



November 10, 2015

Docket: PROJ0769

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

SUBJECT: NuScale Power, LLC Reply to Notice of Violation 99901351/2015-201-01
(NRC Project No. 0769).

REFERENCES: 1. Nuclear Regulatory Commission letter "Nuclear Regulatory Commission Inspection of NuScale Power LLC Report No. 99901351/2015-201 and Notice of Violation," dated October 7, 2015

2. E-Mail from US NRC, Kerri Kavanagh, to NuScale Power LLC, Steven Mirsky, "RE: Request for Revised Date for Response NOV 99901351/2015-201," dated October 16, 2015

In a letter dated October 7, 2015, the U.S. Nuclear Regulatory Commission (NRC) issued Inspection Report 99901351/2015-201 and Notice of Violation (NOV) 99901351/2015-201-01 (Reference 1). A due date of November 13, 2015 for NuScale's response was established via e-mail (Reference 2). The referenced NOV requires that NuScale Power, LLC (NuScale) submit a written statement or explanation to the U.S. Nuclear Regulatory Commission regarding the subject NOV.

NuScale acknowledges and does not contest the Notice of Violation. The purpose of this letter is to provide NuScale's reply to Notice of Violation 99901351/2015-201-01 pursuant to the provisions of 10 CFR 2.201.

The enclosure to this letter is NuScale's reply to Notice of Violation 99901351/2015-201-01 that includes (1) the reason for the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved.

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

Please feel free to contact Zackary Rad at 980.349.4831 or at zrad@nuscalepower.com if you have any questions.

A handwritten signature in black ink, appearing to read 'Zackary W. Rad', with a long, sweeping horizontal line extending to the right.

Zackary W. Rad
NuScale Power, LLC
Director, Regulatory Affairs

Enclosure: NuScale Power, LLC Reply to Notice of Violation 99901351/2015-201-01

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LO-1015-18579

Enclosure:

NuScale Power, LLC Reply to Notice of Violation 99901351/2015-201-01

NuScale Power, LLC Reply to Notice of Violation 99901351/2015-201-01

In a letter dated October 7, 2015, the Nuclear Regulatory Commission (NRC) issued Inspection Report 99901351/2015-201 and Notice of Violation (NOV) 99901351/2015-201-01 (Reference). Pursuant to the provisions of 10 CFR 2.201, the following is NuScale's reply to Notice of Violation 99901351/2015-201-01 including: (1) the reason for the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved.

Summary of Notice of Violation 99901351/2015-201-01

During a Nuclear Regulatory Commission (NRC) inspection of NuScale Power, LLC (NuScale) conducted at Oregon State University (OSU) in Corvallis, OR, on August 24, 2015, through August 27, 2015, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Criterion III, "Design Control," of Appendix B, Title 10 of the Code of Federal Regulations (10 CFR) Part 50, states, in part that, "measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." In addition, Criterion III states in part that, "design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization."

Section 2.3 of NuScale quality assurance program description (QAPD), "Design Control," Revision 1, states that, "The design process includes provisions to control design inputs, outputs, changes, interfaces, records, and organizational interfaces within NuScale and with suppliers. These provisions assure that design inputs (such as design bases and the performance, regulatory, quality, and quality verification requirements) are correctly translated into design outputs (such as analyses, specifications, drawings, procedures, and instructions) so that the final design output can be related to the design input in sufficient detail to permit verification."

Section 5.2(4), "Oversight and Preparation," of NuScale document No. EP-1103-2992, "Test Control," Revision 1, states in part that, "Key documents and project deliverables from test suppliers shall be reviewed by the test engineer and accepted using the owner's acceptance process (Reference 7.1.7). NuScale approval is required for all changes to approved program documentation and to the configuration of a test facility."

Contrary to the above, as of August 27, 2015, NuScale, which has the overall responsibility for design certification activities, failed to review and approve a design change OSU personnel requested, in accordance with design control measures commensurate with those applied to the original design. Specifically, NuScale failed to adequately review and approve a configuration change to NuScale Power Integral System Test (NIST)-1 test facility for removal of sparger nozzles in the emergency core cooling system (ECCS) line. NuScale did not perform a design change in accordance with their design control process and approved the removal of the sparger via email. This resulted in the as-built configuration of NIST-1 being different from the design and the controlled drawings.

This issue has been identified as Notice of Violation 99901351/2015-201-01.

This is a severity Level IV violation (Section 6.9.d of the NRC Enforcement Policy).

NuScale Reply

Reason for the Violation

The NRC finding is focused on the processing of Request for Information (RFI) 15012RPE, dated April 14, 2015 that requested authorization to make modifications to the installed break line spargers in the NIST-1 test apparatus. The work had been authorized without the proper closeout of the RFI paperwork. Upon the NRC identification of the unclosed RFI, interviews with OSU personnel held August 25, 2015 confirmed that the Break Line Spargers had been removed in accordance with the RFI, but that the paperwork was not properly closed out. The configuration change was formally approved when NuScale provided a documented response to RFI 15012RPE on August 27, 2015.

The root cause of the NIST facility installation and configuration issues was determined to be less than adequate design change process controls for the NIST-1 test facility. The lack of a NuScale NIST-1 test facility design change management procedure and an insufficient OSU RFI process resulted in physical configuration changes being made to the NIST-1 testing apparatus without the proper paperwork in place for the design change.

In reviewing the documentation related to hardware changes requested via OSU RFI 15012RPE, it was determined that the RFI had been transmitted to NuScale from OSU with no formal response having been logged by either NuScale or OSU. Initial investigation suggests that RFI 15012RPE had not been properly closed out by transmitting the filled out form to OSU in a timely manner, even though the activity to modify the sparger break lines proceeded via verbal authorization and email discussion. RFI responses were not a procedure-controlled activity at NuScale, and while the RFIs reviewed during the Operational Readiness Review showed consistency in responses and implementation, a full review of the process had not been performed at that time.

It was found that RFI logs were not being properly maintained by both OSU and NuScale. The RFI related to the Break Line and ECCS Sparger removal was not on the OSU RFI log and was missed during the Operational Readiness Reviews of the OSU RFI Closeouts as the OSU log was used as the sole basis for closeout.

An E-Mail was transmitted from NuScale to OSU directing that the Break Line and ECCS Spargers be removed from the test apparatus since the test configuration was to be without the spargers in place. Although the physical equipment could be blank flanged, verbal direction was given to cut the piping to reduce the piping gap that would have been left. An RFI had been initiated by OSU for this evolution, but had not been fully processed to closure.

As a result of investigation and interviews, it was concluded that RFI 15012RPE had not been transmitted to the OSU Document Control Records Management (DCRM) staff. Therefore, although the RFI was tracked on the NuScale RFI Log, it was not being tracked on the OSU RFI Log. This appears to be the cause for missing the unclosed RFI for the sparger removal during the pre-inspection Operation Readiness Review and the Operations Check of open RFIs prior to commencement of the testing.

Interviews also revealed that the use of RFIs for the control of testing apparatus design changes was not appropriate. The RFIs were intended to be a vehicle to ask questions between OSU and NuScale and not as a Design Change Request (DCR) process. A DCR process was put in place approximately 10 days after the Break Line Sparger RFI 15012RPE had been initiated. Those interviewed believed that had the DCR process been in place prior to the sparger evolution, that the configuration change would have been properly implemented with the appropriate closeout paperwork put in place.

Other contributing causes were related to inadequate staffing levels for the amount and complexity of the work being performed.

Corrective Steps That Have Been Taken and the Results Achieved

Changes implemented in April 2015 resulted in a revision to OSU procedure NQP-11.0, "Test and Configuration Control." OSU procedure NP 11.0 revised to add a Data Evaluation Process to ensure all RFIs and DCRs have been properly dispositioned prior to conducting tests. This provides additional controls to NQP-11.0 to preclude similar future errors.

RFI 15012RPE was documented as closed on August 27, 2015. The design changes requested by RFI 15012RPE to the Break Line Spargers were confirmed to have been correctly implemented in the as-built configuration of the NIST-1 test apparatus on October 21, 2015.

NuScale performed an extent of condition (EOC) on the NuScale and OSU RFI logs and consolidated them into one RFI log. The EOC revealed that, in addition to RFI 15012RPE that was the subject of the NRC finding, nine (9) additional RFI's were open and not captured on both RFI logs. Corrective actions were initiated and these items were tracked to completion.

An evaluation of the sparger field change and closeout of OSU's NCR-15098, disposition of the sparger field change RFI 15012RPE, and documentation requiring an assessment of open RFI's during OSU test readiness review was completed on November 9, 2015.

Corrective Steps That Will be Taken

Corrective Action to Prevent Recurrence: NuScale to develop a T&CD engineering change request/field change request procedure to interface with OSU DCN process OSU procedure NQP 11.0 by November 16, 2015.

Corrective Action to Prevent Recurrence: Revise and align OSU and NuScale processes to ensure Readiness for Testing Reviews are conducted that specifically evaluate the impacts of Open and Implemented RFIs and DCRs as well as ensuring Configuration Controls are in place to preserve the fidelity of the physical testing apparatus as compared to the design documentation by November 16, 2015.

Define projected staffing level for DCRM function at OSU and gain agreement from NuScale T&CD management on deltas from current staffing levels. Establish OSU Document and Records Management position description and expectations by November 16, 2015.

Corrective Action Effectiveness Review: Perform a joint surveillance of the RFI and DCR processes implemented at both OSU and NuScale to ensure they have been implemented appropriately and to ensure that there have been no uncontrolled changes to the testing apparatus by December 15, 2015.

Corrective Action Effectiveness Review: Perform an evaluation of Process Controls and corrective actions put in place by the root cause above ensure they have been implemented appropriately and to ensure that there have been no deviations during the review period by March 1, 2016.

Date When Full Compliance Will be Achieved

Full compliance for the NRC-identified condition was achieved on August 27th, 2015 when NuScale formally approved the test configuration change with a documented response to RFI 15012RPE. The additional nine (9) RFIs identified as part of the extent of condition were brought into full compliance by November 6, 2015.