



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

January 31, 2019

MEMORANDUM TO: Christian B. Cowdrey, Acting Chief  
Operator Licensing Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

FROM: Maurin C. Scheetz, Reactor Engineer */RA/*  
Operator Licensing Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF DECEMBER 19, 2018 PUBLIC MEETING WITH  
NUSCALE POWER, LLC TO DISCUSS OPERATOR LICENSING  
EXAMINATION TOPICS

On December 19, 2018, a Category 1 public teleconference meeting was held at the U.S. Nuclear Regulatory Commission (NRC) Headquarters, Rockville, Maryland office between representatives of the NRC staff and NuScale Power, LLC (NuScale), to discuss topics related to NuScale's Knowledge and Abilities (K/A) catalog and operator licensing examinations for future applicants of a NuScale SMR plant.

The meeting began with introduction of the teleconference participants. Then, NuScale described the existing structure of K/A catalogs for other technologies (PWR, BWR, ABWR, and AP1000) and the use of NUREG-1021 "Operator Licensing Examination Standards for Power Reactors," Revision 11. NuScale stated that they could not use the existing K/A catalogs for the NuScale SMR design and that aspects of the NUREG-1021 examination development process cannot be adhered during development of NuScale SMR examinations.

NuScale provided an update on development of a K/A catalog based on an initial draft of a NuScale licensed operator training program. About 60% of the catalog is complete. The catalog consists of learning objectives that are aligned to operator tasks. NuScale proposed the creation of a new NUREG that directly samples learning objectives to create a licensing examination for future NuScale operators. They also stated that the lack of operator action on a NuScale plant does not affect plant safety, therefore it would not be possible for an applicant to fail a NRC operating test using the current NUREG-1021 guidance. As a result, they also proposed a new NUREG for the development and evaluation of exams of this type.

The NRC Staff pointed out that the evaluation of performance on the NRC operating test is not solely based on safety related tasks. The operating test is used to distinguish the difference between competent and less than competent operators.

Enclosure:  
Meeting Attendees

NuScale stated that they are considering submitting a petition for rulemaking for the addition of a NUREG for NuScale exams similar to how 10 CFR Part 55 references NUREG-1021 and NUREG 1478. They also stated that they do not believe that a NuScale plant falls into either the class 103 or class 104 as described in the Atomic Energy Act Section 106 for the purposes of uniform conditions discussed in section 107. NuScale explained the rulemaking could provide a regulatory pathway for NuScale examinations. They stated that they would likely start the petition process during the first quarter of 2019.

The NRC staff agreed that changes would likely need to be made to the existing NUREG-1021 guidance for NuScale examinations.

The NRC staff recommended the use of NUREG-1021 for NuScale examinations because this pathway allows the use of NRC resources for developing the NuScale/SMR examination framework instead of expending resources on rulemaking. The NRC staff explained that they have started a project for restructuring NUREG-1021 to include a placeholder for NuScale SMR examination guidance. The staff explained that more information would be coming out about this NUREG-1021 restructuring effort in early 2019.

NuScale then spoke more specifically about the NuScale K/A catalog effort. NuScale is drafting a Systems Approach to Training (SAT) based training program for NuScale operators. This training program uses a task list for Reactor Operators (RO) and Senior Reactor Operators (SRO) based on a Human Factor Engineering task analysis performed during the design certification application. The result of this work is a draft list of Learning Objectives (80% complete) that can be sampled for NRC examination purposes. They are looking at the best ways to sample these learning objectives to build an exam and have documented a preliminary task list, task-to-training matrix, DIF ratings and training settings. They want to present this product and proposed to create a process that replaces the conventional K/A catalogs. The learning objectives will be “tagged” based on importance.

The NRC staff and NuScale agreed that it would be best to meet on another date to see the learning objectives and criteria used in the tagging process.

NuScale emphasized that under the SAT, learning objectives are expected to change based on training needs and in accordance with the industry’s accreditation process, task lists are required to be reviewed every two years. NuScale estimated that a typical training program processes 20-50 training request every quarter any of these could result in a learning objective change. Because of this, NuScale proposed that the NuScale K/A catalog, which will consist of these learning objectives, be easier to change when compared to the current set K/A catalogs.

The NRC staff explained that a baseline NuScale K/A catalog would allow the staff to begin to develop the NuScale SMR examination framework. The NRC staff stated that they needed more information about the frequency of changes the impact of changes for a licensee or vendor maintained K/A catalog and that they were not ready to make a decision on this item. They explained that this concept could be discussed at a future public meeting.

NuScale shared projected milestones for and a desire to start an operator licensing class in 2022. They expressed concern about the amount of time needed for establishing a K/A catalog and NUREG-1021 exam process.

NuScale asked what regulatory processes exist for the K/A catalog and establishing the examination framework. The NRC staff explained that they would follow the NUREG series publication process which includes a public comment period.

At that time the meeting was opened to the public for comments and questions. The public did not have any comments and questions. The meeting ended with an overall summary of the discussion.

The list of meeting attendees is included in Enclosure 1. The meeting notice is available in ADAMS with Accession No. ML18353A574. Please direct any inquiries to Maurin Scheetz at (301) 415-2758, or email at [maurin.scheetz@nrc.gov](mailto:maurin.scheetz@nrc.gov).

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DATE	1/31/2019	1/31/2019

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PUBLIC MEETING  
U.S. NUCLEAR REGULATORY COMMISSION

December 19, 2018

1:30 p.m. – 3:00 p.m.

List of Attendees

NAME	AFFILIATION
Mark Bates	NRC
Bruno Caballero	NRC
Prosanta Chowdhury	NRC
Chris Cowdrey	NRC
Gene Guthrie	NRC
David Lanyi	NRC
Aida Rivera-Varona	NRC
Kevin Roach	NRC
Maurin Scheetz	NRC
Bill Ward	NRC
Gary Becker	NuScale
Doug Bowman	NuScale
Mark Chitty	NuScale
Carrie Fosaaen	NuScale
Gary Hendrick	NuScale
Nadja Joergensen	NuScale
Pat Leary	NuScale
Tim Tovar	NuScale
Cindy Wellenbrock	NuScale
Michelle Conner	TVA
Russel Joplin	TVA
Lynn Mynatt	TVA

Enclosure

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