

July 25, 2017

MEMORANDUM TO: Samuel S. Lee, Chief
Licensing Branch 1
Division of New Reactor Licensing
Office of New Reactors

FROM: Demetrius Murray, Project Manager */RA/*
Licensing Branch 1
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: AUDIT PLAN FOR THE REGULATORY AUDIT OF NUSCALE
POWER, LLC DESIGN CERTIFICATION APPLICATION HUMAN
FACTORS ENGINEERING TOPICS

On December 31, 2016, NuScale Power, LLC (NuScale) submitted a design certification application (DC) to the U.S. Nuclear Regulatory Commission (NRC), (Agencywide Documents Access and Management System Accession No. ML17013A229). The NRC staff started its detailed technical review of NuScale's DC application on March 27, 2017.

The purpose of the NRC's regulatory audit, of NuScale Human Factors Engineering (HFE) topics, is to:

- (1) review non-docketed information related to verification and validation (V&V) methods to evaluate conformance with regulatory guidance;
- (2) identify information that will require docketing to support the basis of the licensing or regulatory decision.

The audit is scheduled to start on July 24, 2017, via NuScale's electronic reading room (eRR), of non-docketed information pertaining to V&V activities to evaluate conformance with regulatory guidance; it will end on February 15, 2018. The audit plan is provided as an enclosure.

Docket No.: 52-048

Enclosure:
As stated

cc: DC NuScale Power LLC Listserv

SUBJECT: AUDIT PLAN FOR THE REGULATORY AUDIT OF NUSCALE POWER, LLC
DESIGN CERTIFICATION APPLICATION HUMAN FACTORS ENGINEERING
TOPICS DATE : 7/25/2017

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NUSCALE POWER, LLC
HUMAN FACTORS ENGINEERING SUBMITTALS
DESIGN CERTIFICATION APPLICATION
"HUMAN FACTORS ENGINEERING TOPICS" AUDIT PLAN

APPLICANT: NuScale Power, LLC

APPLICANT CONTACT: Steve Mirsky
Steve Pope
Tim Tovar, et al.

DATE: This audit will begin July 24, 2017 – February 15, 2018.

LOCATION: NuScale’s Electronic Reading Room

REVIEWERS: Lauren A. Kent – Lead Reviewer (NRO/DCIP/HOIB)
Amy D’Agostino (RES/DRA/HFRB)
Brian D. Green (NRO/DCIP/HOIB)
Maurin C. Scheetz (NRO/DCIP/HOIB)

PROJECT MANAGERS: Demetrius Murray (NRO/DNRL/LB1)
Greg V. Cranston (NRO/DNRL/LB1)
Bruce M. Baval (NRO/DNRL/LB1)

AUDIT OBJECTIVE:

The objective of the audit is to verify the following:

1. The verification and validation (V&V) methodology conforms to acceptance criteria in NUREG-0711, “Human Factors Engineering Program Review Model,” Revision 3, Chapter 11. The U.S. Nuclear Regulatory Commission (NRC) staff plans to review non-docketed information related to V&V methods in NuScale’s electronic reading room (eRR).
2. The results of the functional requirements analysis/function allocation described in Design Control Document (DCD) Tier 2, Section 18.3.3, “Results,” were generated using a method that conforms to NUREG-0711, Section 4.4, “Functional Requirements Analysis and Function Allocation.” The NRC staff plans to select a sample of FAs and the technical bases for these allocations during the audit.
3. The results of the task analysis described in DCD Tier 2, Section 18.4.3, “Results,” were generated using a method that conforms to NUREG-0711, Section 5.4, “Task Analysis,

Review Criteria.” The NRC staff plans to select a sample of tasks and review the analyses during the audit.

4. The results of the Operating Experience Review described in Section 18.2.3, “Results,” were generated using a method that conforms to NUREG-0711, Section 3.4, “Operating Experience Review, Review Criteria.” The NRC staff plans to select a sample of tasks and evaluate how relevant operating experience was evaluated and incorporated into the Human Factor Engineering design process.
5. The implementation of V&V activities, including the integrated systems validation (ISV) and human engineering discrepancy issue resolution, conforms to acceptance criteria in NUREG-0711, Revision 3, Section 11.4.3, “Integrated System Validation,” and Section 11.4.4 “Human Engineering Discrepancy Resolution Review.”

INITIAL REQUESTED MATERIAL FOR AUDIT:

1. V&V IP Revision 3
2. ISV Test Plan
3. ISV Scenario Basis Documents or scenario guides
4. Design verification test plan
5. Any additional documents that discuss V&V methods that will be implemented