August 7, 2008

MEMORANDUM TO: William D. Reckley, Chief
Rulemaking, Guidance and Advanced Reactors Branch
Division of New Reactor Licensing
Office of New Reactors

FROM: Thomas J. Kenyon, Senior Project Manager ***/RA W. Reckley for/***
Rulemaking, Guidance and Advanced Reactors Branch
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: SUMMARY OF PRE-APPLICATION KICKOFF MEETING WITH NUSCALE POWER INC. ON THE NUSCALE REACTOR DESIGN AND PROPOSED LICENSING ACTIVITIES

On July 24, 2008, staff from the U.S. Nuclear Regulatory Commission (NRC) met with representatives from NuScale Power, Inc. (NuScale) to begin pre-application discussions on the NuScale Power Reactor design. This was the first technical meeting that the staff had on the NuScale design. Enclosures 1 and 2 are the meeting agenda and attendees, respectively.

The meeting opened with a presentation on the NuScale organization, a brief background on the development of the reactor design, and a high-level description of the reactor design. NuScale's slide presentation can be obtained from the Commission's Public Document Room, at One White Flint North, 11555 Rockville Pike (first floor), Rockville, MD. It is also available electronically from the Public Electronic Reading Room found on the Internet at the following web address: http://www.nrc.gov/reading-rm.html. From this site, the public can gain access to the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents in the Publicly Available Records (PARS) component of ADAMS. The ADAMS accession number for the presentation is ML082130430.

NuScale stated that the design is being developed to provide modular reactors in a facility that can be expanded as the need develops. The pre-applicant stated that the NuScale reactor is a small light-water reactor for which a large data base and licensing infrastructure exists to support licensing the design. The pre-applicant believes that "off-the-shelf" components can be used for much of the reactor and turbine-generator module. The NuScale design is based on some earlier DOE-funded work that was conducted on the Multi-Application Small Light-Water Reactor performed in early 2000. NuScale then discussed their company's organization and industry partners that are affiliated with them.

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Then NuScale discussed their objectives for the pre-application review that they requested in January 2008, including:

- to familiarize the staff with the design
- to identify regulatory requirements and guidance applicable to the design
- to assist the staff in identifying infrastructure needed to be developed by the staff to prepare for a design review, and
- to obtain feedback regarding potential issues associated with the design.

NuScale proposed to submit several topical reports addressing issues on the NuScale design and meet approximately every three months to discuss the following topics:

- analysis codes and methods
- online refueling issues
- multi-mode instrumentation and controls
- staffing
- multi-mode probabilistic risk assessment
- accident analysis
- dose calculations, and
- emergency preparedness

The NRC staff stated that support for such pre-application reviews was limited by the availability of resources, and that its current reviews of combined license (COL) applications took priority over pre-application activities. The staff indicated that when a submittal on pre-application issues is submitted, they would look at the resources available to conduct the review to determine the level of support, if any, that could be assigned to it. The staff further indicated that it would try to support the pre-application meetings, but may not be able to review the NuScale submittals.

NuScale then provided an overview of the NuScale design. Each reactor module employs natural circulation to develop the heat source for producing about 45 MWe using a turbine-generator for each module. The design consists of a self-contained assembly with the reactor core and steam generators located in a common containment vessel that is immersed in a large pool of water. The pool could be designed to accommodate multiple power generating modules (the example shown in NuScale's slide presentation was for 12 modules, but that number can be expanded or reduced). The pre-applicant then briefly described other unique features of the facility and the issues it has identified for future pre-application meetings. NuScale then discussed its proposed design certification testing program, stating that they are currently preparing to conduct tests at its Integral System Test Facility in Oregon by mid-2009.

In addition, NuScale stated that it has identified two legal matters that they asked to pursue with the staff, including certification of a multi-module facility and assessment of 10 CFR Part 171 fees. Issues in these areas include licensing requirements to allow installation of additional modules as the need arises and the need for a single annual fee for a facility (rather than a reactor) under 10 CFR Part 171.

At the close of the meeting, NuScale stated that they plan to submit its design certification application in 2010. In addition, they indicated that they understand the staff's prioritization policy and that a COL applicant that references the NuScale design would receive priority in the

staff's review hierarchy. The pre-applicant agreed to provide a proposed schedule for submitting their topical reports and meeting with the staff.

Enclosures:
As stated

Project No. 0769

cc w/enclosure: See next page

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As stated

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cc w/enclosure: See next page

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Meeting Agenda
Pre-Application Kickoff Meeting
NuScale Reactor Design

8:30 a.m. – 12:00 p.m.
Thursday, July 24, 2008
NRC Headquarters (Room T-08 A01)

TIME	TOPIC	LEAD
8:30 – 8:40 a.m.	Introduction and opening remarks	NRC/NuScale
8:40 – 10:00 a.m.	Introduction to NuScale design	NuScale
10:00 – 10:20 a.m.	Overall approach to licensing - Existing LWR licensing framework - Testing program (past & future)	NuScale
10:20 – 10:30 a.m.	Break	
10:30 – 11:00 a.m.	Topics for future pre-application meetings	NuScale
11:00 – 11:20 a.m.	Legal issues	NuScale
11:20 – 11:45 p.m.	NRC feedback & next steps	All
11:45 – 12:00 p.m.	Opportunity for Public Comment	Public
12:00 p.m.	Adjourn	

This is the first of a series of technical meetings proposed by NuScale Power, Inc. on the NuScale reactor. Members of the public planning to attend the meeting should contact Mr. Thomas Kenyon and provide information (including name, organization, country of origin, and expected arrival time) that will facilitate entrance into the building the day of the meeting.

Enclosure 1

Meeting to Discuss NuScale Reactor Design
Meeting Attendees
July 24, 2008

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Meeting to Discuss NuScale Reactor Design
Meeting Attendees
July 24, 2008
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