U.S. NUCLEAR REGULATORY COMMISSION

SAFETY EVALUATION FOR NUSCALE POWER, LLC

NUSCALE POWER, LLC QUALITY ASSURANCE PROGRAM DESCRIPTION

MN-122626-A, REVISION 2

1.0 INTRODUCTION

By letter dated November 21, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24326A359), NuScale Power LLC (NuScale), requested the U.S. Nuclear Regulatory Commission (NRC) staff review and approval of Topical Report (TR) MN-122626, Revision 2 "NuScale Power, LLC Quality Assurance Program Description," (hereafter referred to as the QAPD). The proposed revisions are considered changes to the NRC-accepted quality assurance (QA) topical report from non-licensees (i.e., architect/engineers, nuclear steam supply system (NSSS) suppliers), in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," 50.4(b)(7)(ii).

The proposed changes update commitments to revised Regulatory Guides (RGs) and reflect organization changes to MN-122626-A, Revision 1.

2.0 REGULATORY BASIS

The NRC's regulatory requirements related to QA programs are set forth in Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, and 10 CFR 50.4(b)(7), "Quality Assurance related submission, Item (ii)." The regulations in 10 CFR 50.4(b)(7)(ii) states, in part, "[a] change to an NRC-accepted QA topical report from non- licensees (i.e., architect/engineers, NSSS suppliers, fuel suppliers, contractors, etc.) must be transmitted to the NRC Document Control Desk." The NRC reviews the proposed changes in the QAPD TR, Revision 2, for acceptability to ensure the applicable requirements of Appendix B to 10 CFR Part 50 are complied with.

Appendix B to 10 CFR Part 50 establishes QA requirements for the design, fabrication, construction, testing and operation of structures, systems, and components (SSCs) for the facility. The pertinent requirements of Appendix B to 10 CFR Part 50 apply to all activities affecting the safety-related functions of those SSCs and include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying SSCs.

RG 1.28, "Quality Assurance Program Criteria (Design and Construction)," Revision 4 (ML100160003), identifies the American Society of Mechanical Engineers Nuclear Quality Assurance (NQA)-1-2008 and the NQA-1a-2009 Addenda "Quality Assurance Requirements for Nuclear Facility Applications," as an acceptable basis for complying with the requirements of Appendix B to 10 CFR Part 50 with some exceptions which are discussed in the Regulatory Position section of RG 1.28, Revision 4.

3.0 EVALUATION

In evaluating the adequacy of the proposed change, the NRC staff considered the guidance of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," (SRP), Chapter 17, Section 17.5, "Quality Assurance Program Description - Design Certification, Early Site Permit and New License Applicants," Revision 1 (hereafter referred to as SRP Section 17.5) dated August 2015 (ML15037A441).

SRP Section 17.5 provides acceptance criteria for QA programs and is based on the NQA-1-2008/2009, as supplemented by additional regulatory and industry guidance for nuclear operating facilities. NQA-1-2008/2009, upon which the NuScale QAPD, Revision 2, is based, incorporates the supplemental guidance into a single document, and is, therefore, in alignment with SRP Section 17.5. In addition, NQA-1-2008/2009 is endorsed by RG 1.28, Revision 4.

NuScale proposed changes to QAPD, Revision 2, Section 2.1 "Organization," and updated the Organization Chart in QAPD Figure 2-1 to reflect recent organizational changes. The proposed updates include changes in titles of several organizations and reassigning roles and responsibilities of organizations reporting to Operations. The Operations organization is responsible for the areas including quality, engineering, regulatory affairs, employee concerns program, supply chain, information technology, product and project delivery, plant operations and commissioning, corrective action, and document control and records management.

NuScale proposed changes also include references to updated revisions of the following RGs: RG 1.164, "US NRC Regulatory Guide 1.164, Revision 1, "Dedication of Commercial Grade Items for Use in Nuclear Power Plants," dated April 2024 (ML24038A310) and RG 1.234, Revision 1, "Evaluating Deviations and Reporting Defects and Noncompliance Under 10 CFR Part 21," dated March 2024 (ML24038A311).

The NRC staff reviewed the proposed changes and concluded that:

- NuScale QAPD continues to ensure that persons and organizations performing quality assurance functions have the required authority and organizational freedom and remain sufficiently independent from cost and schedule when opposed to safety considerations.
- The changes to the RGs described above recognize updated versions of those RGs which describe methods acceptable to the staff for meeting applicable regulatory requirements. NRC staff determined that with these changes NuScale is committing to the latest guidance provided by the NRC.
- NuScale's commitments to NQA-1-2008 and NQA-1a-2009 addenda remain unchanged and no new exceptions or deviations from NQA-1-2008 and NQA-1a-2009 addenda are included in this revision.

4.0 <u>CONCLUSION</u>

The NRC staff used the acceptance criteria of SRP Section 17.5 as the basis for evaluating the acceptability of the NuScale QAPD, Revision 2, for compliance with the applicable requirements of Appendix B to 10 CFR Part 50. The NRC staff concludes that NuScale QAPD, Revision 2, follows the NRC guidance contained within and conforms to the format of SRP Section 17.5, and that there is reasonable assurance that NuScale QAPD, Revision 2, will continue to meet the requirements of Appendix B to 10 CFR Part 50. Therefore, the NRC staff finds the NuScale's proposed changes in the QAPD, Revision 2, acceptable.