



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

December 04, 2019

MEMORANDUM TO: Peter Riccardella, Chairman
Advisory Committee on Reactor Safeguards

FROM: Joy Rempe, Member-At-Large **/RA/**
Advisory Committee on Reactor Safeguards

SUBJECT: PROPOSED RECOMMENDATION FOR ACRS REVIEW OF
NUSCALE POWER, LLC, DESIGN CERTIFICATION
APPLICATION – SAFETY EVALUATION WITH NO OPEN ITEMS
FOR CHAPTER 21, “MULTI-MODULE DESIGN
CONSIDERATIONS”

In response to the Committee’s request, I reviewed the NRC staff’s safety evaluation with no open items for Chapter 21, “Multi-Module Design Considerations,” dated October 15, 2019 (ML19169A272). This memo provides my recommended course of action concerning further review of this chapter of the design certification application (DCA) and the associated staff safety evaluation report (SER).

SER Phase 4 Summary

Chapter 21 of the SER documents the staff review of Revision 3 of Chapter 21, “Multi-Module Design Considerations,” of the NuScale DCA, Part 2, Tier 2 “Final Safety Analysis Report.” Chapter 21 identifies sections of other SER chapters (e.g., Chapters 6, 7, 8, 9, 10, and 11) where findings and conclusions regarding interactions of systems shared between multiple NuScale Power Modules of the NuScale Power Plant are documented. No open items were identified in either the Phase 2 or Phase 4 versions of the SER for this chapter.

Applicable Concerns from ACRS Phase 3 Letter Report

We did not identify any recommendations or conclusions in our Phase 3 letter report that pertained to Chapter 21. Our letter report on Chapter 21 did provide the following observation:

NuScale provides information regarding the number of modules supported by various shared systems. However, the documentation is unclear whether all the supported modules must be shut down when a shared system becomes unavailable. We will continue exploring this topic in upcoming meetings with the staff and NuScale.

Our remaining chapter and focus area reviews of the NuScale DCA continue to explore this topic to ensure that any concerns regarding shared systems and potential adverse impacts on safety are addressed.

NRC Staff Response to ACRS Letter Report

Not Applicable

Open Items from Phase 3 Requiring Further ACRS Review

None

Recommendation

No open or unresolved items were identified in the Chapter 21 Phase 2 review by the staff. In our Phase 3 review, we did not provide any recommendations pertaining to Chapter 21. There are no unresolved items related to NuScale DCA Chapter 21 and the associated SER. As lead ACRS reviewer for NuScale Chapter 21, I recommend that the Committee not perform any additional Phase 5 review of this chapter. We expect that we will have questions related to multi-module issues in remaining chapters and focus area reviews.

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