



September 13, 2018

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. 137 (eRAI No. 8973) on the NuScale Design Certification Application

REFERENCES: 1. U.S. Nuclear Regulatory Commission, "Request for Additional Information No. 137 (eRAI No. 8973)," dated August 05, 2017
2. NuScale Power, LLC Response to NRC "Request for Additional Information No. 137 (eRAI No.8973)," dated February 23, 2018

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. 8973:

- 03.08.04-15

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 Supplemental Response to NRC Request for Additional Information eRAI No. 8973



Enclosure 1:

NuScale Supplemental Response to NRC Request for Additional Information eRAI No. 8973

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

eRAI No.: 8973

Date of RAI Issue: 08/05/2017

NRC Question No.: 03.08.04-15

10 CFR 50, Appendix A, GDC 1, 2, and 4 provides requirements to be met by SSC important to safety. In accordance with these requirements, DSRS Section 3.8.4 provides review guidance pertaining to the design of seismic Category I structures, other than the containment. Consistent with DSRS Section 3.8.4, the staff reviews the descriptive information, including plans and sections of each structure, to establish that there is sufficient information to define the primary structural aspects and elements relied upon for the structure to perform the intended safety function.

Staff review finds that the descriptive information, including plans and sections provided in the FSAR for the RXB and CRB need additional details to assist the staff's evaluation of these structures. Further, the enhancements to the FSAR descriptive information requested below are important for the verification that the as-built RXB and CRB conform to the approved design as per ITAAC in FSAR, Tier 1, Chapter 3.

Therefore, for the plan and section views provided in FSAR, Tier 2, Chapter 1, the staff requests the applicant to enhance the level of details provided in those plan and section views to include overall structure dimensions, and local dimensions such as slab and wall thickness, complete identification of major elevations (e.g. for the RXB, roof elevation, elevation at the intersection of the exterior wall and the roof, and reactor building crane support elevation), and identification of section cuts in the plan views (e.g. identification of the section cuts for the section views shown in FSAR Figure 1.2-19). Also, provide drawings that show how the stiffener walls are supporting the sloping portion of the roof (rigid or hinge or sliding connections between them) and how the stiffener walls are connected with other structural members to transfer loads to the basemat.

Additionally, the staff request the applicant to provide a table identifying wall and floor thicknesses for the CRB in FSAR, Tier 1, Chapter 3. Further, the staff request enhancements to



the section views and reinforcement drawings provided in FSAR, Tier 2, Appendix 3B to include missing section cut IDs (e.g. see Figures 3B-8, 3B-11, 3B-15, 3B-19, amongst other); provide missing section cuts that are currently identified in plan or section views [e.g. weir wall reinforcement layout (8 – 1697 – S51; see Figure 3B-11)]; correct inconsistent section cut IDs between the section cut identified in a section view and the respective detail drawing (e.g. section cut in Figure 3B-19 and reinforcement layout in Figure 3B-21; also between 3B-23 and 3B-24; and others); provide development length and concrete clear cover distances in the current reinforcement drawings in FSAR, Tier 2, Appendix 3B. Further, clarify whether the drawing in Figure 3B-47 applies to the section cut identified in Figure 3B-46. If not, provide the applicable drawing.

NuScale Response:

In an NRC Public meeting on 9/4/2018, the NRC provided feedback on the original response to eRAI 8973 Question 03.08.04-15. Specifically, the portion of the response that discussed as-built reconciliation. That response is supplemented as follows:

Plan and section views provided in FSAR Tier 2, Chapter 1 have been revised to include overall structure dimensions, local dimensions, such as slab and wall thickness, complete identification of major elevations, identification of section cuts in the plan views for the reactor building (RXB; Figures 1.2-10 through 1.2-20), control building (CRB; Figures 1.2-21 through 1.2-27) and radioactive waste building (RWB; Figures 1.2-28 and 1.2-33).

As mentioned above, wall and floor thickness dimensions are provided in figures in FSAR Tier 2, Chapter 1. Tier 1 information will be addressed in the response to RAI 9563 Question 14.03.02-3.

Impact on DCA:

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