January 31, 2019 Docket No. 52-048

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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**SUBJECT:** NuScale Power, LLC Submittal of Resolution Plans for Containment Isolation Valves and Reactor Safety Valves Design Document Audit Follow-Up Items

**REFERENCES:**
1. Letter from NuScale Power, LLC to Nuclear Regulatory Commission, "NuScale Power, LLC Submittal of the NuScale Standard Plant Design Certification Application, Revision 2," dated October 30, 2018 (ML18311A006)
2. "The U.S. Nuclear Regulatory Commission Staff's Report of the Regulatory Audit of NuScale Power LLC, Design Documents for Containment Isolation Valves and Reactor Safety Valves," dated December 7, 2018, (ML18331A042)

During an October 31, 2018 public teleconference with Ms. Marieliz Vera and Mr. Tom Scarborough of the NRC Staff, NuScale Power, LLC (NuScale) discussed a proposed path forward for resolution of certain follow-up items from the Reference 2 audit report. As a result of this discussion, NuScale submits the proposed closure plan for these follow-up items (see Attachment 1).

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

If you have any questions, please feel free to contact Mr. Marty Bryan at 541-452-7172 or at MBryan@nuscalepower.com

Sincerely,

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Supervisor, Licensing
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Attachment: "NuScale Power's Resolution Plan for Containment Isolation Valves and Reactor Safety Valves Design Document Audit Follow-Up Items"

## Attachment:

"NuScale Power's Resolution Plan for Containment Isolation Valves and Reactor Safety Valves Design Document Audit Follow-Up Items"

The Reference 2 audit report identifies the following FSAR and NuScale design document updates required to close containment isolation valves and reactor safety valves design document audit follow-up items. NuScale will incorporate the FSAR updates in pending FSAR Revision 3 and will provide the design document updates by June 2019.

Containment Isolation Valves FSAR Updates

1. Description: Apparent inconsistency in the fourth paragraph of Section 6.2.4.2.2. The second sentence states that the PSCIVs in the Control Rod Drive System (CRDS), Containment Evacuation System (CES), and Containment Flooding and Drain System (CFDS) are designed and constructed to Class 1, while the third sentence states that these PSCIVs are designed, fabricated, constructed, tested, and inspected in accordance with ASME BPV Code, Section III, Class 2.

   NuScale Resolution: NuScale understands the requested FSAR change and will clarify the FSAR Section 6.2.4.2.2 text to resolve the above apparent inconsistency.

2. Description: Section 6.2.4.2.2 discusses thermal relief devices included in the design of the PSCIVs to relieve excessive pressurization. The description in the FSAR for the 10 CFR Part 50, Appendix J, containment leakage testing and 10 CFR 50.55a inservice testing (IST) program testing requires revision to include provisions for the PSCIV thermal relief valves.

   NuScale Resolution: NuScale understands the requested FSAR change and will update the FSAR description of 10 CFR Part 50, Appendix J containment leakage testing and the IST program to include provisions for the PSCIV thermal relief valves.

3. Description: FSAR Section 6.2.4.2.2 requires revision to clarify whether the CIV rack and pinion mechanism or the gas cylinder will be qualified to hold the valve closed for the time period specified for its design-basis and beyond design-bases functions

   NuScale Resolution: NuScale understands the requested FSAR change and will update the FSAR to indicate how the CIV will be qualified to hold the valve closed for the time period specified for its design-basis or beyond design-basis functions.

4. Description: Revise the description in FSAR Tier 2, Section 6.2.4.2.2, as necessary, to address the design provisions to avoid thermal binding of the CIVs by reactor pool cooling.

   NuScale Resolution: NuScale understands the requested FSAR change and will update the FSAR to include provisions to avoid thermal binding of the CIVs by reactor pool cooling.

5. Description: The diagrams of the include valves (such as relief and check valves) that perform safety functions for the proper performance of the CIV actuators, nitrogen gas cylinders, and hydraulic lines. Update the FSAR to identify these CIV internal valves and specify the applicable IST testing of those valves consistent with the ASME OM Code, Section IST (OM Code) provisions, such as skid-mounted components where appropriate.

   NuScale Resolution: NuScale understands the requested FSAR change and will update the FSAR to identify the CIV internal valves and specify the applicable IST testing of the valves.

6. Description: Update the FSAR as required to provide the SSCIV design details to prevent pressure locking or thermal binding conditions.

   NuScale Resolution: NuScale understands the requested FSAR change and will update the FSAR to provide the SSCIV design details to prevent pressure locking or thermal binding conditions.

Containment Isolation Valve Design Document Updates

1. Description: The PSCIV and SSCIV Design Specifications indicate ODI-16-0221 concerning the Reactor Module Loading Specification for mechanical loads is open. This open item is required to be completed.

   NuScale Response: NuScale understands the requested specification update and will provide for audit documentation demonstrating that the CIV's accommodate piping mechanical and thermal design loads.

2. Description: Document CIV hydraulic actuator sizing and settings in vendor design documents.

   NuScale Response: NuScale understands the requested document update and will provide for audit vendor documentation including the CIV actuator sizing and settings.

Reactor Safety Valve Design Document Updates

1. Description: Update Target Rock Drawing No. 14Z539-RSV2 to reflect the 2103 Edition of the ASME BPV Code.

   NuScale Response: NuScale understands the requested document update and will provide the updated document for audit, which reflects the correct ASME Code Edition.

2. Description: Revise the RSV Design Specification to correctly reflect an actuation time of 1 second.

   NuScale Resolution: NuScale understands the requested document update and will provide the updated specification for audit, which reflects the one second actuation time.

3. Description: During the NRC staff audit review of the RSV Design Specification, NuScale indicated that the design specification is intended to establish requirements but does not specify size or type. NuScale noted that the size will result from the specified flow coefficient, and the type will result from the functional requirements listed in the design specification. However, NuScale stated that the specification does not include a table that specifies the valve size. Therefore, NuScale will revise the design specification to include this information.

   NuScale Resolution: NuScale understands the requested document update and will provide for audit the updated specification to specify the valve size.

4. Description: The RSV Design Specification indicates that ODI-15-0220 (pressure and temperature for pneumatic leak testing and hydrostatic testing), ODI-15-0329 (minimum reactor pool temperature), ODI-15-472 (Inservice examination requirements), 16-021 (Reactor Module Nozzle loads), and 16-0684 (pressure and temperature curves for prototype and qualification) remain open. These open items are required to be closed.

   NuScale Response: NuScale understands the requested specification update and will close the ODI or provide documentation for audit demonstrating that the RSV design adequately addresses the respective open item.