

NuScaleDCRaisPEm Resource

From: Chowdhury, Prosanta
Sent: Tuesday, April 10, 2018 3:10 PM
To: Request for Additional Information
Cc: Lee, Samuel; Cranston, Gregory; Kent, Lauren; Scheetz, Maurin; NuScaleDCRaisPEm Resource
Subject: Request for Additional Information No. 412 eRAI No. 9433 (13.05.02.01)
Attachments: Request for Additional Information No. 412 (eRAI No. 9433).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. 412 (eRAI 9433)

Issue Date: 04/10/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 13.05.02.01 - Operating and Emergency Operating Procedures

Application Section: SRP 13.5.2.1

QUESTIONS

13.05.02.01-5

REGULATORY BASIS REQUIREMENTS

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 emergency procedures, ... "

TMI Action Plan Item I.C.1, a Post-TMI requirement approved by the Commission for implementation, requires the preparation of emergency procedure technical guidelines for development of the Emergency Operating Procedures (EOPs). Preparation of the technical guidelines is conducted in accordance with NUREG-0737, "Clarification of TMI Action Plan Requirements," and NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability," which also specify submittal of the technical guidelines to the NRC for review and approval.

Meeting the requirements of TMI Action Plan Item I.C.1 as prescribed in NUREG-0737, Section I.C.1, and Supplement 1 to NUREG-0737, Section 7, is acceptance criteria in SRP 13.5.2.1, "Operating and Emergency Operating Procedures." Design-specific Generic Technical Guidelines (GTGs), otherwise referred to as the Emergency Operating Guidelines (EOGs), will be used by COL applicants to develop their Plant-Specific Technical Guidelines (P-STGs), from which their EOPs will be developed, and are the responsibility of the DC applicant.

By letter dated November 30, 2017 (ADAMS Accession No. ML17334B822) NuScale submitted technical report TR-1117-57216, "NuScale Generic Technical Guidelines," for docketing.

ISSUE

The Analytical Limit values specified in Table 7.1-4, "Engineered Safety Feature (ESF) Actuation System Functions (ESFAS)," are used exclusively in the Critical Safety Function (CSF) flowcharts as "decision variable" setpoint values for determining whether ESF Systems have automatically actuated when required by plant conditions. TR-1117-57216, Section 4.7, "Setpoint Selection," Page 25, states the following:

"The final setpoints may deviate from those listed here due to final selection of instrumentation, accuracy, and allowing appropriate time for the operator to respond. The values have been included within these guidelines to provide a reference and it is anticipated that the basis for the setpoints will remain constant."

"Emergency procedures developed from these GTGs will need to reference the plant specific equipment values, ranges, and accuracies."

With respect to final setpoint selection in the NuScale GTGs, use of the words "may deviate" in the first paragraph of the cited text, warrants clarification. Final setpoint values for the actuation of ESF Systems evaluated in the CSF flowcharts will knowingly deviate from the Analytical Limit values that have been provided for reference purposes. ESFAS setpoints are selected to provide sufficient allowance (i.e., conservative margin) between the actuation setpoint and the Analytical Limit to account for instrument uncertainties. NuScale Power TR-616-49121, "NuScale Instrument Setpoint Methodology Technical Report," describes the instrumentation setpoint determination methodology applied to safety-related Instrumentation and Control (I&C) functions. The Analytical Limits, uncertainties, and setpoints for ESFAS Functions are summarized in this technical report document.

INFORMATION NEEDED

NRC staff requests that NuScale: (1) make the necessary changes to Section 4.7 of TR-1117-57216, to clarify that the final setpoint values for the actuation of ESF Systems evaluated in the CSF flowcharts will in fact deviate from the Analytical Limit values currently specified, as determined by TR-616-49121, "NuScale Instrument Setpoint Methodology Technical Report," and (2) Include TR-616-49121, "NuScale Instrument Setpoint Methodology Technical Report," in Section 7.2, "Referenced Documents," of the NuScale GTGs.