UNITED STATES
NUCLEAR REGULATORY COMMISSION
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NUSCALE POWER, LLC – NRC FEEDBACK REGARDING NUSCALE WHITE PAPER: CFPP DECOMMISSIONING COST ESTIMATE METHODOLOGY (EPID L-2022-LRO-0056)

SPONSOR AND SUBMITTAL INFORMATION

Sponsor: NuScale Power, LLC (On Behalf of Carbon Free Power Project, LLC)

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Docket/Project No: 99902052

Submittal Date: November 14, 2022

Submittal Agencywide Documents Access and Management System (ADAMS) Accession No.: ADAMS Accession No. ML22318A293)

Brief Description of the White Paper: The purpose of the white paper, entitled, "CFPP Decommissioning Cost Estimate Methodology," is to provide the NRC staff with a description of the proposed methodology that Carbon Free Power Project (CFPP) plans to utilize to address the regulatory requirements associated with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.75, "Reporting and recordkeeping for decommissioning planning." 10 CFR 50.75 requires power reactor licensees to demonstrate reasonable assurance that funds will be available for the decommissioning process.

CFPP seeks feedback from the Nuclear Regulatory Commission (NRC) staff on its planned approach, particularly, NRC's regulatory interpretation as to whether an exemption request must be submitted with the CFPP Combined License Application.

TECHNICAL ASSESSMENT

The NRC staff is making no regulatory findings in providing feedback on this white paper. The staff's feedback in this paper has not been subject to formal NRC management or legal reviews, and should not be interpreted as official agency positions. Rather, the staff's feedback presented here constitutes the staff's preliminary views and is subject to change.

The staff's review of the white paper focused on how the proposed methodology aligns with existing NRC guidance, formulas, and methodology for determining decommissioning cost estimates. On February 28, 2023, the NRC staff held a public meeting[1] with NuScale and CFPP to discuss the methodology presented in the white paper and to ask clarifying questions.

[1] ADAMS Accession No. ML23067A037.

During its presentation[2] at February 28 public meeting, NuScale noted that current decommissioning funding requirements were developed for large light-water reactors (LLWRs) and not for small modular reactors (SMRs) such as the design that CFPP plans to build. In addition, because the current decommissioning funding formulas for determining the minimum required amounts are based on a facility's thermal power output (MWt), NuScale's position is that the prescriptive amount for CFPP's 6-module NuScale SMR plant (generating a total of 1,500 MWt) would be fixed under 10 CFR 50.75(c)(1) based on the cumulative thermal capacity of the plant. NuScale stated that while SECY-11-0181, "Decommissioning Funding Assurance for Small Modular Nuclear Reactors,"[3] allows SMR applicants to deviate from the 10 CFR 50.75 minimum formula amount by using an exemption and fully justified and supported site-specific decommissioning cost estimate, nonetheless, NuScale prefers to meet the funding requirements for CFPP using the 10 CFR 50.75(c)(1) formula based on cumulative thermal capacity of the plant (1,500 MWt). NuScale further stated that CFPP is a pressurized-water reactor (PWR) and that, based on a preliminary design-specific estimate, the anticipated decommissioning costs for CFPP are comparable to but less than the minimum required amount per formulas prescribed in 10 CFR 50.75(c)(1).

The NRC staff agrees that the minimum amount formula in 10 CFR 50.75 was developed for LLWRs; and while CFPP's design has some similarities to large PWRs, the minimum amount formula did not contemplate other reactor designs, including SMRs. Nonetheless, the regulations do not establish different requirements for SMRs that would apply in lieu of the requirements in 10 CFR 50.75. As such, if NuScale contends that the formula cannot be directly applied to the CFPP on a per-module basis, an exemption from the regulations may be required to allow CFPP to use the proposed approach presented in the white paper.

If NuScale/CFPP seeks an exemption from the regulations, its exemption request should provide supporting information justifying how the minimum formula amount for a 1,500 MWt reactor facility would provide adequate decommissioning funding assurance for a 6-module SMR plant. Such information could include, for example, the decommissioning cost study information and details of the calculations that were mentioned in the white paper, design similarities to the LLWRs contemplated in the formula, or any other information to support NuScale's conclusion in the white paper; in addition, pertinent differences between the proposed facility and a 1,500 MWt LLWR, including design, construction, operation and decommission impacts, should be discussed.

Summary

Based on the NRC staff's review of the submitted white paper and additional clarifications provided by NuScale/CFPP during the February 28, 2022, public meeting, the NRC staff's preliminary view is that, based on the information provided by NuScale/CFPP to date, an exemption request from the requirements of 10 CFR 50.75 may be required for NuScale/CFPP to use the proposed approach presented in the white paper, upon submittal of the CFPP COL application.

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[2] ADAMS Accession No. ML23054A173.
[3] ADAMS Accession No. ML112620358.