NuScaleDCRaisPEm Resource

From: Cranston, Gregory
Sent: Friday, June 02, 2017 5:40 PM
To: RAI@nuscalepower.com
Cc: NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Dias, Antonio; Bavol, Bruce; Li, Chang
Subject: RE: Request for Additional Information No. 49, RAI 8843
Attachments: Request for Additional Information No. 49 (eRAI No. 8843).pdf

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

Please submit your 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: 63

Mail Envelope Properties (0a65f9844fc94b2383fea0efa0f76b87)

Subject: RE: Request for Additional Information No. 49, RAI 8843
Sent Date: 6/2/2017 5:39:55 PM
Received Date: 6/2/2017 5:39:59 PM
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
"Bavol, Bruce" <Bruce.Bavol@nrc.gov>
Tracking Status: None
"Li, Chang" <Chang.Li@nrc.gov>
Tracking Status: None
"RAI@nuscalepower.com" <RAI@nuscalepower.com>
Tracking Status: None

Post Office: HQPWMSMRS07.nrc.gov

Files	**Size**	**Date & Time**	
MESSAGE	522	6/2/2017 5:39:59 PM	
Request for Additional Information No. 49 (eRAI No. 8843).pdf			87190

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

Request for Additional Information No. 49 (eRAI No. 8843)

Issue Date: 06/02/2017
Application Title: NuScale Standard Design Certification - 52-048
Operating Company: NuScale Power, LLC
Docket No. 52-048
Review Section: 05.02.05 - Reactor Coolant Pressure Boundary Leakage Detection
Application Section: 5.2

QUESTIONS

05.02.05-4

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.

RG 1.45, Regulatory Position C.4.1 provides guidance on the content of technical specifications addressing reactor coolant pressure boundary (RCPB) leakage by stating:

> "Plant technical specifications should include the limiting conditions for identified, unidentified, RCPB, and intersystem leakage, and they should address the availability of various types of instruments to ensure adequate coverage during all phases of plant operation (not including cold shutdown and refueling modes of operation)."

FSAR Tier 2, Section 9.3.6.2.3 indicates that the leak-detection methods of containment vessel (CNV) pressure monitoring, containment evacuation system (CES) sample tank level change monitoring, and CES vacuum discharge radiation monitoring are used for leak-before-break (LBB) leakage monitoring. NuScale applies LBB for main steam and feedwater piping within the CNV, as described in FSAR Tier 2, Section 3.6.3.5.

Leak-detection methods are specified under plant technical specifications LCO 3.4.5, "RCS Operational Leakage," and LCO 3.4.7, "RCS Leakage Detection Instrumentation" for RCS leakage. While reviewing LCO 3.4.5 and LCO 3.4.7 for conformance with RG 1.45, Regulatory Position C.4.1, the staff could not confirm whether these two LCOs are also applicable for main steam and feedwater piping leakage.

The applicant is requested to:

a) Clarify whether LCOs 3.4.5 and 3.4.7 are applicable for main steam and feedwater piping or provide equivalent LCOs for main steam and feedwater piping LBB. The FSAR should be revised accordingly.

b) Otherwise, justify its position for not having LCOs for main steam and feedwater to support the LBB application.