Attachment 1

Staff feedback on NuScale Response to Request for Additional Information (RAI) Nos. 9394, 9399, and 9415

(Discussed at public meetings on August 7, 2018, 1:00 p.m. – 2:00 p.m., and August 21, 2018, 1:00 p.m. – 2:30 p.m. Eastern Daylight Time)

1. NuScale response to RAI 9415, Question 18-46 (ADAMS Accession No. ML18172A318)

Staff concern: ITAAC 3.15-1 No. 1, as currently written in Rev 1 of the Tier 1 submittal, does not cover the appropriate scope to include the design implementation activities described in the design implementation (DI) implementation plan (IP).

Outcome: NuScale agreed to evaluate the language in ITAAC 3.15-1 and propose new language.

Additional concerns that may need clarification and/or changes include:

1) Draft DI IP, Page 3 suggests that there is no need for a design implementation results summary report (RSR). Staff need the information in this report to adequately determine that design changes made post-ISV have been analyzed to ensure that they will introduce new human performance issues.

   Outcome: Staff clarified that the RSR does not need to be duplicative of other reports that the COL holder will already be producing (such as an ITAAC Closure Notification) as long as the contents of the reports meet the applicable criteria in NUREG-0711. NuScale understood and will address accordingly.

2) The current plan indicates that all important human actions (IHAs) will be addressed by the V&V IP. Staff agree that this is an important part of NuScale's HFE program. This strategy adequately captures the results up to and through the integrated system validation (ISV) process; however, it does not capture any changes that may occur post ISV. Refinements to the PRA either due to design changes or improvements in the PRA fidelity may change IHAs (such as, by reducing or increasing the time available to perform the action). Staff will need to verify that any supporting analysis and/or validation activities are adequate to support the conclusions in the DI RSR. It's not clear how the staff will do this given the current plan.

   Outcome: NRC staff agreed to find and share with NuScale specific language regarding IHAs being documented in ISV RSR (a document that occurs before the DI process).

3) The remote shutdown station (RSS) is marked as being removed from the list of applicable facilities. There are several other edits in the section that remove the initialisms/abbreviations, but leave the text name for the system within the scope.

   It is unclear to the staff if NuScale's intent is to remove the RSS from the scope of DI altogether, or if perhaps they accidentally deleted the system while trying to delete the abbreviations. If the RSS is being removed, a discussion on the basis for that change will be needed.

   Outcome: The issue with the RSS is being handled via another RAI related to Chapter 14, "Initial Test Program and Inspections, Tests, Analyses, and Acceptance Criteria," Section

14.3.9, “Human Factors Engineering - Inspections, Tests, Analyses, and Acceptance Criteria.” The ultimate resolution of that issue should be consistent with the scope of DI.

4) Draft DI IP, Page 8 changes HFE review to subject matter expert (SME) review – it is unclear why this change was made. Staff do not object to the use of SME, but HFE staff should be involved in the assessment to ensure that any changes do not introduce new human performance concerns.

   Outcome: NuScale agreed to clarify language regarding SMEs so as not to exclude HFE.

2. NuScale response to RAI 9399, Question 18-35, sub-question 1 (ADAMS Accession No. ML18137A583)

   Staff concern:

   In RAI 9399, Question 18-35, sub-question 1, the staff’s request is:

   > *Criterion 2 states that, “The applicant should discuss the method by which data is analyzed across trials, and include the criteria used to determine successful performance for a given scenario.” In Section 4.7 of the V&V IP, the applicant states, “Data are analyzed for each scenario across multiple trials. The method of analysis, consistency of measure assessing performance, and criteria used to determine successful performance for a given scenario is determined by the HFE Design Team.” While the applicant commits to analyzing data across trials, no information regarding the methodology is provided. Please describe the method(s) that will be used to analyze data across trials and the criteria that will be used to determine successful performance.*

   In the response, the applicant provided additional information that detailed what is being measured (workload, time, etc.) but not how the data would be analyzed across trials.

   Outcome: NuScale plans to supplement RAI 9399, Question 18-35, sub-question 1, to describe in Section 4.7 of the V&V IP, how data would be analyzed across trials.

3. NuScale response to RAI 9394, Question 18-17 (ADAMS Accession No. ML18123A539)

   Staff concern: RAI 9394, Question 18-17 pertains to how NuScale would test design solutions for a Human Engineering Discrepancy (HED). NuScale provided the following response (proprietary):

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   It is difficult for the staff to determine whether one scenario run would be sufficient.

   Outcome: NuScale plans to supplement the RAI 9394, Question 18-17 response and remove the statement in Section 5.3 of the V&V IP ’’**{{**

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