

May 23, 2016

MEMORANDUM TO: Mark Tonacci, Chief
Licensing Branch 1
Division of New Reactor Licensing
Office of New Reactors

FROM: Gregory Cranston, Senior Project Manager /RA/
Licensing Branch 1
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: AUDIT PLAN FOR NUSCALE POWER, LLC PRE-APPLICATION
ACTIVITIES ASSOCIATED WITH AREVA TESTS RELATED TO THE
DESIGN OF FUEL ASSEMBLIES FOR NUSCALE (PROJ0769)

The purpose of the audit is for the U.S. Nuclear Regulatory Commission (NRC) staff to observe AREVA Inc. (AREVA), tests related to the new design of the NuScale Power, LLC (NuScale), fuel assembly. The scope of this audit is to observe the NuScale fuel seismic tests (shaker table and pluck). The NRC staff will review test procedures, observe data collection methods, observe the conduct of the tests, review the test results and discuss test results with AREVA personnel. The regulatory basis for this audit is Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, General Design Criteria 2, "Design Bases for Protection Against Natural Phenomena."

The audit will take place at the AREVA office at 2101 Horn Rapids Road, Richland, Washington, 99354. The audit is currently scheduled to start May 25, 2016. The audit start date and duration are subject to change depending on test schedules. The audit plan and agenda is provided in Enclosure 1.

Consistent with the Office of New Reactor's procedure this audit will be closed to public observation similar to the conduct of an inspection. The audit will be conducted by a team of NRC staff members who are knowledgeable in various aspects of nuclear fuel. Based on the identified scope, it is expected that the team will spend three consecutive days at the AREVA offices in Richland, WA, to conduct the audit. The NRC staff resource expenditure is estimated to be less than 160 person-hours including preparation and documentation.

CONTACT: Gregory Cranston, NRO/DNRL 301-415-0546
Demetrius Murray, NRO/DNRL 301-415-7646

M. Tonacci

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The team will perform the audit at the AREVA facilities where there is access to the test facility and documentation associated with fuel assembly testing and test results. The audit will include a tour of the test facility. The team members will review documentation and discuss questions with the AREVA test staff. The audit team leader will communicate specific support requests (e.g., documents to be reviewed or interviews to be scheduled).

Project No.: PROJ0769

Enclosure:
As stated

cc: DC NuScale Power LLC Listserv

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DATE	5/23/16	5/23/16	5/23/16	5/23/16

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AGENDA

PLAN FOR THE PRE-APPLICATION AUDIT OF TESTS RELATED TO DESIGN OF AREVA FUEL ASSEMBLIES FOR NUSCALE POWER

- Applicant: NuScale Power, LLC
- Location: AREVA, Inc.
2101 Horn Rapids Road
Richland, Washington 99354
- Reviewers: Jeffrey Schmidt
Pravin Patel
Nicholas Klymyshyn, PNNL (part time)
- Project Manager: Demetrius Murray
- NuScale Contact: Larry Linik (Corvallis, Oregon)
- AREVA Contact(s): TBD (based on tests dates)
- Dates and Times: May 24; 2:30 – 5:00 pm
May 25 & 26; 8:00 am – 5:00 pm.
- Purpose: The purpose of the audit is for the U.S. Nuclear Regulatory Commission (NRC) staff to observe NuScale Power, LLC's (NuScale) tests related to the new design of their fuel assembly.
- Audit Scope: Audit scope may change depending on testing being performed at the time of the audit.
- Observe random vibration tests.
 - Observe mode evolution testing.
 - Discuss results with AREVA engineer.
- Special Requests:
- Appropriate handling and protection of proprietary information shall be acknowledged and observed throughout the audit.
 - AREVA (or NuScale) personnel to address questions on any of the in-scope documents.

Audit Team:

Name	Title and Organization	Review Responsibility
Jeffrey Schmidt	<u>Team Leader</u> : Senior Reactor Systems Engineer, Division of Safety Systems and Risk Assessment (DSRA) Reactor System, Nuclear Performance & Code Review Branch (SRSB),	Test facility setup; testing procedures; test data measurement methods and documentation.
Praven Patel	Structural Engineer, Division of Engineering Infrastructure and Advanced Reactor (DEIA), Structural Engineering Branch (SEB)	Test facility setup; testing procedures; test data measurement methods and documentation.
Nicholas Klymyshyn (part time)	NRC consultant from Pacific Northwest National Laboratory	Test facility setup; testing procedures; test data measurement methods and documentation.