

## NuScaleDCRaisPEm Resource

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**From:** Chowdhury, Prosanta  
**Sent:** Wednesday, April 11, 2018 4:59 PM  
**To:** Request for Additional Information  
**Cc:** Lee, Samuel; Cranston, Gregory; Franovich, Rani; Karas, Rebecca; Burja, Alexandra; NuScaleDCRaisPEm Resource  
**Subject:** Request for Additional Information No. 418 eRAI No. 9511 (15.04.02)  
**Attachments:** Request for Additional Information No. 418 (eRAI No. 9511).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

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**Options**

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## **Request for Additional Information No. 418 (eRAI No. 9511)**

Issue Date: 04/11/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 15.04.02 - Uncontrolled Control Rod Assembly Withdrawal at Power

Application Section: FSAR Section 15.4.2

### QUESTIONS

#### 15.04.02-5

General Design Criterion (GDC) 10, "Reactor design," in Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix A, requires that the reactor core and associated coolant, control, and protection systems shall be designed with appropriate margin to assure that specified acceptable fuel design limits (SAFDLs) are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences (AOOs). NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," (SRP) Section 15.4.2, "Uncontrolled Control Rod Assembly Withdrawal at Power," provides the staff guidance in determining compliance with GDC 10, among several other GDC, and states that the review should consider the entire power range from low to full power and the allowed extreme range of reactor conditions during the operating (fuel) cycle, including rod configurations, power distribution, and associated reactivity feedback components.

It is not clear from FSAR Section 15.4.2, "Uncontrolled Control Rod Assembly Withdrawal at Power," whether limiting axial and radial power shapes were used in the subchannel analysis for this event. To allow the staff to make a safety finding with regard to GDC 10, confirm that the limiting power distributions were input to the subchannel analysis, and update the FSAR to include a statement that the limiting axial and radial power shapes were used.