

NuScaleDCRaisPEm Resource

From: Chowdhury, Prosanta
Sent: Thursday, March 29, 2018 8:45 AM
To: Request for Additional Information
Cc: Lee, Samuel; Cranston, Gregory; Baval, Bruce; Karas, Rebecca; Drzewiecki, Timothy; NuScaleDCRaisPEm Resource
Subject: Request for Additional Information No. 402 eRAI No. 9449 (04.03)
Attachments: Request for Additional Information No. 402 (eRAI No. 9449).pdf

Attached please find NRC staff's request for additional information (RAI) 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.

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

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From: Chowdhury, Prosanta

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Request for Additional Information No. 402 (eRAI No. 9449)

Issue Date: 03/29/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 04.03 - Nuclear Design

Application Section:

QUESTIONS

04.03-2

GDC 10, *Reactor design*, requires that the reactor core and associated coolant, control, and protection systems be designed with appropriate margin to assure that specified acceptable design limits (SAFDLs) are not exceeded during any condition of normal operation, including the effects of anticipate operational occurrences. GDC 25, *Protection system requirements for reactivity control malfunctions*, requires that the protection system be designed to assure that SAFDLs are not exceeded for any single malfunction of the reactivity control systems. FSAR, Tier 2, Section 4.3.1 states that the control system withdrawal rate is designed to assure that SAFDLs are not exceeded for accidental withdrawal of control rods; FSAR, Tier 2, Section 15.4.1.2 states that the transient analyses assume a maximum allowed control rod assembly (CRA) withdrawal rate of 15 in/min; and FSAR Tier 2, Table 14.2-80 states that Test #80 will verify that the rod insertion and withdrawal speeds are within design limits. NRC staff did not identify design information regarding a specific limit on the withdrawal speed. NRC staff needs to establish a finding that the transient and accident analyses are performed using suitably conservative values for CRA withdrawal rate. Accordingly, NRC staff requests that the applicant update FSAR, Tier 2, Section 4.3 to specify a design limit on CRA withdrawal rate.