



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

May 27, 2020

MEMORANDUM TO: Michael I. Dudek, Chief
New Reactor Licensing Branch
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

FROM: Prosanta Chowdhury, Project Manager */RA/*
New Reactor Licensing Branch
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE APRIL 15, 2020, U.S. NUCLEAR
REGULATORY COMMISSION CATEGORY 1 PUBLIC
TELECONFERENCE WITH NUSCALE POWER, LLC, TO
DISCUSS NUSCALE POWER LLC'S PROPOSED CHANGES TO
TOPICAL REPORT, TR-0915-17772

On April 15, 2020, representatives from the U.S. Nuclear Regulatory Commission (NRC) and NuScale Power, LLC (NuScale), held a Category 1 public teleconference meeting to discuss NuScale's outlined proposed changes (Revision 2) to Topical Report (TR), TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites." NuScale submitted Revision 1 of the TR on March 12, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18071A354). Participants included personnel from the NRC, NuScale, the Department of Energy, and members of the public.

The public meeting notice can be found in ADAMS under Accession No. ML20106F144. This meeting notice was also posted on the NRC's public Web site.

The Meeting Agenda, List of Attendees and Meeting Summary can be found in Enclosures 1, 2 and 3, respectively. NuScale's presentation slides can be accessed via ADAMS Accession No. ML20099H080.

Docket No. 52-048

Enclosures:
As stated

cc w/encl: DC NuScale Power, LLC Listserv

CONTACT: Prosanta Chowdhury, NRR/DNRL
301-415-1647

SUBJECT: SUMMARY OF THE APRIL 15, 2020, U.S. NUCLEAR REGULATORY COMMISSION CATEGORY 1 PUBLIC TELECONFERENCE WITH NUSCALE POWER, LLC, TO DISCUSS NUSCALE POWER LLC'S PROPOSED CHANGES TO TOPICAL REPORT, TR-0915-17772
DATED: MAY 27, 2020

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ADAMS Accession No.:**Package: ML20108F269****Summary: ML20108F508*****via email****NRR-106**

| | | | |
|---------------|-------------------|-------------------|-------------------|
| OFFICE | NRR/DNRL/NRLB: PM | NRR/DNRL/NRLB: LA | NRR/DRA/APLC: BC |
| NAME | PChowdhury* | CSmith* | SRosenberg* |
| DATE | 04/20/2020 | 04/23/2020 | 05/06/2020 |
| OFFICE | NSIR/DPR/RLB: BC | NRR/DRA/ARCB: BC | NRR/DNRL/NRLB: PM |
| NAME | JAnderson* | KHsueh* | PChowdhury |
| DATE | 05/01/2020 | 05/05/2020 | 05/27/2020 |

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U.S. NUCLEAR REGULATORY COMMISSION
SUMMARY OF THE APRIL 15, 2020, U.S. NUCLEAR REGULATORY COMMISSION
CATEGORY 1 PUBLIC TELECONFERENCE WITH NUSCALE POWER, LLC, TO DISCUSS
NUSCALE'S PROPOSED CHANGES TO TOPICAL REPORT, TR-0915-17772

April 15, 2020

2:00 p.m. – 4:30 p.m.

Meeting Agenda

| <u>Time</u> | <u>Topic</u> |
|-----------------------|---|
| 2:00 p.m. – 2:15 p.m. | Introduction |
| 2:15 p.m. – 3:45 p.m. | Presentation by NuScale Regarding Proposed Changes to the EPZ Sizing Methodology Topical Report |
| 3:45 p.m. – 4:15 p.m. | Open Discussion |
| 4:15 p.m. – 4:30 p.m. | Public Comments |
| 4:30 p.m. | Adjourn |

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CATEGORY 1 PUBLIC TELECONFERENCE WITH NUSCALE POWER, LLC, TO DISCUSS
NUSCALE PROPOSED CHANGES TO TOPICAL REPORT, TR-0915-17772

April 15, 2020

List of Attendees

| <u>Name</u> | <u>Organization</u> |
|--------------------|--|
| Prosanta Chowdhury | U.S. Nuclear Regulatory Commission (NRC) |
| Robert Caldwell | NRC |
| Michael Dudek | NRC |
| Gregory Cranston | NRC |
| Marie Pohida | NRC |
| Michelle Hart | NRC |
| Stacey Rosenberg | NRC |
| Elijah Dickson | NRC |
| Joseph Anderson | NRC |
| Amanda Marshall | NRC |
| Todd Smith | NRC |
| Cynthia Jones | NRC |
| Kevin Hsueh | NRC |
| Raymond Hoffman | NRC |
| Alissa Neuhausen | NRC |
| Bruce Musico | NRC |
| Michael McCoppin | NRC |
| Shakur Walker | NRC |
| William Orders | NRC |
| Victor Trebules | Department of Energy |
| Steve Mirsky | NuScale Power, LLC (NuScale) |
| Michael Melton | NuScale |
| Tom Bergman | NuScale |
| Luke McSweeney | NuScale |
| Bill Galyean | NuScale |
| Sarah Bristol | NuScale |
| Jeremiah Doyle | NuScale |
| Scott Weber | NuScale |
| Gary Becker | NuScale |
| Deb Luchsinger | NuScale |
| Liz English | NuScale |
| Cindy Williams | NuScale |
| Zach Rad | NuScale |

| <u>Name</u> | <u>Organization</u> |
|----------------------|---------------------|
| Sarah Fields | Public |
| Edwin Lyman | Public |
| Cyril Draffin | Public |
| Briana Jones | Public |
| Kati Austgen | Public |
| Marcus Nichol | Public |
| David Young | Public |
| Sean Finnerty | Public |
| Peter Hastings | Public |
| Andries Haasbroek | Public |
| Herman van Antwerpen | Public |
| Jim DeLano | Public |
| Edward Davis | Public |
| Martin Owens | Public |
| Frosty White | Public |
| Michelle Catts | Public |
| Amir Afzali | Public |
| Sachin Desai | Public |
| Daniel Stout | Public |
| Raymond Schiele | Public |
| Brando Waites | Public |
| Jason Redd | Public |
| Dmitri Lutchenkov | Public |
| Jane Accomando | Public |
| Clint Medlock | Public |
| Marilyn Kray | Public |
| Martin Owens | Public |
| Farshid Shirik | Public |

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SUMMARY OF THE APRIL 15, 2020, U.S. NUCLEAR REGULATORY COMMISSION
CATEGORY 1 PUBLIC TELECONFERENCE WITH NUSCALE POWER, LLC, TO DISCUSS
NUSCALE PROPOSED CHANGES TO TOPICAL REPORT, TR-0915-17772

April 15, 2020

Meeting Summary

On April 15, 2020, the U.S. Nuclear Regulatory Commission (NRC or Commission) staff held a Category 1 public teleconference meeting in which NuScale outlined proposed changes (Revision 2) to its Topical Report (TR), TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites." NuScale submitted Revision 1 of the TR on March 12, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18071A354). NuScale's presentation slides used during this meeting can be accessed via ADAMS Accession No. ML20099H080. Over 60 individuals participated, including industry stakeholders and members of the public, in the meeting.

NuScale stated that the primary goal of its proposed revision to their emergency planning zone (EPZ) methodology was to align with the NRC's ongoing emergency planning (EP) rulemaking, and the approved methodology in the Tennessee Valley Authority's (TVA's) early site permit (ESP) for the Clinch River Nuclear (CRN) Site. NuScale stated that its goal was to also align with EPZ exemptions granted at recent decommissioning nuclear power reactor sites (e.g., Pilgrim Nuclear Power Station) and associated ongoing decommissioning rulemaking. NuScale claims that these exemptions use a similar technical basis. NuScale further specified that the proposed changes to the TR contain significant modifications, such as, removing the previously used quantitative methodology and associated screening criteria at 1×10^{-3} x total core damage frequency (CDF) and substituting with a qualitative defense-in-depth (DID) evaluation; and substituting a seismic probabilistic risk assessment (PRA)-based external event screening criteria for the previously used criteria of screening seismic sequences at an acceptance criteria of 1.67 x safe shutdown earthquake (SSE) (based on the assessment of a seismic margin assessment).

NuScale additionally outlined the updates to the external event screening basis by citing exemptions granted for decommissioning sites based on the technical basis outlined in NRC's NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants" (ADAMS Accession No. ML010430066; February 2001), and NUREG-2161, "Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor" (ADAMS Accession No. ML14255A365; September 2014). NuScale stated that all-hazards off-site emergency response plans will exist and function to respond to an extreme external event. NuScale also outlined CDF screening update as part of the proposed revision to the TR. NuScale stated that they expect to submit the revised EPZ TR (Revision 2) by the end of May 2020.

During the meeting, the NRC staff asked clarifying questions regarding the treatment of seismic PRA in the external event screening criteria, qualitative DID evaluation, the treatment of uncertainty against the proposed CDF screening threshold, and other relevant topics. The NRC staff emphasized that for a combined license application (COLA) that applies the NuScale EPZ sizing methodology, risk insights from the COLA PRA will be evaluated with respect to the EPZ sizing.

Also, regarding the reference to the TVA CRN Site ESP, NRC staff emphasized that the safety evaluation report did not credit comprehensive emergency management (all-hazard) planning, which is not a Federally-mandated regulatory requirement for offsite response organizations. The NRC staff provided comments on limitations of some of the NRC guidance documents, such as, NUREG-1738, which was developed in support of a proposed decommissioning rulemaking and considers an accident involving fuel stored in a site's spent fuel pool and not an operating power reactor. Since publication of that guidance in 2001, emergency preparedness at State and local levels has undergone significant enhancements. If a reactor were to be built at a seismically active site, FEMA would be responsible for considering appropriate protective measures as part of its evaluation of the adequacy of offsite radiological emergency preparedness (REP) plans, and if the Commission determines that formal offsite REP plans and preparedness are required.

At the conclusion of the meeting, several industry attendees made recommendations in favor of NuScale's revised methodology. In response, the NRC staff emphasized that the agency has applicable regulations and established guidance that are used to evaluate the compliance of a licensing application to ensure that relevant regulatory requirements are met, and the public's health and safety is not compromised. Also, in response to a question from a member of the public regarding the relationship of this TR to the NuScale design certification application (DCA) presently on the docket and to the associated rulemaking, and any opportunity for public involvement, the NRC staff clarified that this TR is not directly tied to the review of the DCA, nor is it incorporated by reference in the DCA; therefore, the DC rulemaking is not affected by this TR. Another member of the public expressed concerns about NuScale's overall approach to the screening criteria in that the comparison which NuScale outlined is not valid because some documents (e.g., SOARCA (State-of-the-Art Reactor Consequence Analyses)) cited by NuScale have not been benchmarked. The meeting then closed with the NRC staff reiterating that the revised TR has not been submitted on the docket. When received, the NRC staff assured the participating stakeholders that all assumptions and assertions would be reviewed to make a determination on their merits and compliance with applicable regulations.

The meeting was adjourned at 3:47 p.m. (Eastern time).