of TS as acceptable means to meet 10 CFR 50.36 requirements. These documents may be accessed using the Agencywide Documents Access and Management Systems (ADAMS) by their accession numbers.

- NUREG-1431, "STS Westinghouse Plants," Revision 4 (ADAMS Accession Nos. ML12100A222 and ML12100A228)
- NUREG-1432, "STS Combustion Engineering Plants," Revision 4 (ADAMS Accession Nos. ML12102A165 and ML12102A169)
- NUREG-2194, "STS Westinghouse Advanced Passive 1000 (AP1000) Plants," Revision 0 (ADAMS Accession No. ML16111A132)

The NRC staff needs to evaluate technical differences in the proposed generic TS (GTS) from applicable provisions in these documents, which are referenced by the DC applicant in Design Control Document (DCD) Tier 2, Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the GTS to ensure adequate protection of public health and safety, and the completeness and accuracy of the GTS Bases.

In the Bases for LCO 3.0.5, which are apparently based on the markup of the Bases for LCO 3.0.5 in the Westinghouse STS (NUREG-1431, Revision 4) in TSTF-529, Revision 4, the third and fourth paragraphs are worded differently than the markup of the third and fourth paragraphs of the Bases for LCO 3.0.5 in the Westinghouse STS in TSTF-529, as follows.

- In the third paragraph, the generic TS uses "RCS pressure boundary leakage" while the STS uses "RCS Pressure Isolation Valve (PIV) leakage," as follows

Third paragraph of generic TS LCO 3.0.5 Bases:

An example of demonstrating equipment is OPERABLE with the Required Actions not met is opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System (RCS) pressure boundary leakage in order to perform testing to demonstrate that RCS pressure boundary leakage is now within limit.

Third paragraph of STS LCO 3.0.5 Bases:

An example of demonstrating equipment is OPERABLE with the Required Actions not met is opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) leakage in order to perform testing to demonstrate that RCS PIV leakage is now within limit.

- In the fourth paragraph, the generic TS Bases omit the STS paragraph's first sentence, which states:

Examples of demonstrating equipment OPERABILITY include instances in which it is necessary to take an inoperable channel or trip system out of a tripped condition that was directed by a Required Action, if there is no Required Action Note for this purpose.

The applicant is requested to provide a justification for each of these differences.

NuScale Response:

In response to questions identified during the public meeting on February 21, 2018 between the NRC staff and NuScale regarding technical specifications, the following clarifications and additions are provided to supplement the previously provided in the September 14, 2017 response to RAI 157-9033 (ML17257A450), Question 16-12:

Valves that perform a function similar to those addressed by the pressure isolation valve LCO in Westinghouse PWRs are listed below. OPERABILITY and surveillance testing of the eight valves is specified in LCO 3.4.6, CVCS Isolation Valves. Additionally, the valves are containment isolation valves and the OPERABILITY and surveillance testing requirements in LCO 3.6.2 are applicable.

Valve	Function
CVC-ISV-0323	Pressurizer Spray Line Outboard Isolation Valve
CVC-ISV-0325	Pressurizer Spray Line Inboard Isolation Valve
CVC-ISV-0329	CVCS Injection Outboard Isolation Valve
CVC-ISV-0331	CVCS Injection Inboard Isolation Valve
CVC-ISV-0334	CVCS Discharge Inboard Isolation Valve
CVC-ISV-0336	CVCS Discharge Outboard Isolation Valve

CVC-ISV-0401	RPV Vent Inboard Isolation Valve
CVC-ISV-0403	RPV Vent Outboard Isolation Valve

FSAR Section 3.9.6.3.2, Valve Testing, includes and describes the eight CVCS containment isolation valves that perform the pressure isolation function in the NuScale design. Inservice test requirements per the ASME Code are listed in FSAR Table 3.9-16.

The containment isolation function of the valves is described in FSAR 6.2.4. A description of the associated containment penetration arrangement is provided in FSAR Table 6.2-4, Containment penetrations and additional specific valve information is provided in FSAR Table 6.2-5, Containment Isolation Valve Information. FSAR Figure 6.2-4, Containment System (Isolation Valves) Piping and Instrumentation Diagram, illustrates the location of the valves with respect to the containment vessel.

FSAR Section 9.3.4 describes the design and operation of the CVCS, including the location of the valves with regard to the CVCS in Figure 9.3.4-1 at the top of the containment vessel.

Impact on DCA:

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