



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 19, 2019

Dr. Peter Riccardella, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: INTERIM LETTER: CHAPTER 4, "REACTOR"; CHAPTER 5, "REACTOR COOLANT SYSTEM AND CONNECTING SYSTEMS"; AND TECHNICAL REPORT, "TEMPERATURE LIMITS METHODOLOGY," OF THE U.S. NUCLEAR REGULATORY COMMISSION STAFF'S SAFETY EVALUATION REPORT WITH OPEN ITEMS RELATED TO THE CERTIFICATION OF THE NUSCALE POWER, LLC, SMALL MODULAR REACTOR

Dear Dr. Riccardella:

In your letter dated May 30, 2019, the Advisory Committee on Reactor Safeguards (ACRS or the Committee) reported on the Committee's interim safety review of Chapter 4, "Reactor"; Chapter 5, "Reactor Coolant System and Connecting Systems"; and Technical Report, "Temperature Limits Methodology," of the U.S. Regulatory Commission (NRC) staff's safety evaluation report (SER) with open items for the NuScale Power, LLC (NuScale), small modular reactor (Agencywide Documents Access and Management System Accession No. ML19155A203). I appreciate the time and effort the ACRS has devoted to these important subjects, as reflected in meetings held with the ACRS Subcommittee for NuScale on April 17, 2019, and the ACRS Full Committee on May 2, 2019.

Your letter contained two conclusions and recommendations, as shown below with NRC staff responses:

Conclusion and Recommendation 1:

There are a number of Chapter 4 and Chapter 5 open items related to Chapter 15 accident analysis issues that must be reviewed and resolved in order to demonstrate acceptability of the NuScale reactor design in satisfying GDC 27, GDC 34, and GDC 35.

Staff Response: The NRC staff agrees with Conclusion and Recommendation 1. As the NRC staff continues to engage the applicant to resolve the remaining open items related to the subject chapters and Chapter 15 accident analysis issues with regard to satisfying General Design Criterion (GDC) 34, "Residual Heat Removal," and GDC 35, "Emergency Core Cooling," in Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," the staff has a path forward to address all regulatory requirements and risk-significant items for the NuScale design.

The NRC staff continues to engage the applicant to resolve the remaining open items associated with the exemption to GDC 27, "Combined Reactivity Control Systems

Capability,” which involves the scenario in which all control rods fail to successfully insert. The staff will apply the criteria discussed in SECY-18-0099, “NuScale Power Exemption Request from 10 CFR Part 50, Appendix A, General Design Criterion 27, ‘Combined Reactivity Control Systems Capability,’” dated October 9, 2018, to bring this issue to closure.

Conclusion and Recommendation 2:

We have not identified any additional major issues at this time for Chapter 4 and Chapter 5.

Staff Response: The NRC staff agrees with Conclusion and Recommendation 2. The staff plans to close the remaining open items and submit an advanced SER for Committee review by the end of the staff’s Phase 4 review.

The NRC staff appreciates your review of these SERs and looks forward to future interactions with the Committee as part of its NuScale review activities.

Sincerely,

/RA/

Frederick D. Brown, Director
Office of New Reactors

Docket No. 52-048

cc: Chairman Svinicki
Commissioner Baran
Commissioner Caputo
Commissioner Wright
SECY

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