

NuScaleDCRaisPEm Resource

From: Cranston, Gregory
Sent: Wednesday, May 10, 2017 12:01 PM
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Cc: NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Dias, Antonio; Nolan, Ryan; Vera Amadiz, Marieliz
Subject: Request for Additional Information No. 21 (eRAI No. 8780) Section 03.05.01.04, SPSB
Attachments: Request for Additional Information No. 21 (eRAI No. 8780).pdf

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

Please submit your 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.

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Division of New Reactor Licensing
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301-415-0546

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Request for Additional Information No. 21 (eRAI No. 8780)

Issue Date: 05/10/2017

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 03.05.01.04 - Missiles Generated by Tornadoes and Extreme Winds

Application Section: 3.5

QUESTIONS

03.05.01.04-1

10 CFR 50, Appendix A, General Design Criteria 2 (GDC 2) requires that structures, systems, and components (SSCs) important to safety be protected against natural phenomena, including the effects from tornados. In addition, GDC 4 requires SSCs important to safety to be appropriately protected against the effects of missiles that may result from events and conditions outside the nuclear power unit.

FSAR Tier 2, Section 3.5.1.4 states the design basis automobile missile is assumed to impact at all altitudes less than 30 feet above grade level. However, FSAR Tier 2, Section 3.5.2 states that the walls, roofs, and openings of the reactor building (RXB) and control room building (CRB) [which are both greater than 30 feet] are designed to withstand the design basis missiles discussed in Section 3.5.1.4. It is unclear to the staff if the entire height of the walls and the roof are designed to withstand the design basis automobile missile or only the pipe and sphere missiles. The staff notes that applying the automobile missile only to elevations below 30 feet within 0.5 miles of plant structures is consistent with the guidance of RG 1.76 and RG 1.221, but the above two statements appear to contradict each other.

The applicant is requested to revise and clarify the above statements to accurately describe the NuScale design.

In addition, if elevations above 30 feet of the RXB and CRB are not designed to withstand the design-basis automobile missile, the plant design should address potential sites with surrounding ground elevations higher than plant grade (e.g., elevated parking lot). Therefore, the applicant is also requested to include in its FSAR a COL information item that requires a COL applicant that references the NuScale design certification to confirm automobile missiles cannot be generated within a 0.5 mile radius of safety-related SSCs, and risk-significant SSCs requiring missile protection, that would lead to impact higher than 30 feet above plant grade.