



January 03, 2019

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. 194 (eRAI No. 8884) on the NuScale Design Certification Application

**REFERENCES:** 1. U.S. Nuclear Regulatory Commission, "Request for Additional Information No. 194 (eRAI No. 8884)," dated August 21, 2017  
2. NuScale Power, LLC Response to NRC "Request for Additional Information No. 194 (eRAI No. 8884)," dated October 18, 2017

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 NuScale's response to the following RAI Question from NRC eRAI No. 8884:

- 03.09.02-11

A majority of the responses to RAI No. 194, eRAI No. 8884, questions were previously provided in Reference 2. The response to question 03.09.02-9 will be provided by April 19, 2019 and the response to question 03.09.02-10 will be provided by May 28, 2019.

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 Marty Bryan at 541-452-7172 or at mbryan@nuscalepower.com.

Sincerely,

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

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Enclosure 1: NuScale Response to NRC Request for Additional Information eRAI No. 8884



**Enclosure 1:**

NuScale Response to NRC Request for Additional Information eRAI No. 8884

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

**eRAI No.:** 8884

**Date of RAI Issue:** 08/21/2017

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**NRC Question No.:** 03.09.02-11

10 CFR 50, Appendix A, GDC 4 requires structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents. Section 5 (Vibration Inspection Program) of CVAP TR-0716-50439 is incomplete. Only a brief summary of the planned inspection program is provided. Also, only visual inspections are planned for accessible components. Without the detailed description of the inspection plan, the NRC staff cannot reach a safety finding.

Provide a detailed inspection program, showing which components/regions are visually accessible, and explaining how the inspections will be performed. Explain how crack initiation will be evaluated for components which cannot be visually accessed. Update the CVAP technical report to include the requested information.

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### **NuScale Response:**

The details of the CVAP inspection program are provided in the NuScale Comprehensive Vibration Assessment Program Measurement and Inspection Plan Technical Report TR-0918-60894, as submitted by NuScale letter LO-1218-63700, dated December 7, 2018. As discussed in Section 7.1, the majority of the CVAP inspections can be performed either while the component is in its installed location or while the NPM is disassembled. Two exceptions are the SG tubes and SG tube supports where only the upper and lower ends are accessible. Inspecting the upper and lower ends covers the limiting locations for the susceptible flow induced vibration mechanisms. The upper end of the SG tube bundle has high primary side velocities for fluid elastic instability and turbulent buffeting while the lower end of the bundle is



the credible location for vortex shedding. Beyond the CVAP inspection program, the entire length of each SG tube receives periodic volumetric inspections to look for defects, including crack initiation, as part of the SG program, per Section 5.4.1.4 of the FSAR and Section 5.5.4 of the technical specifications. The overall reactor coolant pressure boundary is periodically inspected per Section 5.2.4 of the FSAR.

**Impact on DCA:**

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