CARBON FREE
POWER PROJECT
155 North 400 West, Suite 480
Salt Lake City, UT 84103

LO-121350

August 12, 2022

Docket No. 99902052

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

SUBJECT: NuScale Power, LLC Submittal Entitled “Carbon Free Power Project (CFPP) Regulatory Engagement Plan”, Revision 1, on behalf of CFPP, LLC

REFERENCES:

1. Letter from CFPP, LLC to the NRC, “Licensing Lead for Carbon Free Power Project, LLC,” dated October 12, 2021 (ML21299A363)
2. Letter from CFPP, LLC to the NRC, “NuScale Power, LLC Letter of Intent Providing the Carbon Free Power Project (CFPP) Combined License Application (COLA) Response to NRC Regulatory Issue Summary 2020-02 and Regulatory Engagement Plan,” dated January 28, 2022 (ML22028A277)
3. NuScale Power, LLC, “Submittal of Presentation Materials Entitled "Carbon Free Power Project (CFPP) Combined License Application (COLA) Presentation Regulatory Engagement Plan, (Closed Session)" PM-117791, Revision 0.” (ML22130A799)
4. NuScale Power, LLC, “Submittal of Presentation Materials Entitled - "Carbon Free Power Project (CFPP) Combined License Application (COLA) Presentation Regulatory Engagement Plan, (Open Session)" PM-116772, Revision 0.” (ML22130A802)
5. U.S. Nuclear Regulatory Commission, “U.S. Nuclear Regulatory Commission Summary of the May 19, 2022, Observation Public Meeting to Discuss the NuScale Power, LLC, Regulatory Engagment Plan for the Carbon Free Power Project Combined License Application (Open Session),” dated June 15, 2022 (ML22146A343)
6. U.S. Nuclear Regulatory Commission, “U.S. Nuclear Regulatory Commission Summary of the May 19, 2022, Observation Public Meeting to Discuss the NuScale Power, LLC, Regulatory Engagment Plan for the Carbon Free Power Project Combined License Application (Closed Session),” dated June 15, 2022 (ML22147A064)
7. NEI 18-06, Revision 0, “Guidelines for Development of a Regulatory Engagement Plan,” dated June 2018

NuScale Power, LLC (NuScale) is submitting this letter in its capacity as the licensing lead for Carbon Free Power Project, LLC (CFPP, LLC) and U.S. Nuclear Regulatory Commission (NRC) point of contact for the Carbon Free Power Project (CFPP) Combined License Application (COLA) (Reference 1).

By letter dated January 28, 2022 (Reference 2), NuScale submitted to NRC and requested NRC feedback on CFPP Regulatory Engagement Plan (REP), Revision 0. As part of meetings held on May 19, 2022, between the CFPP COLA project team and NRC staff (References 3 and 4), and in follow-on NRC meeting summaries dated June 15, 2022 (References 5 and 6), NRC staff provided feedback on the CFPP REP, Revision 0. Based on the NRC staff's feedback, NuScale has updated the CFPP REP. The updated plan (CFPP REP, Revision 1) is provided in Enclosure 1 (proprietary version) and Enclosure 2 (nonproprietary version) to this letter. As with the original CFPP REP, Revision 0, the enclosed CFPP REP, Revision 1, is based on guidance provided in NEI 18-06 (Reference 7). As such, it is intended to guide interactions between the CFPP COLA project team and the NRC associated with the planned submittal of the CFPP COLA.

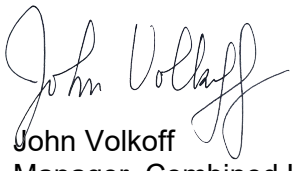
CFPP, LLC acknowledges that the COLA review timeframe requested in the enclosed CFPP REP, Revision 1, is aggressive. However, issuance of the Combined License (COL) is critical for the next phase of project scheduling, design, and construction. In addition to the shortened technical review timeframe, CFPP, LLC is also requesting a shortened schedule for the hearing process. Please see Section 3.9.1 of the CFPP REP, Revision 1, for details regarding the requested review schedule. In order to achieve the requested review schedule, the CFPP COLA development team will engage with the NRC to determine the most effective early evaluation of select regulatory and technical topics to help expedite the application review, and determine the most effective process for review of the COLA submittal.

NuScale requests that the proprietary version of the CFPP REP, Revision 1 (Enclosure 1), be withheld from public disclosure in accordance with the requirements of 10 CFR § 2.390. The affidavit provided as Enclosure 3 supports this request.

This letter makes no regulatory commitments and no revisions to any existing regulatory commitments.

If you have any questions, please contact Kyra Perkins at 980-349-4117 or at kperkins@nuscalepower.com.

Sincerely,



John Volkoff
Manager, Combined License Applications
NuScale Power, LLC
COLA Support on behalf of CFPP, LLC

Distribution: Michael Dudek, NRC
Carolyn Lauron, NRC
Greg Cranston, NRC
Demetrius Murray, NRC

Enclosure 1: Carbon Free Power Project (CFPP) Regulatory Engagement Plan, Revision 1, proprietary version
Enclosure 2: Carbon Free Power Project (CFPP) Regulatory Engagement Plan, Revision 1, nonproprietary version
Enclosure 3: Affidavit of John Volkoff, AF-121373

Enclosure 1:

Carbon Free Power Project (CFPP) Regulatory Engagement Plan, Revision 1, proprietary version

Enclosure 2:

Carbon Free Power Project (CFPP) Regulatory Engagement Plan, Revision 1, nonproprietary version

Carbon Free Power Project (CFPP)
Regulatory Engagement Plan

August 2022

Revision 1

NuScale Power, LLC

1100 NE Circle Blvd., Suite 200

Corvallis, Oregon 97330 www.nuscalepower.com

TABLES

1.0 Introduction

1.1 Purpose of Regulatory Engagement Plan

The purpose of this regulatory engagement plan (REP) is to guide interactions and enhance communication between the Carbon Free Power Project, LLC (CFPP, LLC) and the Nuclear Regulatory Commission (NRC) during the development of a combined license application (COLA). This plan identifies the planned regulatory approach and defines interactions and roles and responsibilities in order to enhance communication and reduce regulatory uncertainty.

NuScale, LLC (NuScale) will serve as the licensing lead for Fluor and will be the point of contact for the NRC for the Carbon Free Power Project (CFPP) COLA content. This is consistent with the CFPP letter submitted to the NRC on October 12, 2021 (Reference 10.1), stating that NuScale is authorized to act on behalf of the CFPP, LLC and the CFPP COLA project team when engaging with the NRC.

1.2 Contact Information

The following are points of contact for all correspondence:

John Volkoff
Manager, Combined License Applications
NuScale Power, LLC
1100 NE Circle Boulevard, Suite 200 Corvallis, OR 97330
Phone: 541-452-7117
Email: jvolkoff@nuscalepower.com

Copy to (nonproprietary versions):

Shawn Hughes
Project Director, CFPP, LLC
155 North 400 West, Suite 480 Salt Lake City, UT 84103
Phone: 727-494-4480
Email: shawn@cfppllc.com

Scott Head
Regulatory Affairs Manager, CFPP, LLC
155 North 400 West, Suite 480 Salt Lake City, UT 84103
Phone: 979-824-0938
Email: scott.head@cfppllc.com

Mason Baker
Chief Legal Officer and General Counsel, UAMPS
155 North 400 West, Suite 480 Salt Lake City, UT 84103
Phone: 801-214-6440
Email: mason@uamps.com

Glenn J. Neises
Nuclear Director, Burns & McDonnell
9400 Ward Parkway, Kansas City, MO 64114
Phone: 913-620-5351
Email: gneises@burnsmcd.com

Eric Woods
COLA Project Manager, Fluor
1 Fluor Daniel Drive, Sugar Land, TX 77478
Phone: 281-637-1563
Email: eric.woods@fluorgov.com

Matthew Featherston
COLA Licensing Lead, Fluor
100 Fluor Daniel Drive, Center 1, Greenville, SC 29607
Phone: 864-905-8001
Email: Matthew.Featherston@fluorgov.com

1.3 Company and Project Structure

Utah Associated Municipal Power Systems (UAMPS) is a nonprofit, joint-action governmental agency providing energy services to its 46 community-owned power system members located throughout the intermountain western states. UAMPS is working to provide the next generation of nuclear reactors at the Idaho National Laboratory (INL) in eastern Idaho as part of its CFPP.

The CFPP is an initiative formally launched in 2015 by UAMPS to advance state and national efforts to reduce carbon emissions and increase air quality. CFPP, LLC is a wholly-owned subsidiary of UAMPS that was established to develop, own, and operate the project. This project will provide CFPP with a COLA for a power generation facility using the NuScale small modular reactor (SMR) technology at the INL site. Fluor has the COLA development contract for the CFPP and has delegated to NuScale to: (1) develop a significant portion of the COLA content, and the infrastructure to be used by the project team to prepare the COLA; (2) develop, maintain, and manage the licensing strategy for the CFPP COLA project; and (3) act as the primary project team point-of-contact (i.e., interface) with NRC staff, using an approach substantially similar to that used successfully for the NuScale design certification application. Together, UAMPS, CFPP, LLC, Fluor, and NuScale will function as the Project Management Organization (PMO) for CFPP. The co-applicants for the CFPP COLA will be CFPP, LLC, and Xcel Energy Nuclear Services Holdings, LLC (XENS). The former will be the owner applicant and the latter will be the operator applicant.

1.4 Summary of Strategic Project Approach and Goals

The CFPP COLA project team is using the combined licensing process in 10 CFR 52, Subpart C to develop and submit a COLA to the NRC for a power generation facility using the NuScale SMR technology at the INL site (Reference 10.2). Each module will

generate up to approximately 250 MWt in a core and vessel design detailed in the standard design approval (SDA) currently under development.

During preparation of the COLA, NuScale will leverage prior NRC interactions and reviews to improve regulatory efficiency, reduce cost and resource requirements, and thereby, reduce application review time.

1.5 Background

The U.S. Nuclear Regulatory Commission (NRC) completed the review of the design certification application (DCA) for NuScale Power's 160 MWt SMR and issued the final safety evaluation report (FSER) in August 2020 (References 10.3 and 10.4). The FSER represents completion of the technical review and approval of the NuScale SMR design. The NRC granted an SDA for the NuScale DCA design on September 11, 2020 (Reference 10.5).

NuScale is now pursuing a new SDA for a plant comprised of six integrated pressurized water reactors that can generate 250 MWt (77 MWe) per module. This is an evolutionary step forward from the design in the DCA and original SDA. The 250 MWt SDA will be a standalone document that includes all of the needed elements from the DCA and any new elements driven by the increase in power from 160 MWt to 250 MWt. The SDA application is currently underway and the submittal of the application is planned for the fourth quarter of 2022.

More than 100 engagements over five years, both pre-application and during the post-submittal review, were conducted with the NRC to resolve first-of-a-kind (FOAK) issues associated with the NuScale design. In addition, numerous meetings with the Advisory Committee for Reactor Safeguards (ACRS) were also held to further discuss and challenge the NuScale design as a part of the certification process. NuScale intends to leverage these prior interactions and issue resolutions to meet the review and approval milestones of the COLA.

1.6 REP Approach

This REP is based on Nuclear Energy Institute (NEI) 18-06, "Guidelines for Development of a Regulatory Engagement Plan" (Reference 10.6). NuScale will maintain this REP as a living document and will update as necessary as plans evolve. Although NuScale maintains this REP, licensing staff will solicit NRC staff input for consideration and inclusion in the REP.

The REP will describe and document agreement between NuScale and the NRC staff regarding licensing approach, resolution of issues, schedule expectations, and interaction protocol.

2.0 Technology Summary

A NuScale Power Module™ (NPM) includes the nuclear reactor, steam generators, pressurizer, and containment in an integral package that eliminates reactor coolant pumps and large bore pipes. The NPM is passively safe relying upon natural physics of

convection, conduction, and gravity to cool the reactor during normal operation, shutdown, and emergency core cooling. Each NPM produces 77 MWe and is factory built then installed below grade in a seismically-robust building within a steel-lined reactor pool.

3.0 Regulatory Strategy

3.1 Application Type

The CFPP project is pursuing a COLA under 10 CFR 52 Subpart C (Reference 10.2). Additional COLA details are contained in Section 3.1.1.

3.1.1 Application Content

The content and structure of the COLA is well-defined by NRC regulations and guidance. A summary of the elements of the COLA is provided in Table 3-1 below (Reference 10.2). The COLA will incorporate by reference the NuScale 250 MWt SDA per 10 CFR 52.73 (Reference 10.7) and 10 CFR 52.133 (Reference 10.8) and will also contain site-specific information for INL. In addition to the parts listed in Table 3-1, the CFPP COLA project team may submit licensing topical reports (LTRs) that support regulatory review. LTRs are submitted for review, evaluation, and approval independent of the COLA.

Table 3-1. COLA Format and Content

APPLICATION PART	COMBINED LICENSE	SDAA – Needed to Support COL	DESCRIPTION
Transmittal Letter	✓*	N/A	
Part 1: General and Financial Information	✓	N/A	Project information and information on the applicant(s).
Part 2: Safety Analysis Report	✓	Yes	SDA incorporated by reference; then deviations are addressed as “departures.” Contains the design information and criteria for the proposed reactor and comprehensive data on the proposed site. It also discusses various hypothetical accident situations and the safety features of the plant that would prevent accidents or lessen their effects.
Part 3: Environmental Report	✓	No	Assessment of the environmental impact of the proposed facility. Used by NRC to support the environmental impact statement (EIS).
Part 4: Technical Specifications	✓	Yes	

APPLICATION PART	COMBINED LICENSE	SDAA – Needed to Support COL	DESCRIPTION
Part 5: Emergency Plans	✓	No	
Part 6: Security Plans	✓	No	
Part 7: Exemptions, Departures, and Variances	Yes, if applicable	N/A	
Part 8: License Conditions; Inspections, Tests, Analyses, and Acceptance Criteria	✓	Yes (only ITAAC)	Enumerates both operating conditions and inspections, tests, analyses, and acceptance criteria (ITAAC) that a COL holder must meet to demonstrate that the facility has been constructed in conformance with the design.
Part 9: Withheld Information	✓	N/A	
Part 10: Quality Assurance Program Description	✓	Yes	
Part 11: Supplemental Information (e.g., Limited Work Authorization)	Yes	No	Limited Work Authorization

* The symbol "✓" denotes mandatory information.

3.1.2 Precedents

Precedents from COLs issued per 10 CFR 52 will be used to inform development of the CFPP COLA.

3.1.3 SDA Impact on COL Content

The COLA will be developed in parallel to the SDA application (SDAA) and that process will inform the development of certain COL sections. The COLA intends to incorporate the SDA by reference and will document proposed departures, address COL items in the SDA, and include supplemental information to generic information in the SDA.

3.2 National Environmental Policy Act (NEPA)

Per 10 CFR 51.50(c), the combined license environmental report will address NEPA requirements (Reference 10.9). To satisfy its NEPA obligations, the U.S. Department of Energy (DOE) is anticipated to participate as a cooperating agency with the NRC for NEPA determinations associated with the CFPP project (see Section 8.4).

3.3 Principal Design Criteria

This section is not currently used.

3.4 Selection of Applicable Guidance

The primary NRC guidance for the format and content of new plant license applications under 10 CFR 52 is provided in NRC Regulatory Guide 1.206 (Reference 10.10). NRC guidance to their staff for conducting reviews of license applications is contained in NUREG-0800, Standard Review Plan (SRP) (Reference 10.11). For the NuScale design, NRC guidance for staff reviews includes the NuScale Design-Specific Review Standard (DSRS), which is used by the staff in reviewing specific final safety analysis report (FSAR) sections for which the corresponding SRP guidance has been identified as being largely not materially relevant to the NuScale design (see SRP Part 2 Appendix 1). These documents include the experiences gained from past licensing reviews and identify other related NRC expectations and guidance documents (regulatory guides, NUREGs, generic communications, etc.) appropriate for consideration by prospective applicants. The COLA development includes the use of NRC-approved industry standards and previously approved computer codes and modeling methodologies to the extent practicable.

Since the staff has not completed any COLA reviews for SMRs (no applications have been submitted to date), it is acknowledged that existing guidance may have limitations or not be directly applicable in all cases. In some cases, exemptions to regulations and departures from guidance may be necessary or desirable to implement the safety advantages inherent in the NuScale nuclear power plant design. SRP Introduction, Part 2 of NUREG-0800, describes the licensing review philosophy and the risk-informed, integrated review framework to be applied by the staff for new SMR applications under 10 CFR Part 52, and incorporates staff commitments made to the Commission in SECY-11-0024 (Reference 10.12). This framework is distinct from the review approach used for non-SMR applications and license amendments and is meant to enhance the efficiency of the review process and to align the staff review focus and resources with risk-significant structures, systems, and components (SSCs) and other aspects of an SMR design that contribute most to safety. The framework consists of the following three major elements:

1. Incorporates a risk-informed approach by considering both the safety classification and the risk significance of SSCs in order to determine the appropriate level of review (i.e., the framework uses a “graded review” approach).

2. Incorporates an integrated review approach by using the satisfaction of selected requirements to provide reasonable assurance of some aspects of SSC performance.

3. The safety/risk categorization and the integrated review approach described are documented in the DSRS for the NuScale design.

3.5 Use of Standards and Industry Guidance

Industry standards including consensus standards, NEI guidance, and EPRI guidance will be utilized when appropriate during the COL application process.

3.6 Assessing Alignments/Gaps

As part of the COLA development efforts, it may be necessary to resolve conflicts between existing regulatory infrastructure and new features in the NuScale design. The CFPP team may reassess the conclusions reached in a previous gap analysis to identify additional needed exemptions from NRC regulations and deviations from guidance in RG 1.206 (Reference 10.10). For significant gaps, pre-application interactions will be conducted with NRC staff to outline the CFPP strategy and approach.

The NRC staff published a white paper to provide information to advanced reactor developers on the importance of pre-application engagement during application reviews (Reference 10.13). This has been referenced in the preparation of this REP to ensure alignment between NRC staff and the CFPP COLA project team.

3.7 Design-Centered Review Approach

As per Regulatory Guide 1.206, “Applications for Nuclear Power Plants”, the NRC encourages the standardization of applications to enhance the safety of nuclear power plants and to facilitate a predictable and consistent method for application review. Under the design-centered review approach (DCRA), staff performs one technical review for each issue outside the scope of the standard design and intends to make one consistent and justifiable decision to support COLA reviews.

NuScale intends to use the CFPP COLA as the reference COL (R-COL) application and use annotation of the FSAR, Part 2 of the COLA, and other portions of the application to clearly identify:

- sections that incorporate by reference the SDA FSAR
- sections that are standard for all COL applicants that reference the same standard design
- sections that are site-specific and, therefore, only apply to the specific location

3.8 Key Issues

Refer to Section 4.1 for discussion of anticipated key issues.

3.9 NRC Review Timeframes

3.9.1 Proposed Schedule

The NRC’s standard COLA technical review process involves six phases. Previous COLA reviews have taken up to 42 months to complete. CFPP, LLC requests the NRC to streamline and shorten this review process for the CFPP COLA by utilizing a four-phased review similar to the approach for the SDAA review (see Section 3.9.2).

The CFPP team anticipates the COLA review can be achieved with only four phases because:

- most of the design and key safety principles will have already been addressed as part of the SDAA review.
- the SDAA builds off the earlier NRC-approved DCA and SDA.
- the NRC is striving to keep the same review team on the SDAA and COLA as they used on the earlier DCA and SDAA.

CFPP, LLC has requested the NRC to consider the achievability of an overall {{ }}2(a) NRC approval duration to include a 2-month acceptance review, {{ }}2(a) technical review, and {{ }}2(a) for hearings. See Table 3-2 below for the estimated schedule for completion of milestone activities.

The issuance of the COL is critical for the next phase of project scheduling, design, and construction. In order to achieve the requested review schedule, the CFPP COLA development team will engage with the NRC to determine the most effective early evaluation of select regulatory and technical topics to help expedite the application review, and determine the most effective process for review of the COLA submittal.

Table 3-2. Estimated Schedule

MILESTONE	ESTIMATED SCHEDULE
COLA submittal	Jan 2024
COLA acceptance review complete	Mar 2024
NRC and ACRS technical review complete and FSER issuance	{{ }}2(a)
Hearings complete and COL approval	{{ }}2(a)

3.9.2 Four-Phased Approach

The NRC utilizes a phased approach for conducting reviews of COLAs. CFPP, LLC will propose to the NRC a four-phase process that will support a condensed COLA review schedule, as follows:

- Phase 1: NRC Issues Requests for Additional Information (RAIs)
- Phase 2: NRC Issues Advanced FSER without Open Items
- Phase 3: ACRS Review of Advanced Safety Evaluation Report (SER) without Open Items
- Phase 4: NRC Issues FSER

A four-phase review will reduce the review effort by the staff and ACRS, which will assist the NRC in managing its review of potentially numerous concurrent applications. Similar to the proposed SDAA review, the four-phase review omits the development of a draft SER with open items and the ACRS's review of it. Instead, the staff will proceed directly

to developing the advanced FSER with no open items and the ACRS review will be completed in one phase.

3.9.3 Topical Report Applications

Topical reports typically have a review and approval timeframe of 12-18 months. The CFPP team will engage in early communication with NRC staff to ensure alignment on schedule. NuScale has the infrastructure in place with Certrec to streamline the review process to support a more efficient review. This process has been successfully utilized by the SDA team with topical reports. Table 4-2 includes a list of topical reports that are planned to be submitted to the NRC to support the CFPP COLA. This includes FOAK topical reports as indicated on the table.

3.9.3.1 Requests for Addition Information (RAIs)

The CFPP team is proposing to use the metrics for RAIs listed below. These metrics are goals used to monitor the health of the project. If metrics are not being met, the concerns that are causing the delays will be escalated up the managerial chain. These metrics are listed below and are consistent with those used for the NuScale SDAA.

- {{

}}2(a)

4.0 Pre-application Engagement

As licensing lead for the CFPP COLA project team (Reference 10.1), NuScale will facilitate pre-application meetings (teleconferences, videoconferences, and face-to-face) with NRC staff to identify, assess, and mitigate regulatory risks associated with the COLA. The primary benefit planned for this engagement is alignment on the risk-informed content of the application, and scope and depth of the NRC review. NuScale will engage in frequent open and closed meetings with NRC staff until application submittal. These meetings will ensure that NRC staff has timely and accurate information to complete regulatory responsibilities in making their safety determination with respect to agency resource availability. NuScale understands the need to notify the public of agency meetings and will support efforts for early meeting notification. NuScale will work with NRC staff to coordinate an appropriate schedule of meetings taking into consideration the multiple time zones of attendees.

4.1 Identification of Topics

Table 4-1 below includes topics that have been identified as important to address in pre-application engagements. Table 4-2 includes topical reports that are currently planned to be submitted. Table 4-3 includes white papers, letters, and technical reports that are currently planned to be submitted. It should be noted that as the project progresses other topical reports and topics for pre-application engagement may be identified and added to the tables below. The NRC will be promptly notified in the event additional topical reports are needed for planning and budget purposes. Timely pre-application engagement for each identified topic will be important to keep the NRC informed and aligned on schedule. Some of the pre-application engagements are currently estimated by quarter based on current information and subject to change as the project progresses.

Table 4-1. Topics for Pre-application Engagement

TOPIC	DESCRIPTION	PLANNED ENGAGEMENT
Volcanic Hazards Assessment (VHA)	The CFPP VHA will use an engineering analysis approach, consistent with Regulatory Guide 4.26, Volcanic Hazards Assessment for Proposed Nuclear Power Reactor Sites, Revision 0 (Reference 10.17). A white paper will be submitted {{ }}$^{2(a)}$ to demonstrate the analysis approach methodology.	November 18, 2021 (actual) August 30, 2022
Cyber Security*	NuScale has implemented a “Security by Design” approach. NuScale proposes cyber security methodology that will demonstrate a cyber-related attack will not impact the health and safety of the public. NuScale is evaluating the need to submit a cyber security methodology topical report to the NRC.	June 9, 2022 (actual)
Proposed Site Visit	Desired outcomes of the visit to the INL site are to obtain a: • Common understanding of the geologic, geotechnical, and geophysical data bearing on site characteristics through field examination, documentation review, and discussions with technical staff. • Common understanding of subsurface site characteristics through examination and discussion of borehole core samples and core logs. Common understanding of the site characterization program through examination and discussion of site-related supplemental information.	{{ }}$^{2(a)}$
Operator Licensing	Hot licensing phase and cold licensing phase approaches will include modifications from standard submittals for Advanced Design Passively Cooled Reactors (ADPCR). Hot licensing relies on two previous drafts: “Operator Licensing and Examination Standard for NuScale Small Modular Reactors” (Reference 10.18) and “Learning-Objective-Based Knowledge, Skills, and Abilities Catalog for Nuclear Power Plant Operators”.	{{ }}$^{2(a)}$

TOPIC	DESCRIPTION	PLANNED ENGAGEMENT
Cold License Plan	Cold Licensing relies on rulemaking and industry guidance document changes. Updated guidance document changes will apply to both hot and cold licensing phases.	{{ }}2(a)
Physical Security/Security Plan*	NuScale has implemented a “Security by Design” approach. NuScale plans to develop the physical security plan in accordance with the proposed rulemaking under 10 CFR 73.55 (Reference 10.19) and pursue a performance-based plan. {{ }}2(a)	{{ }}2(a)
Emergency Planning (EP)*	A letter will be submitted to the NRC {{ }}2(a) outlining the licensing strategy for emergency planning. The CFPP COLA plans to use the new EP final rule under 10 CFR 50.160 (Reference 10.20) for performance-based Emergency Plan. The on-shift and emergency response organization (ERO) staffing topical report (see Table 4-2) will be FOAK due to neither NEI 10-05 (Reference 10.21) nor ISG-01 (Reference 10.22) being applicable to SMR design. The emergency action levels (EALs) topical report (see Table 4-2) will be FOAK due to neither NEI 99-01 (Reference 10.23) nor NEI 07-01 (Reference 10.24) being applicable to SMR design. The EAL scheme uses a site-boundary emergency planning zone (EPZ) (based on the NuScale EPZ Methodology LTR). Language for a license condition/ITAAC for the Emergency Plan is being developed.	{{ }}2(a)
Four-phase Review/ Submittal Schedule	The COLA is scheduled to be submitted in January 2024. The COLA schedule will assume a {{ }}2(a) technical review and an overall {{ }}2(a) NRC approval duration as described in Section 3.9.1. Alignment with NRC staff on schedule is necessary.	{{ }}2(a)
License Structure*	{{ }}2(a)	{{ }}2(a)
Regulatory Exemptions	{{ }}2(a)	{{ }}2(a)
Environmental Report	NuScale’s approach is a FOAK use of RG 4.2 Rev. 3 (Reference 10.26) to apply to an SMR footprint. A white paper will be submitted to describe NuScale’s approach to utilize existing quality environmental (meteorological, ecological, cultural, etc.) including that from INL and other appropriate sources. It will be used to demonstrate comparable results to be supplemented with site-specific data. Periodic meetings with NRC Environmental Project Managers have been established.	{{ }}2(a)
Decommissioning Funding	{{	{{ }}2(a)

TOPIC	DESCRIPTION	PLANNED ENGAGEMENT
	}}2(a)	
Limited Work Authorization (LWA)	{{ }}2(a) CFPP, LLC submitted a letter to the NRC on August 2, 2022 to exclude excavation supports (tiebacks) from scope of "construction" requiring NRC approval.	{{ }}2(a)
Quality Assurance (QA) Program*	The CFPP Nuclear Quality Assurance Program Description (QAPD), Revision 002 (TR-121172, Revision 0), was submitted July 26, 2022 and is the governing QA Program for site investigation and COLA preparation (including preliminary design) activities and procurement (Reference 10.28). The CFPP QAPD will be revised and submitted in a forthcoming LTR (see Table 4-2) to add site-specific design and construction to its governing scope. The QAPD to be submitted in COLA Part 10 will be the operations QA Program that will be owned/implemented by XENS (as the Operator Applicant/Licensee). The transition from the CFPP QAPD to the XENS operations QAPD will be at the appropriate time prior to fuel loading. This transition will be described in COLA FSAR Chapter 17.	{{ }}2(a)
Safeguards Information (SGI) Program	Sensitive unclassified information marked as SGI will be protected against unauthorized disclosure in accordance with 10 CFR 73.21 (Reference 10.29).	{{ }}2(a)
Readiness Assessment	The CFPP team will request the NRC to conduct a readiness assessment prior to the submittal of the COLA for the NRC to review the application for required information, technical or regulatory issues, and familiarity with the design.	{{ }}2(a)

*Denotes topics that potentially require a topical report

Table 4-2. Licensing Topical Reports

TOPIC	PLANNED SUBMITTAL
CFPP Nuclear Quality Assurance Program Description, Rev. 002 (TR-121172, Rev. 0).	July 26, 2022 (actual)
Physical Security	{{ }}2(a)
CFPP Nuclear Quality Assurance Program Description, Rev. 003 (TR-121172, Rev. 1)	{{ }}2(a)
Emergency Response Organizations (EROs)[1]	{{ }}2(a)
Emergency Action Levels (EALs)[1]	{{ }}2(a)
Mitigation of Beyond-Design-Basis Events Defined by 10 CFR 50.155[1,2]	{{ }}2(a)
Spent-Fuel Pool (SFP) Rack Design[1,2]	{{ }}2(a)

TOPIC	PLANNED SUBMITTAL
Reactor Flange Tool[1,2]	{{ }}[2(a)]

[1]Denotes LTRs that are FOAK
[2]Denotes NuScale LTRs associated with the SDA that support the COLA

Table 4-3. White Papers, Letters, and Technical Reports

TOPIC	PLANNED SUBMITTAL
Excavation Supports as a Preconstruction Activity White Paper	August 2, 2022 (actual)
VHA White Paper	{{ }}[2(a)]
EP Letter	{{ }}[2(a)]
Cyber Security	{{ }}[2(a)]
License Structure White Paper	{{ }}[2(a)]
Decommissioning Funding White Paper	{{ }}[2(a)]
Environmental Report White Paper	{{ }}[2(a)]

4.2 Types and Frequency of Interactions

Interactions with the NRC are managed within NuScale Regulatory Affairs by the Manager, Combined License Applications, and coordinated with the CFPP COLA project team. These interactions may include phone calls, teleconferences, meetings to solicit feedback on proposed technical approaches, and audits/inspections of engineering information and testing facilities that support the COLA development.

The CFPP COLA project team is proposing the following meetings with NRC staff:

- pre-application meetings
- {{ }}[2(a)] meetings with SDA and COLA NRC project managers
- quarterly status reports to docket that the CFPP COLA project team met its goals and objectives for pre-application
- planning meetings and drop-ins, as needed

4.3 NRC Feedback

An electronic reading room “eRR” on the Certrec Licensing Review Platform (LRP) will allow NuScale and the NRC to track meeting summaries, feedback, and action items.

Correspondence with the NRC will include: project status information, presentations, topical reports, white papers, and RAI responses on submitted documents.

4.4 Schedule Considerations

Pre-application engagements will establish a schedule of meetings and submittals, and the timing/duration of NRC staff reviews. Additionally, the expectations for communicating changes to the schedule and/or scope will also be established.

4.5 Relation to Other Proceedings/Reviews

The COLA and SDAA preparation efforts currently are ongoing in parallel, with the SDAA scheduled to be completed and submitted for NRC review prior to the scheduled submittal of the COLA. This will require robust configuration management and standardized work processes to ensure successful project completion.

4.6 Pre-application Site Visits, Audits, and Inspections

Audits and inspections will be coordinated with the NRC-designated project manager and subject matter experts.

5.0 Application Process

5.1 Readiness Assessment Audit

The CFPP COLA project team will request the NRC staff conduct a readiness assessment audit of the COLA prior to submittal for NRC review. This review is comprehensive and will help identify and resolve issues that may hinder acceptance of the COLA for docketing and review. The audit must occur with sufficient time to resolve identified issues before scheduled submittal to avoid schedule and cost impacts to the COLA project. This process will take place in accordance with NRC Office of New Reactors (NRO) Office Instructions (OI) NRO-REG-104, Pre-application Readiness Assessment, and NRO-REG-100, Acceptance Review Process for Early Site Permit, Design Certification, and Combined License Applications (References 10.14 and 10.15).

5.2 Application Submittal

The COLA and SDAA preparation efforts currently are ongoing in parallel, with the SDAA scheduled to be completed and submitted for NRC review prior to the scheduled submittal of the COLA. The COLA will incorporate the SDA by reference so the COL cannot be issued until after the SDA is formally approved.

5.3 Acceptance Review and Docketing

After COLA submittal, the NRC will acknowledge receipt of the application and conduct an acceptance review (Reference 10.15). During the acceptance review process, NuScale is proposing that {{ }}[2(a)] meetings with the NRC project managers continue to ensure alignment with NRC staff.

5.4 NRC Processes

CFPP, LLC anticipates to submit the COLA in {{ }}[2(a)] with a proposed NRC review schedule as described in Section 3.9.1. After COL application acceptance, the NRC staff will develop a review schedule, which can be found on the NRC staff website.

6.0 Post-application Engagement

6.1 Technical Meetings

Technical meetings will be coordinated with the NRC-designated project manager and will typically be open to the public. The NRC will provide notice 10 working days in advance, and will include whether the meeting is open or closed to the public.

6.2 Audits and Inspections

Post-application audits and inspections will be coordinated with the NRC-designated project manager and subject matter experts.

6.3 Submittal of Additional Information

6.3.1 Supplemental Information

During the NRC approval process, information in the application may require an update. Notification of pending supplemental information and the associated schedule will be communicated to the NRC during routine interactions.

6.3.2 Requests for Additional Information

When issues or questions arise during the approval process, the CFPP COLA project team prefers to utilize the NRC's eRAI process to clarify the request and identify proprietary information that should be withheld from the formal RAI.

Any impacts to the content of the application will be identified as part of the RAI response. A description of the impact and markups of affected application text will be included in the response.

6.3.3 Application Revisions/Updates

The CFPP COLA final safety analysis report (FSAR) will be updated annually while the application is under review in accordance with 10 CFR 50.71(e)(3)(iii) (Reference 10.16).

6.4 Frequency of Interactions

This section will be updated as plans evolve. A routine interaction schedule will be proposed to ensure alignment between the CFPP COLA project team and the NRC during COLA review.

6.5 Review Phases and Schedule

Refer to Section 3.9.2 for discussion about the proposed four-phase process that will support a condensed COLA review schedule.

6.6 Relation to other Proceedings/Reviews

As stated in Section 4.5, the SDA approval process will be happening simultaneously with the COL approval process. This needs to be taken into consideration during the RAI response process as certain COL RAIs may need to be deferred pending resolution of issues identified during the SDA review.

7.0 Withheld Information

NuScale will comply with the Code of Federal Regulations and use existing NuScale procedures and processes as they relate to withheld information.

8.0 Partnerships and Industry Participation

8.1 Design-Centered Work Group (DCWG)

A DCWG may be utilized to ensure configuration control over the standard information gets implemented uniformly across all stakeholders. The DCWG will be led by NuScale and will include appropriate CFPP stakeholders.

8.2 Nuclear Energy Institute (NEI)

NEI has published guidance documents to assist applicants in addressing various topics. NEI 18-06, “Guidelines for Development of a Regulatory Engagement Plan” was used to develop this document (Reference 10.6). Other relevant NEI documents will be utilized during the COL application process.

8.3 Standard Development Organizations

This section is not currently used.

8.4 Department of Energy (DOE)

The DOE approved a cost share award through a cooperative agreement to CFPP, LLC that could provide up to $1.4 billion to commercialize a NuScale power plant. CFPP, LLC has contracted Fluor to develop a COLA for the preferred site which is on a portion of the DOE INL site. With the DOE’s involvement (i.e., financial support and possible site location), additional NEPA considerations are required as well as site-specific requirements (i.e. Use Permit). To satisfy its NEPA obligations, the DOE is anticipated to participate as a cooperating agency with the NRC for NEPA determinations associated with the CFPP project including preconstruction, construction and operational considerations.

8.5 Other Organizations

This section is not currently used.

8.6 International Considerations

This section is not currently used.

9.0 Other Topics

9.1 Schedule

A detailed resource loaded schedule has been developed to support the project.

9.2 Budget

Budgeting considerations are an important consideration in establishing and maintaining the project schedule. Estimated NRC staff review fees, including review hours, will be estimated at the time of acceptance for review and monitored on an ongoing basis. Both the NRC and NuScale will communicate with each other any expected changes in the level of estimated NRC staff review fees or any funding restrictions.

10.0 References

10.1 CFPP, LLC letter to NRC, “Licensing Lead for Carbon Free Power Project, LLC,” October 12, 2021 (ML21299A363).

10.2 *U.S. Code of Federal Regulations*, “Combined Licenses,” Subpart C, Part 52, Chapter I, Title 10, “Energy,” (10 CFR 52 Subpart C).

10.3 NuScale Power, LLC, NuScale Standard Plant Design Certification Application, Revision 5, July 29, 2020 (ML20225A044), Portland, OR.

10.4 U.S. Nuclear Regulatory Commission, “Final Safety Evaluation Report for the NuScale Standard Plant Design,” August 28, 2020 (ML20023A318).

10.5 U.S. Nuclear Regulatory Commission, “Standard Design Approval for the NuScale Power Plant Based on the NuScale 600 Standard Plant Design Certification Application,” September 11, 2020 (ML20247J564).

10.6 Nuclear Energy Institute, “Guidelines for Development of a Regulatory Engagement Plan,” NEI 18-06, Rev. 0, June 2018.

10.7 *U.S. Code of Federal Regulations*, “Relationship to other Subparts,” Section 52.73, Part 52, Chapter I Title 10, “Energy” (10 CFR 52.73).

10.8 *U.S. Code of Federal Regulations*, “Relationship to Other Subparts,” Section 52.133, Part 52, Chapter I, Title 10, “Energy” (10 CFR 52.133).

10.9 *U.S. Code of Federal Regulations*, “Environmental report—construction permit, early site permit, or combined license stage,” Section 51.50, Part 51, Chapter 1, Title 10, “Energy” (10 CFR 51.50).

10.10 U.S. Nuclear Regulatory Commission, “Applications for Nuclear Power Plants,” Regulatory Guide 1.206, Rev. 1, October 2018.

10.11 U.S. Nuclear Regulatory Commission, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition (SRP),” NUREG-0800.

10.12 U.S. Nuclear Regulatory Commission, “Use of Risk Insights to Enhance the Safety Focus of Small Modular Reactor Reviews,” SECY-11-0024, March 4, 2011.

10.13 U.S. Nuclear Regulatory Commission, “DRAFT Pre-application Engagement to Optimize Advanced Reactor Application Reviews,” May 2021.

10.14 U.S. Nuclear Regulatory Commission (Office of New Reactors), “Pre-application Readiness Assessment,” NRO-REG-104, Rev. 0, October 8, 2014.

10.15 U.S. Nuclear Regulatory Commission (Office of New Reactors), “Acceptance Review Process for Early Site Permit, Design Certification, and Combined License Applications,” NRO-REG-100, Rev. 2, December 18, 2014 (ML14078A152).

10.16 *U.S. Code of Federal Regulations*, “Maintenance of records, making of reports,” Section 50.71, Part 50, Chapter 1, Title 10, “Energy” (10 CFR 50.71).

10.17 U.S. Nuclear Regulatory Commission, “Volcanic Hazards Assessment for Proposed Nuclear Power Reactor Sites,” Regulatory Guide 4.26, Rev. 0, June 2021.

10.18 NuScale Power, LLC, letter to NRC, “NuScale Power, LLC Submittal of Draft “Operator Licensing and Examination Standard for NuScale Small Modular Reactors”,” July 13, 2020, Docket Number: 52-048.

10.19 *U.S. Code of Federal Regulations*, “Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage,“ Section 73.55, Part 73, Chapter 1, Title 10, “Energy” (10 CFR 73.55).

10.20 Federal Register, “Emergency Preparedness for Small Modular Reactors and Other New Technologies”, Volume 85, Page 28436, May 12, 2020.

10.21 Nuclear Energy Institute, “Assessment of On-Shift Emergency Response Organization Staffing and Capabilities,” NEI 10-05, Rev. 0, June 2011.

10.22 U.S. Nuclear Regulatory Commission, “Emergency Planning for Nuclear Power Plants,” Interim Staff Guidance, NSIR/DPR-ISG-01, Rev. 0, November 2011.

10.23 Nuclear Energy Institute, “Development of Emergency Action Levels for Non-Passive Reactors,” NEI 99-01, Rev. 6, November 2012.

10.24 Nuclear Energy Institute, “Development of Emergency Action Levels for Passive Reactors,” NEI 07-01, Rev. 1, December 2013.

10.25 U.S. Code of Federal Regulations, “Contents of applications; general information,” Section 50.33, Part 50, Chapter 1, Title 10, “Energy” (10 CFR 50.33).

10.26 U.S. Nuclear Regulatory Commission, “Preparation of Environmental Reports for Nuclear Power Stations,” Regulatory Guide 4.2, Rev. 3, September 2018.

10.27 *U.S. Code of Federal Regulations*, “Reporting and recordkeeping for decommissioning planning,” Section 50.75, Part 50, Chapter 1, Title 10, “Energy” (10 CFR 50.75).

10.28 CFPP, LLC, “CFPP, LLC Topical Report: Carbon Free Power Project (CFPP) Nuclear Quality Assurance Program Description, Revision 002,” TR-121172-NP, Revision 0.

10.29 *U.S. Code of Federal Regulations*, “Protection of Safeguards Information: Performance Requirements,” Section 73.21, Part 73, Chapter 1, Title 10, “Energy” (10 CFR 73.21).

Enclosure 3:

Affidavit of John Volkoff, AF-121373

NuScale Power, LLC

AFFIDAVIT of John Volkoff

I, John Volkoff, state as follows:

(1) I am the Manager, Combined License Applications of NuScale Power, LLC (NuScale), and as such, I have been specifically delegated the function of reviewing the information described in this Affidavit that NuScale seeks to have withheld from public disclosure, and am authorized to apply for its withholding on behalf of NuScale.

(2) I am knowledgeable of the criteria and procedures used by NuScale in designating information as a trade secret, privileged, or as confidential commercial or financial information. This request to withhold information from public disclosure is driven by the following:

(a) Use by a competitor of the information requested to be withheld would reduce the competitor's expenditure of resources, or improve its competitive position, in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

(b) The information requested to be withheld reveals cost or price information, production capabilities, budget levels, or commercial strategies of NuScale.

(3) Public disclosure of the information sought to be withheld is likely to cause substantial harm to NuScale's competitive position and foreclose or reduce the availability of profit-making opportunities. The accompanying plan reveals distinguishing confidential, preliminary and/or pre-decisional aspects of NuScale's commercial strategy.

The precise financial value (loss) resulting from public disclosure of the information is difficult to quantify, but it is sensitive information related to NuScale's commercial strategy and, therefore, has substantial value to NuScale.

If the information were disclosed to the public, NuScale's competitors would have access to the information without purchasing the right to use it or having been required to undertake a similar expenditure of resources. Such disclosure would constitute a misappropriation of NuScale's intellectual property, and would deprive NuScale of the opportunity to exercise its competitive advantage to seek an adequate return on its investment.

(4) The information sought to be withheld is in the enclosed plan entitled "Carbon Free Power Project (CFPP) Regulatory Engagement Plan," Revision 1. The enclosure contains the designation "Proprietary Class 3" at the bottom of each page containing proprietary information. The information considered by NuScale to be proprietary is identified within double braces, "{{ }}" in the document.

(5) The basis for proposing that the information be withheld is that NuScale treats the information as a trade secret, privileged, or as confidential commercial or financial information. NuScale relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC § 552(b)(4), as well as exemptions applicable to the NRC under 10 CFR §§ 2.390(a)(4) and 9.17(a)(4).

(6) Pursuant to the provisions set forth in 10 CFR § 2.390(b)(4), the following is provided for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld:

(a) The information sought to be withheld is owned and has been held in confidence by NuScale.

(b) The information is of a sort customarily held in confidence by NuScale and, to the best of my knowledge and belief, consistently has been held in confidence by NuScale. The procedure for approval of external release of such information typically requires review by the staff manager, project manager, chief technology officer or other equivalent authority, or the manager of the cognizant marketing function (or his delegate), for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside NuScale are limited to regulatory bodies, customers and potential customers and their agents, suppliers, licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or contractual agreements to maintain confidentiality.

(c) The information is being transmitted to and received by the NRC in confidence.

(d) No public disclosure of the information has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or contractual agreements that provide for maintenance of the information in confidence.

(e) Public disclosure of the information is likely to cause substantial harm to the competitive position of NuScale, taking into account the value of the information to NuScale, the amount of effort and money expended by NuScale in developing the information, and the difficulty others would have in acquiring or duplicating the information. The information sought to be withheld is part of NuScale's technology that provides NuScale with a competitive advantage over other firms in the industry. NuScale has invested significant human and financial capital in developing this technology and NuScale believes it would be difficult for others to duplicate the technology without access to the information sought to be withheld.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 12, 2022.

John Volkoff