

NuScaleDCRaisPEm Resource

From: Cranston, Gregory
Sent: Thursday, September 14, 2017 10:34 AM
To: RAI@nuscalepower.com
Cc: NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Dias, Antonio; Hernandez, Raul; Markley, Anthony
Subject: Request for Additional Information No. 226, RAI 9062 (9.1.2)
Attachments: Request for Additional Information No. 226 (eRAI No. 9062).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: 249

Mail Envelope Properties (e84e8975d8ca4f88b70342803ddc48cb)

Subject: Request for Additional Information No. 226, RAI 9062 (9.1.2)
Sent Date: 9/14/2017 10:34:11 AM
Received Date: 9/14/2017 10:34:13 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
"Dias, Antonio" <Antonio.Dias@nrc.gov>
Tracking Status: None
"Hernandez, Raul" <Raul.Hernandez@nrc.gov>
Tracking Status: None
"Markley, Anthony" <Anthony.Markley@nrc.gov>
Tracking Status: None
"RAI@nuscalepower.com" <RAI@nuscalepower.com>
Tracking Status: None

Post Office: HQPWMSMRS07.nrc.gov

Files	Size	Date & Time
MESSAGE	556	9/14/2017 10:34:13 AM
Request for Additional Information No. 226 (eRAI. No. 9062).pdf		31752

Options

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

Request for Additional Information No. 226 (eRAI. No. 9062)

Issue Date: 09/14/2017

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 09.01.02 - New and Spent Fuel Storage

Application Section: Section 9.1.2

QUESTIONS

09.01.02-28

10 CFR 52.47(a)(2) requires that a standard design certification applicant provide a description and analysis of the structures, systems, and components (SSCs) of the facility, with emphasis upon performance requirements, the bases, with technical justification therefor, upon which these requirements have been established, and the evaluations required to show that safety functions will be accomplished.

10 CFR 50, Appendix A, General Design Criterion (GDC) 4 requires, in part, SSCs important to safety to be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit.

FSAR Tier 2, Section 3.5.1 discusses the site missile protection features indicating that the turbine rotors are oriented in such a way that the reactor building (RXB) and the control building (CRB) are included in the low-trajectory turbine missile strike zone.

In FSAR Tier 2, Section 9.1.2.3, the applicant states that the thick walls of the RXB and spent fuel pool (SFP) provide additional protection from turbine blade missiles. The staff finds that this statement is conflicting with FSAR 3.5.1, in which orientation, not barriers, are credited with protecting the RXB from turbine blade missiles. Besides, the staff does not understand how the below ground SFP walls can serve as missile protection.

The staff requests the applicant to clarify the statements made in different parts of the FSAR in order to clearly indicate the design basis of the RXB and the provisions (orientation vs. barriers) credited for protections against turbine generated missiles.