

NuScaleTRRaisPEm Resource

From: Cranston, Gregory
Sent: Sunday, August 06, 2017 8:17 AM
To: RAI@nuscalepower.com
Cc: NuScaleTRRaisPEm Resource; Lee, Samuel; Skarda, Raymond; Karas, Rebecca; Schmidt, Jeffrey; Chowdhury, Prosanta; Baval, Bruce
Subject: Topical Report Thermal Hydraulic Stability - Request for Additional Information Letter No. 9017 (eRAI No. 9017)
Attachments: Request for Additional Information No. 9017 (eRAI No. 9017.pdf)

Attached please find NRC staff's request for additional information concerning review of the NuScale Topical Report.

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.

Hearing Identifier: NuScale_SMR_DC_TR_Public
Email Number: 46

Mail Envelope Properties (fa1e2d0b2cd9476d97e5d0fbdd0be488)

Subject: Topical Report Thermal Hydraulic Stability - Request for Additional Information
Letter No. 9017 (eRAI No. 9017)
Sent Date: 8/6/2017 8:16:59 AM
Received Date: 8/6/2017 8:17:03 AM
From: Cranston, Gregory

Created By: Gregory.Cranston@nrc.gov

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Post Office: HQPWMSMRS08.nrc.gov

Files	Size	Date & Time
MESSAGE	300	8/6/2017 8:17:03 AM
Request for Additional Information No. 9017 (eRAI No. 9017).pdf		42219

Options

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

Request for Additional Information No. 9017 (eRAI No. 9017)

Issue Date: 08/06/2017

Application Title: NuScale Topical Report

Operating Company: NuScale

Docket No. PROJ0769

Review Section: 01 - Introduction and Interfaces

Application Section: 15.9

QUESTIONS

01-19

In accordance with 10 CFR 50 Appendix A GDC 10, "Reactor design," the reactor core and associated coolant, control, and protection systems shall be designed with appropriate margin to assure that specified acceptable fuel design limits are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences. The SRP 15.0.2 acceptance criteria with respect to code assessment states that separate effects testing must be performed to demonstrate the adequacy of the physical models to predict physical phenomena that were determined to be important in the PIRT.

The PIRT in section 4.4, "Phenomena Identification and Ranking Table," of the topical report, TR-0516-49417-P, lists several phenomena that have not been assessed against separate effects test data. The assessment should cover the full range of applicability of the subject model.

In order to make an affirmative finding, NRC staff requests NuScale provide assessments of:

- (1) the subcooled boiling model in PIM to applicable separate effects test data for conditions encompassing normal operation (including the effects of AOOs)
- (2) the drift-flux model in PIM to applicable separate effects test data for conditions encompassing normal operation (including the effects of AOOs).