

NuScaleDCRaisPEm Resource

From: Chowdhury, Prosanta
Sent: Thursday, May 10, 2018 9:53 AM
To: Request for Additional Information
Cc: Lee, Samuel; Cranston, Gregory; Franovich, Rani; Karas, Rebecca; Schmidt, Jeffrey; NuScaleDCRaisPEm Resource
Subject: Request for Additional Information No. 469 eRAI No. 9505 (15)
Attachments: Request for Additional Information No. 469 (eRAI No. 9505).pdf

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

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 14 days.

If you have any questions, please contact me.

Thank you.

Prosanta Chowdhury, Project Manager
Licensing Branch 1 (NuScale)
Division of New Reactor Licensing
Office of New Reactors
U.S. Nuclear Regulatory Commission
301-415-1647

Hearing Identifier: NuScale_SMR_DC_RAI_Public
Email Number: 500

Mail Envelope Properties (DM6PR09MB2618BE7FDC2F8E87D5A065FA9E980)

Subject: Request for Additional Information No. 469 eRAI No. 9505 (15)
Sent Date: 5/10/2018 9:53:26 AM
Received Date: 5/10/2018 9:53:30 AM
From: Chowdhury, Prosanta

Created By: Prosanta.Chowdhury@nrc.gov

Recipients:

"Lee, Samuel" <Samuel.Lee@nrc.gov>
Tracking Status: None
"Cranston, Gregory" <Gregory.Cranston@nrc.gov>
Tracking Status: None
"Franovich, Rani" <Rani.Franovich@nrc.gov>
Tracking Status: None
"Karas, Rebecca" <Rebecca.Karas@nrc.gov>
Tracking Status: None
"Schmidt, Jeffrey" <Jeffrey.Schmidt2@nrc.gov>
Tracking Status: None
"NuScaleDCRaisPEm Resource" <NuScaleDCRaisPEm.Resource@nrc.gov>
Tracking Status: None
"Request for Additional Information" <RAI@nuscalepower.com>
Tracking Status: None

Post Office: DM6PR09MB2618.namprd09.prod.outlook.com

Files	Size	Date & Time
MESSAGE	675	5/10/2018 9:53:30 AM
Request for Additional Information No. 469 (eRAI No. 9505).pdf		22303

Options

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

Request for Additional Information No. 469 (eRAI No. 9505)

Issue Date: 05/10/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 15 - Introduction - Transient and Accident Analyses

Application Section:

QUESTIONS

15-18

10 CFR 50.12(a)(1) requires that a specific exemption will not present an undue risk to the public health and safety. In part 7 of the NuScale design certification application (DCA), Section 15, the applicant requests an exemption from 10 CFR 50, Appendix A, Criterion 27, Combined Reactivity Control System Capability. In section 15.2.1 of part 7 of the DCA, the applicant states that the a bounding probability for a return to power is calculated to be less than $1E-6$ per reactor year, accounting for the reliability of reactivity control systems and the likelihood that the reactor is in a state that can subsequently lead to a return to power. In response to RAI 8999, Question 19-30, the applicant states that the fuel cycle window where the reactor could return to criticality, assuming the worst rod stuck out, is estimated to be 2 to 6 weeks (ML17299A812). During an audit, NRC observed that the long term shutdown capability analysis shows that the reactor would not stay subcritical over most of cycle when the analysis accounts for a stuck control rod (ML18025B026). This observation is causing NRC staff to question the estimated fuel cycle window provided by the applicant in the response to RAI 8999, Question 19-30. Accordingly, NRC staff requests that the applicant provide evidence to demonstrate that the fuel cycle window where the reactor could return to criticality is 2 to 6 weeks, and update the exemption request, as appropriate.