
NuScale Standard Design Approval Application for the US460

Quarterly NuScale-NRC Management
Public Meeting
July 26, 2023

Opening Remarks

Agenda

- ❖ Opening Remarks
- ❖ Current status of the NuScale Standard Design Approval Application (SDAA)
- ❖ Overview of safety review structure and approach
- ❖ Request for Supplemental Information (RSI)
- ❖ Phase A Safety Review of the SDAA not impacted by RSI
- ❖ Focus Items supporting reliable Schedule Development (FISDs)
- ❖ High Impact Technical Issues (HITIs)
- ❖ Licensing Topical Reports (LTRs)
- ❖ New Generic Licensing Activities (non-SDAA)
- ❖ Closing remarks

Current status of the NuScale Standard Design Approval Application (SDAA)

- ❖ On December 31, 2023, NuScale Submitted the SDAA and submittal of four supporting topical reports was completed by January 8, 2023,
- ❖ On March 17, 2023, the NRC issued an acceptance review letter that:
 - ❑ stated that the application is considered tendered but not docketed until Request for Supplemental Information (RSI) related to density wave oscillations (DWO) is satisfied
 - ❑ identified “focus” items that are needed for schedule development (FISDs)
 - ❑ identified High Impact Technical Issues (HITIs)
 - ❑ stated NuScale and NRC agreed to commencing a technical review of parts of the SDAA that are not impacted by the RSI at the applicant’s risk

Overview of safety review structure and approach

- ❖ The SDAA will follow a 4-phased approach for the safety review:
 - ❑ Phase A: NRC performs audit and develops the Advanced Safety Evaluation Report (ASER) without open items
 - ❑ Phase B: ASER review (technical editing), OGC review (No Legal Objection), and Management concurrence
 - ❑ Phase C: ACRS review of ASER
 - ❑ Phase D: NRC issues Final Safety Evaluation Report (FSER) and SDA

Overview of safety review structure and approach

- ❖ Phase A of the review for SDAA not impacted by the RSI began on March 20, 2023
- ❖ Two audits began on March 27, 2023:
 - ❑ Audit for RSI Resolution
 - ❑ Audit for Phase A Safety Review
 - ❑ The purpose of these audits is to review and discuss supporting material with the objective of improving communication and eliminating unnecessary requests for additional information.

Requests For Supplemental Information

- ❖ 17 specific RSIs items have been identified related to DWO
 - ❑ 10 items involving the DWO LTR
 - ❑ 7 items involving FSAR Chapter 15, and LTRs for Loss-of-Coolant Accident Evaluation Model, Non-Loss-of-Coolant Accident Analysis Methodology, and Extended Passive Cooling and Reactivity Control Methodology,
- ❖ On July 14, 2023, NuScale provided response to the RSI
- ❖ On July 17, 2023, NuScale submitted Rev 1 of the DWO LTR
- ❖ RSI Audit Exit meeting was held on July 20, 2023
- ❖ Next Steps:
 - ❑ NRC staff to review the RSI response and determine if the SDAA can be docketed
 - ❑ NRC to issue audit report

Phase A Safety Review of the SDAA not impacted by RSI

- ❖ On June 20, 2023, the NRC issued an audit status report for Phase A safety review
- ❖ As of July 14, 2023, the staff has presented 469 document requests and items for explanations in the audit.
 - ❑ 177 items have been resolved in the audit,
 - ❑ 108 items provided by NuScale are under review by the staff, and
 - ❑ 154 items are waiting for NuScale to provide in the audit.

Focus Items For Schedule Development (FISDs)

- ❖ As of July 14, 2023, the staff has presented 36 FISD document requests and items for explanations in the audit.
 - ❑ 10 items have been resolved in the audit,
 - ❑ 22 items provided by NuScale are under review by the staff, and
 - ❑ 4 items are waiting for NuScale to provide in the audit.

High Impact Technical Issues (HITIs)

- ❖ As of July 14, 2023, the staff has presented 13 HITI document requests and items for explanations in the audit.
 - ❑ None have been resolved in the audit,
 - ❑ 5 items provided by NuScale are under review by the staff, and
 - ❑ 8 items are waiting for NuScale to provide in the audit.

Licensing Topical Reports (LTRs)

❖ Pre-SDAA LTRs

- ❑ Prior to the SDAA submittal, the staff had completed reviewing five LTRs. CHF LTR has since been completed.
- ❑ The staff is currently reviewing the following three LTRs submitted in the pre-SDAA phase:
 - Rod Ejection Accident Methodology – Advance SE: October 2023*
 - Subchannel Analysis Methodology – Advance SE: October 2023
 - Quality Assurance Program Description (QAPD) – Advance SE: September 2023

❖ LTRs submitted with SDAA are included in the SDAA Phase A and RSI audits

*Staff evaluating recent responses to audit questions and LTR mark-up to determine impact to schedule

Generic Licensing Activities (non-SDAA)

❖ Generic LTRs:

- ❑ EPZ LTR completed in November 2022
- ❑ NuScale plans to submit three generic LTRs by December 2023 that will be referenced in COL application
 - Mitigation of Beyond Design Events in accordance with 10 CFR 50.155
 - Reactor Flange Tool Design
 - Spent Fuel Pool Rack Design

❖ (NuScale DCA) Request for Exemption to the Reporting Requirements of 10 CFR 50.46(a)(3) [Changes to the approved LOCA methodology]

Closing Remarks

Questions?

