

NuScaleDCRaisPEm Resource

From: Cranston, Gregory
Sent: Sunday, July 30, 2017 8:35 AM
To: RAI@nuscalepower.com
Cc: NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Roche-Rivera, Robert; Vera Amadiz, Marieliz; Samaddar, Sujit
Subject: Request for Additional Information No. 111, RAI 8976 (3.8.4)
Attachments: Request for Additional Information No. 111 (eRAI No. 8976).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.

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: 133

Mail Envelope Properties (ea71eceffb66456082ca5eb14d5a2820)

Subject: Request for Additional Information No. 111, RAI 8976 (3.8.4)
Sent Date: 7/30/2017 8:34:37 AM
Received Date: 7/30/2017 8:34:40 AM
From: Cranston, Gregory

Created By: Gregory.Cranston@nrc.gov

Recipients:

"NuScaleDCRaisPEm Resource" <NuScaleDCRaisPEm.Resource@nrc.gov>

Tracking Status: None

"Lee, Samuel" <Samuel.Lee@nrc.gov>

Tracking Status: None

"Chowdhury, Prosanta" <Prosanta.Chowdhury@nrc.gov>

Tracking Status: None

"Roche-Rivera, Robert" <Robert.Roche-Rivera@nrc.gov>

Tracking Status: None

"Vera Amadiz, Marieliz" <Marieliz.VeraAmadiz@nrc.gov>

Tracking Status: None

"Samaddar, Sujit" <Sujit.Samaddar@nrc.gov>

Tracking Status: None

"RAI@nuscalepower.com" <RAI@nuscalepower.com>

Tracking Status: None

Post Office: HQPWMSMRS07.nrc.gov

Files	Size	Date & Time
MESSAGE	559	7/30/2017 8:34:40 AM
Request for Additional Information No. 111 (eRAI No. 8976).pdf		89498

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

Request for Additional Information No. 111 (eRAI No. 8976)

Issue Date: 07/30/2017

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 03.08.04 - Other Seismic Category I Structures

Application Section: 3.8.4

QUESTIONS

03.08.04-2

10 CFR 50, Appendix A, GDC 1, 2, and 4, provide 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.

FSAR Section 3.8.4.6.1.4 states that “the NuScale Power Plant primary safety-related structure design does not use steel-concrete modules.” Also, FSAR Section 3.8.4.6.3 states that “modular construction, where wall or slab elements (or the rebar reinforcement) is pre-fabricated and then incorporated into the building, will be used when possible. This process is expected to leave sacrificial (non-structural) steel within the buildings.” Additionally, FSAR Section 3.8.4.1.12 states that “the design of the Seismic Category I RXB and CRB structural walls does not include steel-concrete (SC) modular subsystems. Modular construction techniques (including sacrificial steel) that do not alter the design, normal construction techniques, or analysis may be employed.”

Appendix B figure 3B-14 (and others) for SAP2000 Elevation View and Shell Element Numbers show the inclusion of steel partition walls in the model. Further, Figure 3B-15 describe these walls as being walls with steel plates and concrete in-fill.

The staff request the applicant to clarify the applicability, if any, of the above FSAR statements to the walls shown in Figures 3B-14 and 3B-15. Further, clarify what the seismic Category is for the steel plate walls in Figures 3B-14 and 3B-15, and describe the applicable analysis and design criteria. Further, describe the input properties for elements used in the SAP2000 model for these walls.