

NuScaleDCRaisPEm Resource

From: Chowdhury, Prosanta
Sent: Friday, March 09, 2018 5:31 PM
To: Request for Additional Information
Cc: Lee, Samuel; Cranston, Gregory; Murray, Demetrius; Rivera-Varona, Aida; Green, Brian; NuScaleDCRaisPEm Resource
Subject: Request for Additional Information No. 379 eRAI No. 9381 (Ch. 18)
Attachments: Request for Additional Information No. 379 (eRAI No. 9381).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.

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

Hearing Identifier: NuScale_SMR_DC_RAI_Public
Email Number: 407

Mail Envelope Properties (BN7PR09MB260956EEF5C159AD0E3AC3899EDE0)

Subject: Request for Additional Information No. 379 eRAI No. 9381 (Ch. 18)
Sent Date: 3/9/2018 5:30:39 PM
Received Date: 3/9/2018 5:30:43 PM
From: Chowdhury, Prosanta

Created By: Prosanta.Chowdhury@nrc.gov

Recipients:

"Lee, Samuel" <Samuel.Lee@nrc.gov>
Tracking Status: None
"Cranston, Gregory" <Gregory.Cranston@nrc.gov>
Tracking Status: None
"Murray, Demetrius" <Demetrius.Murray@nrc.gov>
Tracking Status: None
"Rivera-Varona, Aida" <Aida.Rivera-Varona@nrc.gov>
Tracking Status: None
"Green, Brian" <Brian.Green@nrc.gov>
Tracking Status: None
"NuScaleDCRaisPEm Resource" <NuScaleDCRaisPEm.Resource@nrc.gov>
Tracking Status: None
"Request for Additional Information" <RAI@nuscalepower.com>
Tracking Status: None

Post Office: BN7PR09MB2609.namprd09.prod.outlook.com

| Files | Size | Date & Time |
|--|-------------|------------------------|
| MESSAGE | 556 | 3/9/2018 5:30:43 PM |
| Request for Additional Information No. 379 (eRAI No. 9381).pdf | | 73207 |

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information No. 379 (eRAI No. 9381)

Issue Date: 03/09/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 18 - Human Factors Engineering

Application Section:

QUESTIONS

18-15

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 52.47(a)(8) requires an applicant for a design certification to provide an FSAR [Final Safety Analysis Report] which includes the information necessary to demonstrate compliance with any technically relevant portions of the Three Mile Island requirements set forth in 10 CFR 50.34(f), with certain exceptions. Section 10 CFR 50.34(f)(2)(ii) requires an applicant to "Establish a program, to begin during construction and follow into operation, for integrating and expanding current efforts to improve plant procedures. The scope of the program shall include.....human factors engineering..." The current NRC guidance for developing a human factors engineering (HFE) program is NUREG-0711, Rev 3, "Human Factors Engineering Program Review Model."

Section 4.3 of NUREG-0711 indicates that an RSR [results summary report] should include "the set of safety functions for the facility."

Table 3-1 of the functional requirements analysis (FRA)/ function allocation (FA) RSR provides a list of "NuScale plant functions." It is not clear which are the safety functions (as defined in the glossary to NUREG-0711) identified by this analysis, as opposed to functions supporting other high-level goals (such as power generation or physical security). Similarly, it is not clear if those items shown on the Table 3-1 constitute the complete set of safety functions (much of the RSR uses sampling of results rather than inclusive lists).

1. Please clarify which of the NuScale Plant functions on Table 3-1 of the FRA/FA RSR are considered safety functions. If there are any safety functions that are not included on Table 3-1, please identify them or indicate that there are no additional safety functions that are not already included on the table.
2. Please clarify the relationship of the safety functions identified in the FRA/FA process to the "critical safety functions" identified in other human factors RSRs and elsewhere in the design certification application, such as Chapter 7 and Chapter 13.