



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

January 6, 2022

MEMORANDUM TO: Steven Lynch, Chief  
Advanced Reactor Policy Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

FROM: Joseph M. Sebrosky, Senior Project Manager  
Advanced Reactor Policy Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF DECEMBER 14, 2021, PUBLIC MEETING TO  
DISCUSS TECHNOLOGY INCLUSIVE CONTENT OF  
APPLICATION PROJECT

A handwritten signature in black ink, appearing to read "J. Sebrosky", is located to the right of the "FROM:" line.

Signed by Sebrosky  
on 01/06/22

On December 14, 2021, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with stakeholders to discuss the technology inclusive content of application project (TICAP). The meeting notice is available in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession No. ML21344A142, and the presentation slides are available at ADAMS Accession No. ML21344A006. The enclosure to this summary provides the attendees for the meeting as captured by Microsoft Teams.

The purpose of this meeting was to discuss with stakeholders' issues related to the Nuclear Energy Institute (NEI) Technical Report 21-07, Revision 0-B, "Technology Inclusive Guidance for Non-Light Water Reactors Safety Analysis Report Content for Applicants Using the NEI 18-04 Methodology" (ADAMS Accession No. ML21343A292). This meeting was a follow-on meeting to previous public TICAP meetings held on:

- May 11, 2021 (meeting summary available in ADAMS at Accession No. ML21132A295)
- May 19, 2021 (meeting summary available in ADAMS at Accession No. ML21154A290)
- May 26, 2021 (meeting summary available in ADAMS at Accession No. ML21158A223)
- June 23, 2021 (meeting summary available in ADAMS at Accession No. ML21181A335)
- August 17, 2021 (meeting summary available in ADAMS at Accession No. ML21245A442)
- October 5, 2021 (meeting summary available in ADAMS at Accession No. ML21301A189)
- November 9, 2021 (meeting summary available in ADAMS at Accession No. ML21328A233)

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During the meeting, the NRC staff referred to the TICAP Regulatory Guide draft white paper dated December 2, 2021, (ADAMS Accession No. ML21336A697) that provided an update to an earlier version of the draft white paper based on the staff's review of NEI 21-07, Revision 0 (ADAMS Accession No. ML21250A378). The NRC staff and industry also discussed NEI 21-07, Revision 0-B that was provided to the staff on December 8, 2021. The December 8, 2021, document included changes to address NRC staff comments provided to industry that were discussed during the November 9, 2021, TICAP meeting referenced above.

### Meeting Highlights

- The NRC staff outlined its position on developing principal design criteria (PDC) using a licensing modernization project (LMP) based approach and provided a set of recommendations for industry to consider in the next revision to NEI 21-07. Highlights of the NRC staff's PDC position included:
  - The NRC staff's position is that the requirement to propose PDCs extends to the scope of PDC (i.e., design, fabrication, testing, inspection, and performance requirements) and that applicants may request an exemption if the proposed PDCs do not fully address the scope of PDC.
  - In addition, NRC staff clarified that to ensure proposed PDC covered the required important to safety structures, systems, and components (SSCs), the LMP-developed PDCs must address both safety-related SSCs and non-safety related with special treatment SSCs. Further, the NRC staff stated that the proposed two-tiered PDC complimentary design criteria (CDC) approach outlined in NEI 21-07 should be consolidated into just PDCs (e.g., could include PDC Type A and PDC Type B).
  - To meet the underlying requirement for the development of PDC, the NRC staff stated that the PDC must cover the scope of the general design criteria (GDC) found in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 Appendix A including SSCs considered important to safety and PDC associated with normal operations (e.g., design criteria to ensure normal effluent release requirements, and occupational dose requirements are met).
- Industry stated that it would consider the NRC staff's position and would provide a plan to the staff in early January on how it intends to address the issue. The plan will be discussed in the next TICAP public meeting tentatively scheduled for January 18, 2022.
- Another high-priority item for the meeting was the level of information to be captured in the safety analysis report (SAR) relative to anticipated operational occurrences (AOO), design basis events (DBE), and beyond design basis events (BDBE).
  - The NRC staff's position is that the SAR should contain important supporting data that is significant to the development of the AOO, DBE, and BDBE analyses conclusions regarding risk significance, meeting frequency consequence curve targets or quantitative health objectives (QHOs), developing SSC classification, or evaluating defense-in-depth.
    - The NRC staff stated that such information is needed in the SAR to support its regulatory findings and to ensure important information is captured in the SAR to assess changes to the plant made during the operational phase.

- Industry stated that this information is captured in the probabilistic risk assessment (PRA) and it is not necessary to elevate this information to the SAR.
- The NRC staff and industry agreed to develop examples, potentially using the outcome of recent TICAP tabletop exercises, to identify significant supporting AOO, DBE, and BDBE data that should be captured in the SAR.
- Other action items from the meeting included:
  - Industry will provide comments on the NRC staff's draft TICAP regulatory guide white paper prior to the next TICAP meeting.
  - NRC staff will provide feedback on which of the staff's proposed exceptions, clarifications, and additions associated with NEI 21-07 are resolved based on the December 8, 2021, NEI 21-07 revision 0-B.

Enclosure:  
Attendance List

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TECHNOLOGY INCLUSIVE CONTENT OF APPLICATION PROJECT  
DATED: JANUARY 6, 2022

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**ADAMS Accession Number: ML21354A833****NRC-001**

<b>OFFICE</b>	NRR/DANU/UARP/PM	NRR/DANU/UARP/BC	NRR/DANU/UARP/PM
<b>NAME</b>	JSebrosky	SLynch	JSebrosky
<b>DATE</b>	12/21/2021	1/6/2022	1/6/2022

**OFFICIAL RECORD COPY**

**December 14, 2021, Public Meeting to Discuss  
Technology Inclusive Content of Application Project  
Attendance List\***

<b>NAME</b>	<b>AFFILIATION</b>	<b>NAME</b>	<b>AFFILIATION</b>
John Segala	NRC/NRR/DANU	Amir Afzali	Southern Company
Martin Stutzke	NRC/NRR/DANU	Brandon Chisholm	Southern Company
Steven Lynch	NRC/NRR/DANU/UARP	Ben Holtzman	Nuclear Energy Institute (NEI)
William Reckley	NRC/NRR/DANU/UARP	Cyril Draffin	U.S. Nuclear Industry Council
Eric Oesterle	NRC/NRR/DANU/UARP	Steven Nesbit	LMNT Consulting
Jordan Hoellman	NRC/NRR/DANU/UARP	Ed Wallace	GNBC Associates
Joe Sebrosky	NRC/NRR/DANU/UARP	Neil Haggerty	Excel
Prosanta Chowdhury	NRC/NRR/DANU/UARP	Frank Akstulewicz	A to Z Reactor Consulting Services
Maryam Khan	NRC/NRR/DANU/UARP	Dennis Henneke	GE Power
Stephen Philpott	NRC/NRR/DANU/UARP	Denise Brooks	GE Power
Arlon Costa	NRC/NRR/DANU/UARP	Scott Ingalls	GE Power
Amy Cabbage	NRC/NRR/DANU/UARP	Karl Fleming	KNF Consulting
Binesh Tharakan	NRC/NRR/DANU/UARP	Raymond Wang	X-energy
Beth Reed	NRC/NRR/DANU/UARP	Jon Facemire	X-energy
Michael Orenak	NRR/NRR/DANU/UTB1	Brandon Hartle	X-energy
Hosung Ahn	NRC/NRR/DANU/UTB1	Steve Vaughn	X-energy
Alexander Chereskin	NRC/NRR/DANU/UTB1	Charlotte Geiger	X-energy
Alexandra Siwy	NRC/NRR/DANU/UTB2	George Wilson	TerraPower
Jeffrey Schmidt	NRC/NRR/DANU/UTB2	Bryan Eysers	TerraPower
Ben Adams	NRC/NRR/DANU/UTB1	Ryan Sprengel	TerraPower
Christopher Van Wert	NRC/NRR/DANU/UTB1	Sean Morrell	NuScale
Timothy Lupold	NRC/NRR/DANU/UTB1	Amanda Spalding	Westinghouse
Ian Jung	NRC/NRR/DANU/UTB1	George Flanagan	ORNL
Ed Miller	NRC/NRR/DORL/LPL2-1	William Winslow	U.S. Army
Robert Roche-Rivera	NRC/RES/DE/RGPMB	Andrew Zach	Senate Committee on Environment and Public Works
Shakur Walker	NRC/COMM/DW	Dave Grabaskas	Argonne National Lab
Henry Marchiewski	OCHCO/ADHRTD/NRANB	Adam Stein	Breakthrough Institute
Scott Bussey	OCHCO/ADHRTD/RTTB	Farshid Shahrokhi	Not Available (NA)
Bob Weisman	NRC/OGC	Richard Paese	NA
Carolyn Wolf	NRC/OCA	Frank Schaaf	NA
Derek Widmayer	NRC/ACRS	Lisa Peterson	NA
Jim Kinsey	INL	Tom Seewald	NA
Chris Chwasz	INL	Paul Loza	NA
Tom King	INL	Ben Chen	NA
Tom Hicks	INL	Rob Burg	NA
Ewa Muzikova	NA	Jason Andrus	NA

Enclosure

NAME	AFFILIATION	NAME	AFFILIATION
Steven Pope	NA	Alan Levin	NA
Martin O'Neill	NA	Chris Robinson	NA
Robert Youngblood	NA	Kiersten Smith	NA
Don Williams	NA	Kurt Harris	NA
Altheia Wyche	NA	Cindy Williams	NA
Mike Tschiltz	NA	Bruce Weir	NA
Ian Gifford	NA		

\* Attendance list based on Microsoft Teams Participant list. List does not include 7 individuals that connected via phone.