NuScaleDCRaisPEm Resource

From: Cranston, Gregory
Sent: Saturday, August 05, 2017 12:22 PM
To: RAI@nuscalepower.com
Cc: NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Jackson, Diane; Chien, Nan; Markley, Anthony
Subject: RE: Request for Additional Information No. 140, RAI 8887 (9.4.2)
Attachments: Request for Additional Information No. 140 (eRAI No. 8887).pdf

Attached please find NRC staff's request for additional information concerning review of the NuScale Design Certification Application.

Please submit your technically correct and complete response within 60 days of the date of this RAI to the NRC Document Control Desk. The NRC Staff recognizes that NuScale has preliminarily identified that the response to one or more questions in this RAI is likely to require greater than 60 days. NuScale is expected to provide a schedule for the RAI response by email within 20 days.

If you have any questions, please contact me.

Thank you.

Gregory Cranston, Senior Project Manager
Licensing Branch 1 (NuScale)
Division of New Reactor Licensing
Office of New Reactors
U.S. Nuclear Regulatory Commission
301-415-0546

Hearing Identifier: NuScale_SMR_DC_RAI_Public
Email Number: 162

Mail Envelope Properties (e9b0ec6d77074945b29f158e454e3938)

Subject: RE: Request for Additional Information No. 140, RAI 8887 (9.4.2)
Sent Date: 8/5/2017 12:21:31 PM
Received Date: 8/5/2017 12:21:35 PM
From: Cranston, Gregory

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Post Office: HQPWMSMRS08.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	812	8/5/2017 12:21:35 PM
Request for Additional Information No. 140 (eRAI No. 8887).pdf	94489	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information No. 140 (eRAI No. 8887)

Issue Date: 08/05/2017
Application Title: NuScale Standard Design Certification - 52-048
Operating Company: NuScale Power, LLC
Docket No. 52-048
Review Section: 09.04.02 - Spent Fuel Pool Area Ventilation System
Application Section:

QUESTIONS

09.04.02-1

Question (i):

10 CFR 52.47(a)(2) requires sufficient information to permit understanding of the system designs and their relationship to the safety evaluations. NuScale FSAR 9.4.2 states that the Reactor Building Ventilation system general area exhaust subsystem receives and filters air from the Radioactive Waste Building HVAC system and the Annex Building HVAC system. However, in FSAR 9.4.3 describes Radioactive Waste Building HVAC but there is no FSAR section describing Annex Building HVAC system. As one of the NuScale auxiliary systems, the applicant is requested to provide an description in the FSAR on Annex Building HVAC system. Proposed changes to the FSAR are requested with the response.

Question (ii):

10 CFR 50.2 indicates that one of the definitions of safety-related SSCs is to assure the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures. NRC SRP BTP 3-3, Section B.3.(4), indicates that only seismically qualified systems should be assumed to be available to mitigate the consequences of the postulated piping failure. NuScale FSAR 9.4.2 states that to prevent pressurization in the UHS area of the RXB, credit is taken for a passive vent path (RXB exhaust ventilation system). The system filters and controls the release of airborne radioactive material from inside of the RXB, including from pool water evaporation for loss of normal power supply (see Section 9.4.2). The affected exhaust path includes ductwork, low efficiency filter, HEPA filter, fan, dampers, exhaust stack, and instrumentation.

After reviewing NuScale TOM and RXB Pool Room HELB calculations, for exemple: TR EC-0000-4720, Rev 1, NuScale High Energy Line Break Scenario Definition – Top of Module, the staff found that in these calculations: To maintain building pressure within “reasonable limits”, the ductwork of the RBVS SFP exhaust sub-system is credited in all GOTHIC TOM/pool room HELB cases as a passive ventilation path to ambient for the purpose of pressure relief within the pool room. The applicant is requested to clarify the current credited use, safety function, and system classfiication (e.g., seismic Cat I or other) of the NuScale design and update the FSAR accordingly. Proposed changes to the FSAR are requested with the response.