

November 12, 2015

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 1 FOR THE REVIEW
OF NUSCALE TOPICAL REPORT, TR-0515-13952, "RISK SIGNIFICANCE
DETERMINATION," REVISION 0 (TAC NO. RN6110)

Dear Mr. Bergman:

By letter dated July 30, 2015, NuScale Power, LLC. submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report (TR) TR-0515-13952, "Risk Significance Determination," revision 0. The NRC staff is performing a detailed review of this topical report to enable the staff to reach a conclusion on the safety of the proposed application. The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the topical report, the staff requests that the RAI response include the proposed wording changes

If you have any questions or comments concerning this matter, you may contact me at 301-415-6616.

Sincerely,

/RA/

Omid Tabatabai, Senior Project Manager
Licensing Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. PROJ0769
eRAI Tracking No. 8400

Enclosure: Request for Additional Information

Request for Additional Information 01

Issue Date: 11/12/2015

Application Title: NuScale Pre-Application Activities - PROJ 0769

Docket No. PROJ 0769

Review Section: 17.04 - Reliability Assurance Program (RAP)

QUESTIONS

17.04-1

NRC Standard Review Plan section 19.0, "Probabilistic Risk Assessment and Severe Accident Evaluation for New Reactors", contained in NUREG-0800 endorses the use of numerical criteria given in NRC Regulatory Guide 1.200 for establishing the significance of contributors to risk modeled in the PRA. This includes numerical thresholds for Risk Achievement Worth (RAW) and Fussell-Vesely (FV) importance. It is stated in section 2.4 of your report that these thresholds have been applied in a preliminary NuScale PRA model with the result being that a large number of systems, structures or components (SSCs) that do not control risk were identified as being risk significant. In Section 2.2 of your report you indicate that identifying dominant contributors to risk with relative importance measures in a plant with a very low predicted risk profile, such as NuScale, is difficult and should be met with skepticism. The staff wishes to confirm that application of the proposed numerical thresholds provides reasonable results regarding identification of significant contributors to risk. Accordingly, please explain how you confirmed that some SSCs identified as being risk significant did not play a role in controlling risk. In addition, provide a list of these SSCs that includes a brief description of their functional capabilities.

17.04-2

The results of using the NuScale preliminary PRA in conjunction with the traditional values for RAW and FV specified in Regulatory Guide 1.200 to assess risk significance of SSCs are described in Section 2.4 of the report. The staff wishes to confirm that application of the proposed numerical thresholds provides reasonable results regarding identification of significant contributors to risk. In this regard: Were any studies performed to determine the sensitivity of risk categorization results to the values selected for component-level CCDF, system-level CCDF, component-level CLRF, system-level CLRF or total FV? If so, please describe the results of these studies and how they informed the selection of values reported in Table 4-1 of the report; If not, why not?

17.04-3

Uncertainties in the PRA model are accounted for by incorporating margin into the value selected for the component level CCDF as described in Section 3.1.1.1 of the report.

- a) On what basis was it concluded that the amount of margin specified in the report was sufficient to account for uncertainties in the PRA model?
- b) Does the amount of margin specified in the report apply only to the uncertainties in the NuScale PRA being used to support design certification of NuScale or will it apply to the uncertainties in the PRA holders of a combined license based on the certified NuScale design are required to develop in accordance with 10 CFR 50.71(h)(1)?