

NuScaleDCRaisPEm Resource

From: Chowdhury, Prosanta
Sent: Wednesday, May 2, 2018 4:14 PM
To: Request for Additional Information
Cc: Lee, Samuel; Cranston, Gregory; Franovich, Rani; Karas, Rebecca; Schmidt, Jeffrey; NuScaleDCRaisPEm Resource
Subject: Request for Additional Information No. 461 eRAI No. 9503 (15)
Attachments: Request for Additional Information No. 461 (eRAI No. 9503).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.

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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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Request for Additional Information No. 461 (eRAI No. 9503)

Issue Date: 05/02/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 15 - Introduction - Transient and Accident Analyses

Application Section:

QUESTIONS

15-15

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).

The containment acceptance criteria for an AOO event classification in Final Safety Analysis Report (FSAR) Table 15.0-2 is given as N/A. The staff notes that Inadvertent Operation of Emergency Core Cooling System, FSAR Section 15.6.6, states, "The spurious opening of a single [emergency core cooling system (ECCS)] valve is not expected to occur during the lifetime of a module. However the event is conservatively categorized as an AOO, as indicated in Table 15.0-1."

The staff notes that during a spurious opening on an ECCS valve, the containment would serve as both a fission product barrier and a means to transfer heat to the ultimate heat sink (and therefore, PDCs 38, 44, and 50 may also be applicable to this event). Therefore, it is unclear to the staff why containment pressure for AOOs is listed as N/A instead of an acceptance criteria consistent with that listed for infrequent events and postulated accidents, given that containment performance in this AOO scenario, as well as other AOOs that result in ECCS actuation within 72 hours, is directly linked to ensuring the SAFDL acceptance criteria are met. Please explain this apparent discrepancy and update the FSAR, as appropriate based on the response to this request.