

## NuScaleDCRaisPEm Resource

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**Sent:** Saturday, August 12, 2017 7:24 AM  
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**Subject:** Request for Additional Information No. 167, RAI 8964 (3.8.5)  
**Attachments:** Request for Additional Information No. 167 (eRAI No. 8964).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.

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. 167 (eRAI No. 8964)**

Issue Date: 08/12/2017

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 03.08.05 - Foundations

Application Section: 3.8.5

### **QUESTIONS**

#### **03.08.05-1**

10 CFR Part 50, Appendix A, GDC 1, 2, 4 and 5 provide the regulatory requirements for the design of the seismic Category I structures. DSRS Section 3.8.5 provides review guidance pertaining to the settlement on foundations.

FSAR Tier 1, Table 5.0-1, "Site Design Parameters," and FSAR Tier 2, Table 2.0-1, "Site Design Parameters," uses an acceptance criterion for a tilt settlement of the basemats as "1 inch per 50 feet in any direction." FSAR Tier 2, Section 3.8.5.6.1, "RXB Stability," uses a tilt settlement of ½ inch per 50 feet in any direction for the RXB and CRB basemats. The tilt settlement values listed in FSAR Tier 1, Table 5.0-1 and Tier 2, Table 2.0-1 are inconsistent with Section 3.8.5.6.1. Reconcile this discrepancy, and list a consistent value in the FSAR Tier 1 and Tier 2.

#### **03.08.05-2**

10 CFR Part 50, Appendix A, General Design Criteria (GDC) 1, 2, 4 and 5 provide the regulatory requirements for the design of the seismic Category I structures. DSRS Section 3.8.5 provides review guidance pertaining to design of foundations.

In FSAR Tier 2, Section 3.8.5.6.7, "Basemat Soil Pressures along Basemat Edges (Toe Pressures)," the applicant performed analyses to determine the edge bearing pressures (or toe pressures) along the edges of the seismic Category I structure basemats (RXB and CRB). In FSAR Tier 2, Section 3.8.5.5.5 "Settlement Approach," the applicant considered a condition of the soil stiffnesses that are further reduced by 50 percent to amplify the effect of settlements. Therefore, provide information on associated settlements due to soft soil stiffnesses along the edges of the seismic Category I structure.