UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

June 23, 2023

John Volkoff
Manager, Combined License Applications
NuScale Power, LLC
1100 NE Circle Boulevard, Suite 200
Corvallis, OR 97330

SUBJECT: NRC AUDIT OF SUBSURFACE INVESTIGATION ACTIVITIES AT THE CARBON FREE POWER PROJECT SITE

Dear John Volkoff:

This letter provides a summary of an U.S. Nuclear Regulatory Commission (NRC) audit of subsurface investigation work performed for the Carbon Free Power Project (CFPP) site on May 15 to 18, 2023. This audit was conducted in accordance with Inspection Procedure (IP) 45052, "Review of Geotechnical and Site Characterization Activities."[1]

As described in the audit summary (Enclosure 1), NRC staff examined the quality assurance (QA) programs of the applicant, and their contractors, agents, and consultants, as applied to geotechnical activities, and to verify the program is being implemented in accordance with the requirements of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B.

Based on the results of this audit, the NRC staff determined that QA program requirements were being adequately implemented as required by the applicant and their contractors, agents, or consultants. This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Should you have any questions concerning this letter, please contact me at 404-997-4510.

Sincerely,

Nicole C. Coovert Signed by Coovert, Nicole on 06/23/23

Nicole Coovert, Chief
Construction Inspection Branch 1
Division of Construction Oversight

Docket No.: 99902052
Enclosure:
NRC Audit Report
w/attachment: Supplemental Information

[1] Agencywide Documents Access and Management System (ADAMS) Accession Number ML22019A083.

SUBJECT: NRC AUDIT OF SUBSURFACE INVESTIGATION ACTIVITIES AT THE CARBON FREE POWER PROJECT SITE DATE: JUNE 23, 2023

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| X SUNSI Review | | X Non-Sensitive<br>☐ Sensitive | | X Publicly Available<br>☐ Non-Publicly Available | |
| OFFICE | RII/DCO | RII/DCO | RII/DCO | | |
| NAME | J. Vasquez | G. Khouri | N. Coovert | | |
| DATE | 06/22/2023 | 06/22/2023 | 06/23/2023 | | |

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**U.S. NUCLEAR REGULATORY COMMISSION (NRC)**
**Region II**

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|---|---|
| Docket Numbers: | 99902052 |
| Applicant: | Carbon Free Power Project (CFPP), LLC |
| Facility: | CFPP |
| Location: | Idaho National Laboratory, Idaho Falls, ID |
| Inspection Dates: | May 15 through May 18, 2023 |
| Inspectors: | G. Khouri, Construction Project Manager, Region II, Division of Construction Oversight (DCO)<br>J. Vasquez, Construction Inspector, DCO |
| Approved By: | Nicole Coovert, Chief<br>Construction Inspection Branch<br>Division of Construction Oversight |

Enclosure

Audit Summary
CFPP Subsurface Investigation Activities
May 15-18, 2023

INSPECTION PROCEDURE 45052, "REVIEW OF GEOTECHNICAL AND SITE CHARACTERIZATION ACTIVITIES"

The NRC staff (staff) reviewed the quality assurance (QA) program procedures, work instructions, drawings, and records for the onsite organization, with QA responsibilities for geotechnical activities, to determine if the QA elements conform with the applicable requirements and Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix B.

The staff performed a review of the instructions and procedures associated with site characterization activities, measuring and test equipment (M&TE), handling and storage of soil samples, and procedures associated with training and qualification of personnel. The staff performed a walkdown of the soil sample storage facility and the prospective site where the facility will be built, and interviewed personnel associated with the QA program as well as personnel involved with the surface exploration activities. The staff reviewed procedures associated with the site exploration and testing. The review included procedures associated with In-Situ testing, packer and slug testing, laboratory dynamic and chemical testing to verify whether a testing program had been established and to ensure the procedures provided a reference for a correct selection of standards and all testing required for site characterization was identified.

The staff reviewed procedures associated with the M&TE and sampled the data logs and calibration records of the sensor recording the ambient temperature of the storage facility where soil samples were stored to verify it was maintained and properly calibrated in accordance with the calibration procedure.

The staff reviewed procedures associated with the process of extracting soil samples and transporting them to their final location (laboratory or storage facility) to verify that measures exist to allow the preservation of the soil samples without disturbing their physical composition. The staff reviewed procedures associated with labeling, packaging, and storing to verify the chemical and physical properties were maintained by properly handling and labeling the soil samples in a manner that allowed identification and traceability from extraction to their final location.

The staff also performed a walkdown of the storage facility where the core samples were stored to verify that special protective measures such as secured access, special containers, environmental conditions, and measures to maintain traceability were provided. The staff evaluated the conditions of the storage containers provided to verify they were properly labeled and sealed to maintain the original moisture conditions of the core samples. The staff reviewed the temperature data logger, and the thermostat calibration records to verify whether temperature changes had been tracked and the temperature controlling device was calibrated.

The staff reviewed surveillances, supplier qualification, and auditor qualification requirements to verify that a program to implement the indoctrination and training of personnel performing activities, that affect quality, was in place. Specifically, the staff reviewed onsite documentation associated with the lead auditor and surveillance specialist qualification records to verify that

qualification records of personnel exist and were certified in accordance with program requirements. Also, the staff interviewed personnel associated with the implementation of the site QA program to verify they had adequate knowledge in their specific field and met the qualification criteria with respect to educational background, training, and working experience according with the requirements of CFPP procedures.

The staff reviewed a sample of corrective action documents to determine if controls have been adequately implemented to classify nonconformances in accordance with the QA program and the corrective action program (CAP) procedures. The inspectors reviewed corrective actions associated with conditions entered the CAP to determine whether appropriate actions to correct issues were identified and implemented effectively, including immediate or short-term corrective actions, in accordance with the applicable QA program requirements and 10 CFR, Part 50, Appendix B, Criterion XVI, “Corrective Action.”

Based on the results of this audit, the staff determined that QA program requirements were being adequately implemented as required by the applicant and their contractors, agents, or consultants.

On May 18, 2023, the NRC staff discussed the results of this audit with Mr. Shawn Hughes, CFPP Project Director, and other members of your staff. Proprietary and copyright information was reviewed during the inspection period but was not included in the audit report.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

Applicant and Contractor Personnel

E. Combs, NuScale Licensing Engineer
W. Cutright, NuScale Licensing Engineer
P. Guevel, NuScale Project Manager
S. Hughes, CFPP Project Director
M. King, Fluor Project Quality Director
T. Krause, CFPP QA Manager
Z. Kurtik, Rizzo Director QHSE
P. Rizzo, Rizzo Chief Technical Officer
M. Rosenmeier, Rizzo Project Manager
J. VolKoff, NuScale Licensing Manager
E. Woods, Fluor COLA Project Manager

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

| Item Number | Type | Status | Description |
|---|---|---|---|
| None | | | |

### LIST OF DOCUMENTS REVIEWED

Procedures

CFPP-GEN-001, CFPP Organization, Revision (Rev.) 1
CFPP-GEN-020. Corrective Action Program, Rev. 0
CFPP-QA-001 Auditor and Lead Auditor Qualification, Rev. 0
CFPP-QA-004, Audit Performance, Rev. 0
CFPP-QA-005, Surveillance, Rev. 0
CFPP-QA-008, Supplier Qualification, Rev. 1
CCFPP Nuclear Quality Assurance Program Description, Rev. 5
Fluor Doc No.: U4MP-90-K004-0001, S&ME Project Quality Assurance Plan, Rev. 1
Rizzo Quality, Health, Safety, and Environmental Management System Manual, Rev. 16
Rizzo Quality Assurance Project Plan Full Subsurface Field Investigation and Laboratory Testing Program CFPP, Rev. 0
Rizzo Geophysical Surveys Program Quality Assurance Project Plan CFPP, Rev. 1
Rizzo QP-2, Project Work Plans and Design Plans, Rev. 8
Rizzo QP-3, Personnel Qualification and Training, Rev. 5
Rizzo QP-4, Condition Reports and Nonconformances, Rev. 15
Rizzo QP-5, Corrective Action Preventive Action and Continual Improvement, Rev. 13
Rizzo QP-9, Qualification of Auditors, Rev. 6
Rizzo QP-14, Subsurface Investigations to Meet NQA-1, Rev. 5
Rizzo QP-26, Sample Inspection and Control, Rev. 4
Rizzo QP-27, Field Activity Daily Logs, Rev. 2
Rizzo QP-28, Measuring and Testing Equipment, Rev. 3
CFPP Scope of Work No. 6 to Burns & McDonnell, Dated 3/26/21

CFPP Scope of Work No. 7 to Burns & McDonnell, Dated 6/23/21
Rizzo Field Procedure FP-2, Calibration of Pressure Transducer Procedure Rizzo International, INC., Rev. 5
Rizzo Field Procedure FP-14, Field Boring Logs Procedure, Rev. 2
Rizzo Field Procedure FP-18, Calibration Records Procedure, Rev. 3
Rizzo Field Procedure FP-19, Sample Labeling Procedure, Rev. 1
Rizzo Field Procedure FP-21, Soil and Rock Sample Packaging and Transport Procedure, Rev 1

Calibration Records

Data Logger, Record Number 25199-184351-3486, Date: 8/5/22
Data Logger, Record Number 25980-184353-3646, Date: 9/26/22

Boring Log Records

CFPP 196001A, Location B-02, Depth: 400 ft., Dates: 9/29/21, through 10/09/21
CFPP 196001A, Location B-01, Depth: 737.6 ft, Date 10/08/21

Audits & Surveillance Reports

CFPP Review of Burns & McDonnell Nuclear QA Program Audit Procedure, Dated 8/26/21
Burns & McDonnell Audit Report – Fluor Nuclear Power (Audit No. 21NS01), Dated 10/14/21
CFPP Internal QA Audit Report – Audit No. 22NB01, Dated 9/19/22
Burns & McDonnell Surveillance Report 21SR002, CFPP Meteorological Tower Calibration, Dated 1/18/22
Burns & McDonnell Surveillance Report 21SR001, CFPP Fluor/Rizzo Geotechnical Investigation, Dated 9/29/22
CFPP Approved Suppliers List, Dated 12/09/22
CFPP Supplier Evaluation – Fluor, Dated 12/06/22
Fluor Supplier Evaluation – Rizzo, Dated 2/20/23
Fluor Supplier Evaluation – S&ME, Dated 3/03/22
Rizzo Surveillance Report QM-S-196001(B), University of Texas Austin Laboratory, Dated 7/02/21
S&ME Surveillance Report QA-SR-CFPP2-21-03, Readiness Review of Full Subsurface Investigation Program, Dated 9/16/21
S&ME Surveillance Report QA-SR-CFPP2-22-09 Rock Chemical Laboratory Testing at Atlas, Dated 10/04/22

Drawings

19-6001A-D2, As-Built Boring Locations, Rev. 0

Condition Reports

CFPP CR-867
Rizzo CR 21-025
Rizzo CR 21-026
Rizzo CR 21-038
Rizzo CR 21-042
Rizzo CR 22-014
Rizzo CR 22-018
Rizzo CR 22-038
Rizzo CR 22-044