

## NuScaleDCRaisPEm Resource

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**From:** Cranston, Gregory  
**Sent:** Wednesday, November 22, 2017 12:54 PM  
**To:** RAI@nuscalepower.com  
**Cc:** NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Karas, Rebecca; Van Wert, Christopher; Bovol, Bruce  
**Subject:** Request for Additional Information No. 284 RAI No. 9225 (4.2)  
**Attachments:** Request for Additional Information No. 284 (eRAI No. 9225).pdf

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

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

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## **Request for Additional Information No. 284 (eRAI No. 9225)**

Issue Date: 11/22/2017

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 04.02 - Fuel System Design

Application Section: 4.2

### **QUESTIONS**

04.02-8

Title 10 of the Code of Federal Regulations, Part 50, Appendix A, Criterion 2, requires that SSCs important to safety are designed to withstand the effects of earthquakes without the loss of capability to perform their safety functions. The design bases for these SSCs shall reflect: (1) the severity of the historical reports, with sufficient margin to cover the limited accuracy, quantity, and time period for the accumulated data, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena, and (3) the importance of the safety functions to be performed. SRP Section 4.2 Appendix A (II)(1) provides review guidance regarding the review of inputs used to analyze the loads.

In RAI 8769 Question 1, the staff requested information regarding fuel assembly structural response when in approved locations outside of an operating bay. As part of its response to this question, NuScale provided a Table which compared upper core plate motions when the fuel is located in the RFT as compared with the motions when the fuel was located in an operating bay. While the results indicate that the upper core plate motions in an operating bay bound those found when the fuel is located in the RFT, the staff notes that the RFT design is not currently finalized, as indicated by staff RAI 8838. Therefore, the staff does not consider Table 1 of the response to RAI 8769 Question 1 to be final.

Update the core plate motions provided in the response to RAI 8769 Question 1 Table 1 with values derived from a final RFT design, or provide justification to explain how the values presented are bounding for all potential RFT designs.