March 7, 2017

Mr. Thomas A. Bergman
Vice President, Regulatory Affairs
NuScale Power, LLC
1100 Circle Boulevard, Suite 200
Corvallis, OR 97330

SUBJECT: ACCEPTANCE FOR REVIEW OF NUSCALE POWER, LLC, TOPICAL REPORT TR-0516-49417-P, REVISION 0, "EVALUATION METHODOLOGY FOR STABILITY ANALYSIS OF THE NUSCALE POWER MODULE," AND RESPONSE FOR SUPPLEMENTAL INFORMATION TO THE TR, REV.0

Dear Mr. Bergman:

By letters dated July 31, 2016, and December 3, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML16250A851 and ML16340A756, respectively) NuScale Power, LLC (NuScale) submitted, for U.S. Nuclear Regulatory Commission (NRC) staff review, Topical Report (TR)-0516-49417-P, "Evaluation Methodology for Stability Analysis of the NuScale Power Module," and the subsequent "Response to NRC Request for Supplemental Information to TR-0516-49417-P, Revision 0." The NRC staff has performed an acceptance review of the TR and Supplemental Information, and found that the material presented provides the technical information in sufficient detail to enable the NRC staff to conduct a detailed technical review.

In support of the review, the NRC staff requests that the following information be made available, some of which was also requested in the NuScale's TR-0516-49422, "Loss-of-Coolant Accident Evaluation Model," Acceptance Review Letter:

- PIM input decks for NuScale and the NIST-1 (Preferred media: CD/DVD)
- The Reduced Order Model (ROM) description or user manual, that includes: mathematical formulation, assumptions, and final set of equations and boundary and initial conditions solved that compose the ROM (Preferred media: CD/DVD)
- ROM input deck and constants or parameter values used in the model (Preferred media: CD/DVD)
- Description of the primary system that shall be used to develop a systems analysis model. Examples of details required, are piping dimensions, loss coefficients, and hydraulic diameters (Preferred media: CD/DVD) (also requested for the LOCA TR through the N-RELAP5 input deck request)
- Reactor kinetics data including: reactivity coefficients, neutron lifetime, delayed neutron fraction ,and delayed neutron precursor decay constants, and representative power

distributions (Preferred media: CD/DVD) (also requested for the LOCA TR through the N-RELAP5 input deck request)
- Description of the secondary system from the steam generator feedwater inlet piping through the turbine control valve appropriate for systems modeling, including piping dimensions, loss coefficients, and hydraulic diameters (Preferred media: CD/DVD)

Also in support of the review, the NRC staff requests that the following information be made available for audit:

- PIM user manual (Preferred location: electronic reading room)

The NRC staff expects to issue its request for additional information (RAI) questions by October 5, 2017, and issue its advance safety evaluation by June 5, 2018, provided that NuScale is able to address any issues identified during the review process in a timely manner. These dates are also contingent upon receipt of the above requested references and information prior to March 1, 2017. Requested information that is provided in support of other license applications requests, for example, RAIs or other TR acceptance letter requests, would also satisfy requests herein, so long as the information is received prior to March 1, 2017.

The NRC staff estimates that the review will require approximately 1750 staff hours excluding project management time. On February 15, 2017, in an e-mail from Ms. Stephanie Seely, Licensing Supervisor, NuScale agreed to the NRC staff's cost estimates and proposed review schedule.

Section 170.21 of Title 10 of the *Code of Federal Regulations* requires that TRs are subject to fees based on the full cost of the review. You did not request a fee waiver; therefore, NRC staff hours will be billed accordingly.

If you have any questions, please contact the Project Manager, Bruce Bavol, at (301) 415-6715 or Bruce.Bavol@nrc.gov.

Sincerely,

/RA/

Samuel Lee, Chief
Licensing Branch 1
Division of New Reactor Licensing
Office of New Reactors

Project No.: PROJ0769

cc: NuScale DC ListServ

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