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

March 14, 2023

MEMORANDUM TO: Michael I. Dudek, Chief
New Reactor Licensing Branch
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

FROM: Omid Tabatabai, Senior Project Manager **/RA/**
New Reactor Licensing Branch
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION SUMMARY OF THE FEBRUARY 28, 2023, OBSERVATION PUBLIC MEETING ON STAFF'S CLARIFYING QUESTIONS RELATED TO NUSCALE DECOMMISSIONING FUNDING WHITE PAPER

The U.S. Nuclear Regulatory Commission (NRC) staff held an observation public meeting with NuScale Power, LLC (NuScale) and Carbon Free Power Project, LLC (CFPP) on February 28, 2023, to discuss staff's clarifying questions on NuScale's approach for addressing decommissioning funding requirements in CFPP combined license application (COLA).

The public meeting notice was posted on the NRC public website on January 30, 2023, and can be accessed on Agencywide Documents Access and Management System (ADAMS) Accession No. ML23030A402. NuScale's presentation slides for this public meeting can be found under ML23054A173.

On November 14, 2022, NuScale on behalf of CFPP provided to the NRC a White Paper that outlines NuScale's approach to determine the initial decommissioning funding certification amount[1]. NuScale subsequently requested a post-submittal meeting with the NRC staff to present further information to the methodology outlined in the White Paper, address the NRC staff's questions, and receive feedback on NuScale's proposed methodology.

NuScale began its presentation by providing an overview of the applicable regulations that require a new reactor license applicant to provide reasonable assurance that it will have funding available for decommissioning and highlighted that the current regulations only apply to large light-water reactors (LLWRs) and not to small modular reactors (SMRs) such as the design that CFPP plans to build.

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[1] "CFPP Decommissioning Cost Estimate Methodology" White Paper, dated November 14, 2022, (ML22318A293)

NuScale further stated that because the current decommissioning funding formulas for determining the minimum required amounts are based on the facility's thermal power output (MWt), the prescriptive amount for CFPP's 6-module NuScale SMR would be fixed under 10 CFR 50.75(c)(1) similar to LLWRs producing less than 1,200 MWt. NuScale pointed out that SECY-11-0181, "Decommissioning Funding Assurance for Small Modular Nuclear Reactors," allows SMR applicants to deviate from the 10 CFR 50.75 minimum amount using an exemption and "fully justified and supported" site-specific decommissioning cost estimate.

NuScale discussed that its preferred methodology to meet the funding requirements for CFPP would be not to use the SECY-11-0181 but, instead use the 10 CFR 50.75(c)(1) formula based on cumulative thermal capacity of the plant (up to 1500 MWt). NuScale stated that CFPP is a pressurized-water reactor (PWR) and that anticipated decommissioning costs are comparable but less than the minimum required amount per formulas prescribed in 10 CFR 50.75(c)(1) based on a preliminary design-specific estimate.

During the meeting, NuScale responded to the NRC staff's clarifying questions. Below is a summary of staff's questions and NuScale's responses:

NRC Question: Please discuss how does the minimum formula amount for a 1500 MWt PWR provide adequate decommissioning funding for a 6-module plant given the formula was developed for LLWRs?

> NuScale's response: Use of the formula fulfills intent of initial certification. The amount listed as the prescribed amount (formula) does not represent the actual cost of decommissioning for specific reactors but rather is a reference level established to assure that licensees demonstrate adequate financial responsibility that the bulk of the funds necessary for a safe decommissioning are being considered and planned for early in facility life, thus providing adequate assurance at that time that the facility would not become a risk to public health and safety when it is decommissioned (53 FR 24030, June 27, 1988).

NRC Question: Please describe how does this approach fit within the intent and objective of 10 CFR 50.75(b)-(c)?

> NuScale response: The formula amount is an appropriate "reference level" for the CFPP plant and provides reasonable assurance that the bulk of the funds necessary for decommissioning are being planned for early in facility life. Proposal includes timelines, annual adjustment rates, and financial methods discussed in 10 CFR 50.75(b).

NRC Question: Discuss requirements relative to 10 CFR 20.1406 (Regulatory Guide 4.22) and 10 CFR 20.1501

> NuScale response: 10 CFR 20.1406 requires applicant to describe facility design and procedures to facilitate eventual decommissioning. The CFPP COLA will address this requirement. Additionally, Regulatory Guide 4.22 discusses licensees' obligations to adjust the decommissioning cost estimates when warranted by radiological site surveys, which is not a factor in the initial amount. 10 CFR 20.1501 requires records from radiological surveys to be kept with records important for decommissioning. Furthermore, compliance with these requirements is independent from certification amount.

NRC Question: Please clarify how this approach considers decommissioning in a safe manner.

> NuScale response: Safety is ensured by compliance with the regulations that define criteria for termination of license. A decommissioning plan (license termination plan) and decommissioning site-specific cost estimate prior to termination of operations refines the amount.

NRC Question: Please explain how much Greater than Class C (GTCC) material will be generated?

> NuScale response: CFPP does not anticipate generating any GTCC material during normal operation. Additionally, NUREG-1307, “Report on Waste Burial Charges: Changes in Decommissioning Waste Disposal Costs at Low-Level Waste Burial Facilities,” provides escalation factors for waste burial/disposition component of the decommissioning funding formula.

At the conclusion of the meeting, the NRC staff thanked NuScale for providing additional information and responding to the staff’s questions. The staff stated that it has sufficient information to provide its feedback on NuScale’s decommissioning funding White Paper in a letter to NuScale. The staff estimated to issue its written feedback to NuScale by the end of March 2023.

Docket No. 99902052

Enclosure:
List of Attendees

cc w/enclosure: CFPP Listserv

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NAME	OTabatabai*	SGreen*	OTabatabai*
DATE	03/08/23	03/08/23	03/14/23

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Meeting Attendees

Name	Organization
Omid Tabatabai	U.S. Nuclear Regulatory Commission (NRC)
Shawn Harwell	NRC
Amy Snyder	NRC
Fred Miller	NRC
Michael Dudek	NRC
Gary Becker	NuScale
John Volkoff	NuScale
Wendy Reid	NuScale
Tamela Cohen	NuScale
Erica Combs	NuScale
Susan Baughn	NuScale
Ava T	
Joan Seeman	Member of the public
Bates, Melissa	Department of Energy (DOE)
Fields, Sarah	Uranium Watch
Don Bosnic	Xcel Energy Nuclear Services
Brian Smith	NRC
Elliot Korb	
Eric Woods	Fluor
John Moses	NRC
Ken Rach	CFPP
Pete Kissinger	Xcel Energy Nuclear Services
Leigh Lloveras	Breakthrough
Matt Featherston	Fluor
Scott Head	CFPP
Thomas Hayden	NRC