



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

September 23, 2019

MEMORANDUM TO: Samuel S. Lee, Chief
Licensing Branch 1
Division of Licensing, Siting,
and Environmental Analysis
Office of New Reactors

FROM: Cayetano Santos, Jr., Project Manager */RA/*
Licensing Branch 1
Division of Licensing, Siting,
and Environmental Analysis
Office of New Reactors

SUBJECT: SUMMARY OF THE SEPTEMBER 11, 2019, PUBLIC
TELECONFERENCE REGARDING THE INITIAL TEST
PROGRAM IN NUSCALE POWER, LLC'S DESIGN
CERTIFICATION APPLICATION

On September 11, 2019, a Category 1 public teleconference was held between the U.S. Nuclear Regulatory Commission (NRC) staff and NuScale Power, LLC (NuScale). The purpose of the meeting was to discuss Remote Shutdown Workstation Test #107 and Emergency Core Cooling System Test #47 as described in the initial test program of NuScale's design certification application. The meeting notice was posted on the NRC website and is also in the NRC's Agencywide Documents Access and Management System under Accession Number ML19217A102. The Meeting Summary is provided as Enclosure 1, which captures the summary of topics discussed. Enclosure 2 lists the discussion topics. The Meeting Agenda and List of Attendees are provided as Enclosures 2 and 3, respectively.

CONTACT: Cayetano Santos, Jr., NRO/DLSE
301-415-7270

Docket No. 52-048

Enclosures:

1. Meeting Summary
2. Meeting Discussion Topics
3. Meeting Agenda
4. List of Attendees

cc w/encl: DC NuScale Power, LLC Listserv

SUBJECT: SUMMARY OF THE SEPTEMBER 11, 2019, PUBLIC TELECONFERENCE
REGARDING THE INITIAL TEST PROGRAM IN NUSCALE POWER, LLC'S
DESIGN CERTIFICATION APPLICATION
DATED: SEPTEMBER 23, 2019

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ADAMS Accession No.: ML19256B700***via email****NRO-002**

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DATE	09/23/2019	09/17/2019	09/23/2019

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U.S. NUCLEAR REGULATORY COMMISSION

PUBLIC TELECONFERENCE REGARDING REMOTE SHUTDOWN WORKSTATION

TEST #107 AND EMERGENCY CORE COOLING SYSTEM TEST #47

IN NUSCALE POWER, LLC'S INITIAL TEST PROGRAM

MEETING SUMMARY

September 11, 2019

The purpose of this meeting with NuScale Power, LLC (NuScale) was for the U.S. Nuclear Regulatory Commission (NRC) staff to obtain further information on two test abstracts described in the initial test program (ITP).

Remote Shutdown Workstation Test #107

The NRC staff noted that the ITP currently states that this test is "not used" and requested that the ITP be updated to note that the remote shutdown workstation is tested under other abstracts. NuScale commented that this test was previously discussed during an August 5, 2019, public teleconference (ADAMS Accession No. ML19217A308), and NuScale's understanding following this August 5, 2019, meeting was that the test could be deleted without any pointers to other tests. The staff had a different understanding from that meeting and restated its request that the ITP be updated to note that the remote shutdown workstation is tested in other abstracts. NuScale agreed to revise the ITP accordingly.

Emergency Core Cooling System Test #47

This portion of the meeting continues the discussion of the Emergency Core Cooling System (ECCS) Test #47 previously held on August 27, 2019 (ADAMS Accession No. ML19252A021). On September 11, 2019, the NRC staff provided NuScale with comments and questions to facilitate discussions (Enclosure 2).

The staff began the discussion by stating that no new test is being requested. In response to Enclosure 2, Question 1, NuScale stated that in their view, an ECCS test is not needed but was added as a result of staff comments and questions provided during previous public meetings on the ITP (ADAMS Accession No. ML18348B088).

In response to Enclosure 2 Question 2, NuScale stated that the NRC staff is requesting a new test and that developing the initial conditions and acceptance criteria for this test would be impractical. The staff clarified that no new test is being requested and noted that a similar approach was used for the Decay Heat Removal System Test #48 in the ITP. Additionally, the staff noted that initial conditions do not need to be developed and that a calculation to compare as-built performance against expected behavior can be performed using as-tested conditions. NuScale responded that Test #48 was more practical because fewer variables are involved.

NuScale commented that the test requested by the NRC staff would essentially validate the codes used in the safety analyses, and it is unclear what acceptance criteria would be used for the test. The staff responded that the purpose of the test is not to validate these codes but to

confirm that the as-built plant has been constructed as designed. The staff added that data collected for a test NuScale already proposed to conduct could be used as input to the codes and a comparison be made between the data collected during the test and the code predictions. The code predictions could form the basis for the test acceptance criteria. NuScale stated that testing containment heat removal is not the intended purpose of ECCS Test #47. The staff states that ECCS functional performance involves heat removal.

NuScale asked for the regulatory basis of the NRC staff's request for this test. The staff stated that it is to confirm that the as-built plant has been constructed as designed. NuScale commented that a request for an exemption from General Design Criteria (GDC) 40, "Testing of Containment Heat Removal System," was submitted as part of its design certification application. The staff responded that it is aware of this exemption request and was appropriately considered.

In response to Enclosure 2 Question 3, NuScale stated that it would consider the NRC staff's offer.

NuScale concluded the meeting by stating that internal discussions would be needed to consider the comments provided by the NRC staff.

There was an opportunity for members of the public to provide comments and ask questions. No comments or questions were received.

Questions for NuScale ECCS Test #47

September 11, 2019

For clarification, there is no new test being requested. The staff is requesting a modification to the acceptance criteria. In particular, the current acceptance criteria are:

- i. RPV riser level remains above the top of the core*
- ii. CNV pressure remains below design pressure identified in Table 6.2-1*
- iii. CNV temperature remains below design temperature identified in Table 6.2-1*

Staff's concern is that the stored energy in the system is much less than during normal operation, and the currently proposed test acceptance criteria (which are the accident acceptance criteria for the CNV) do not indicate acceptable performance of the as built system. Staff believes the acceptance criteria should read as follows:

- i. The RPV riser level remains above the value calculated using safety analysis methods*
- ii. CNV pressure remains below the value calculated using safety analysis methods*
- iii. CNV temperature remains below the value calculated using safety analysis methods*

This above acceptance criteria allows for flexibility in test conditions. For consideration at the upcoming phone call, NRC staff has the following questions:

- i. Why does NuScale consider the current acceptance criteria adequate?*
- ii. Why does NuScale consider it impractical to compare test measurements against a calculation? Please note that the test is already being performed (no new test is being requested), and the NuScale design has permanently installed instrumentation capable of measuring RPV riser level, CNV pressure, and CNV temperature in the needed ranges.*
- iii. Would it be helpful if NRC staff provided NuScale with examples and sample calculations to clarify the acceptance criteria?*

U.S. NUCLEAR REGULATORY COMMISSION
PUBLIC TELECONFERENCE REGARDING REMOTE SHUTDOWN WORKSTATION
TEST #107 AND EMERGENCY CORE COOLING SYSTEM TEST #47
IN NUSCALE POWER, LLC'S INITIAL TEST PROGRAM
MEETING AGENDA

September 11, 2019

3:30 p.m. – 4:30 p.m.

The purpose of this teleconference was for the U.S. Nuclear Regulatory Commission (NRC) staff to discuss with NuScale Power, LLC (NuScale) the Remote Shutdown Workstation Test #107 and Emergency Core Cooling System Test #47 as described in the initial test program.

<u>Time</u>	<u>Topic</u>	<u>Speaker</u>
3:30 p.m. – 3:35 p.m.	Introductions	All
3:35 p.m. – 4:15 p.m.	Discussion of Test 107 and Test # 47 in the ITP	NRC/NuScale
4:15 p.m. – 4:30 p.m.	Public Comments	Public
4:30 p.m.	Adjourn	All

U.S. NUCLEAR REGULATORY COMMISSION

PUBLIC TELECONFERENCE REGARDING REMOTE SHUTDOWN WORKSTATION

TEST #107 AND EMERGENCY CORE COOLING SYSTEM TEST #47

IN NUSCALE POWER, LLC'S INITIAL TEST PROGRAM

LIST OF ATTENDEES

September 11, 2019

3:30 p.m. – 4:30 p.m.

<u>Name</u>	<u>Organization</u>
Cayetano Santos	U.S. Nuclear Regulatory Commission (NRC)
Kerri Kavanagh	NRC
Kevin Coyne	NRC
Taylor Lamb	NRC
Timothy Drzewiecki	NRC
Antonio Barrett	NRC
Rebecca Karas	NRC
Jeffrey Schmidt	NRC
Nadja Joergensen	NuScale Power, LLC (NuScale)
Chris Maxwell	NuScale
Edan Engstrom	NuScale
Greg Myers	NuScale
Mike Melton	NuScale
Dan Lassiter	NuScale
Spain Abney	NuScale
Ben Bristol	NuScale
Rebecca Norris	NuScale
Matthew Presson	NuScale