

NuScaleDCRaisPEm Resource

From: Chowdhury, Prosanta
Sent: Friday, March 09, 2018 5:17 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. 378 eRAI No. 9372 (Ch. 18)
Attachments: Request for Additional Information No. 378 (eRAI No. 9372).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

Hearing Identifier: NuScale_SMR_DC_RAI_Public
Email Number: 406

Mail Envelope Properties (BN7PR09MB26095A7BAB6BEBDE7E204B5D9EDE0)

Subject: Request for Additional Information No. 378 eRAI No. 9372 (Ch. 18)
Sent Date: 3/9/2018 5:17:14 PM
Received Date: 3/9/2018 5:17:19 PM
From: Chowdhury, Prosanta

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

Files	Size	Date & Time
MESSAGE	556	3/9/2018 5:17:19 PM
Request for Additional Information No. 378 (eRAI No. 9372).pdf		26487

Options

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

Request for Additional Information No. 378 (eRAI No. 9372)

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

18-14

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."

NUREG-0711 Section 4.4, Criterion 8 states:

The applicant should verify that the FRA [functional requirements analysis] and FA [function allocation] accomplish the following:

- *All the high-level functions needed to achieve safe operation are identified.*
- *All requirements of each high-level function are identified.*
- *The allocation of functions to humans and automatic systems assures a role for personnel that takes advantage of human strengths and avoids human limitations.*

This criterion seeks to confirm that the FRA/FA process has achieved certain high-level goals. It is clear from the submitted materials that the FRA/FA process attempts to achieve these goals, however, it is not clear how NuScale verified that these goals have been accomplished.

Please describe how NuScale verified that the items in the criterion have been accomplished and update the results summary report (RSR) to include an explanation of the verification process.