



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

November 2, 2020

MEMORANDUM TO: John P. Segala, 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 //RA//
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF OCTOBER 22, 2020, PUBLIC MEETING TO
DISCUSS TECHNOLOGY INCLUSIVE CONTENT OF
APPLICATION PROJECT, AND ADVANCED REACTOR
CONTENT OF APPLICATION PROJECT

On October 22, 2020, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting with stakeholders, to discuss the technology inclusive content of application project (TICAP), and the advanced reactor content of application project (ARCAP). The meeting notice is available in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession No. ML20295A541, and the presentation slides are available at ADAMS Accession No. ML20294A438. The Enclosure to this summary provides the attendees for the meeting as captured by Microsoft Teams.

Meeting Highlights

Technology Inclusive Content of Application Project

Industry provided a presentation on a document titled, "Technology Inclusive Guidance for Non-Light Water Reactor Safety Analysis Report Content for a Licensing Modernization Project-Based Affirmative Safety Case," dated October 20, 2020 (ADAMS Accession No. ML20294A382). The document includes several appendices and a chapter discussing the annotated outline for the final safety analysis report (FSAR) portion of an application that is based on the licensing modernization project (LMP) approach. The LMP approach is fully described in Nuclear Energy Institute (NEI) 18-04, Revision 1, "Risk-Informed Performance-Based Guidance for Non-Light Water Reactor Licensing Basis Development," (ADAMS Accession No. ML19241A472), and endorsed by the NRC, as appropriate, by Regulatory Guide (RG) 1.233, "Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors," (ADAMS Accession No. ML20091L698).

There is also a proposed chapter that discusses alternative licensing paths providing guidance for Chapter 10 of the Code of Federal Regulations (CFR) Part 52 design certification applications and 10 CFR Part 50 construction permit and operating license applications.

Industry also discussed the establishment of a working group that would focus on developing guidance for an appropriate level of detail to be described in an application and provided an update on the status of TICAP tabletop exercises.

Regarding the TICAP tabletop exercises, industry stated that the following four tabletops are scheduled over the next several months:

- TerraPower Molten Chloride Reactor Experiment – a less than 1 Megawatt (MW) thermal pool-type molten salt reactor
- X-energy Xe-100 – an 80 MW electric pebble bed high temperature gas cooled reactor
- Westinghouse eVinci – a heat pipe microreactor
- GE-Hitachi Versatile Test Reactor – a 300 MW thermal pool-type sodium-cooled fast reactor

The action items from this portion of the meeting included:

- Industry will continue to develop the schedules for the four tabletop exercises discussed during the meeting and will keep the NRC staff informed when the dates for NRC observation of the four tabletop exercises are identified.
- The NRC staff will provide feedback to Southern in the first or second week of November on the NEI guidance document discussed during the meeting. The NRC staff will include as part of this feedback any high-level comments on the level of detail presentation provided by Industry during the meeting.

Advanced Reactor Content of Application Project

The staff provided a presentation on a document titled “Proposal for Technology Inclusive Content of Application Project and Advanced Reactor Contents of Application Project Guidance Document,” dated October 15, 2020. As discussed during the meeting this document includes guidance for near-term 10 CFR Part 50 and 10 CFR Part 52 applicants. Included in this near-term guidance is a reference to a document titled, “Draft Preapplication Engagement to Optimize Application Reviews.” Both documents were made publicly available prior to the meeting and are available in ADAMS at Accession No. ML20289B025. The NRC staff noted that the preapplication engagement plan would be discussed in further detail at an upcoming November 5, 2020, advanced reactor stakeholder meeting (see: <https://www.nrc.gov/pmns/mtg?do=details&Code=20201260>).

Industry provided comments prior to the meeting on the draft ARCAP/TICAP schedule described in the October 15, 2020, document. Among the comments received, a revision to the final industry TICAP guidance target date was moved to September 2021, from a previous target date of July 2021. Industry also provided comments on the schedule for the tabletop exercises. As a result of these comments the staff revised the schedule as shown in Figure 1 below. As a result of the shift in the final industry TICAP guidance target date, the date for the final version of the NRC guidance document also shifted by two months from October 2021 to December of 2021.

The NRC and Idaho National Laboratory staff discussed draft ARCAP Chapters 8, “Control of Routine Plant Radioactive Effluents, Plant Contamination and Solid Waste,” and 9, “Control of Occupational Dose.” The draft chapters are available in ADAMS at Accession No. ML20262H264. These chapters were developed using the performance-based approach that was described during previous ARCAP meetings.

The action items from this portion of the meeting included:

- Industry took an action to confirm that the tentative date of December 10, 2020, for the next TICAP/ARCAP meeting is acceptable.
- Industry took an action to review the October 15, 2020, proposed TICAP/ARCAP project plan.
- Industry and the NRC staff took an action to discuss the preapplication engagement document in further detail at the November 5, 2020, advanced reactor stakeholder meeting.
- The NRC staff took an action to provide draft ARCAP Chapter 2, “Site Information,” prior to the next TICAP/ARCAP meeting.
- The NRC took an action to provide an updated ARCAP annotated outline that follows the eight-chapter TICAP industry format provided during the meeting.

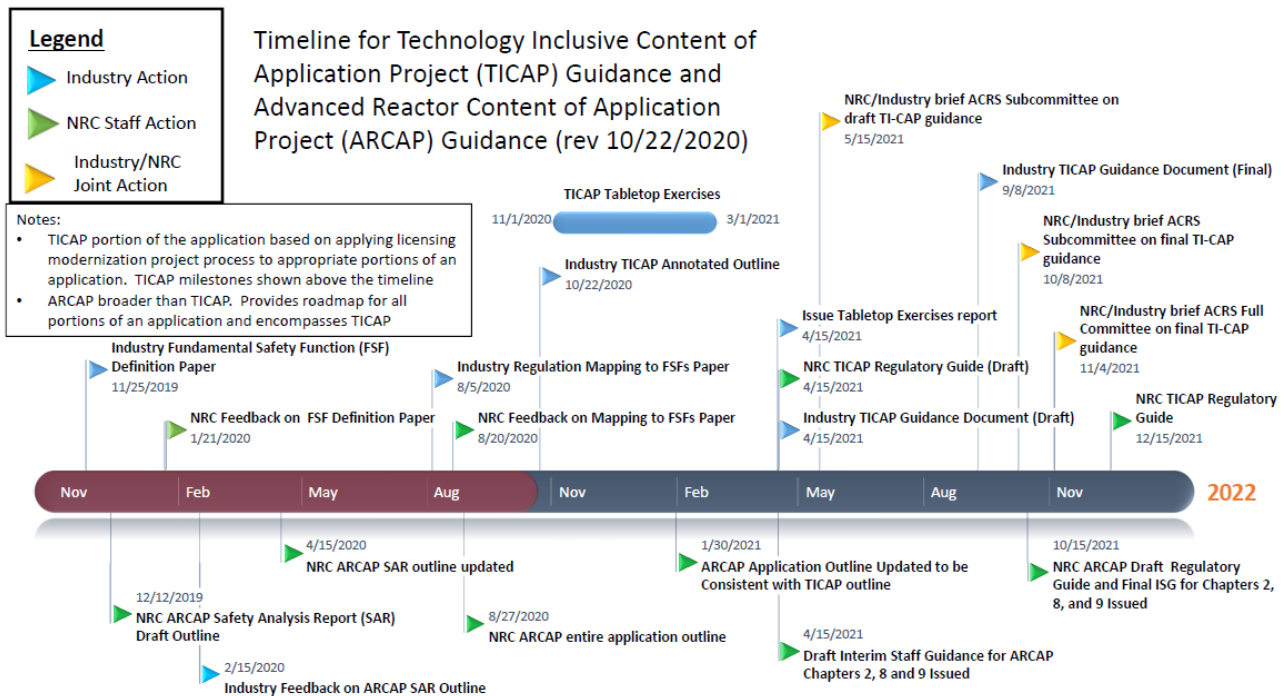


Figure 1 - TICAP/ARCAP Proposed Schedule

Enclosure:
Attendance List

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 DATED: November 2, 2020

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***via e-mail**

NRC-001

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|--------|--------------------|--------------------|--------------------|
| OFFICE | NRR/DANU/UARP/PM * | NRR/DANU/UARP/BC * | NRR/DANU/UARP/PM * |
| NAME | JSebrosky | JSegala | JSebrosky |
| DATE | 11/2/2020 | 10/30/2020 | 11/2/2020 |

OFFICIAL RECORD COPY

October 22, 2020, Public Meeting to Discuss Technology Inclusive Content of
Application Project, and Advanced Reactor Content of Application Project
Attendance List*

| NAME | AFFILIATION | NAME | AFFILIATION |
|-----------------------------|---------------------------------|-----------------------|--|
| Robert Taylor | NRC/NRR | Marc Nichol | Nuclear Energy Institute (NEI) |
| Mohamed Shams | NRC/NRR/DANU | Kati Austgen | NEI |
| Brian Smith | NRC/NRR/DANU | Mike Tschiltz | NEI |
| Dayna Dority | NRC/NRR/DANU | Jeff Merrifield | Pillsbury Law Firm |
| John Segala | NRC/NRR/DANU/UARP | Cyril Draffin | US Nuclear Industry Council |
| Maryam Khan | NRC/NRR/DANU/UARP | Denis Henneke | GE Hitachi |
| Eric Oesterle | NRC/NRR/DANU/UARP | Steven Nesbit | LMNT Consulting |
| Arlon Costa | NRC/NRR/DANU/UARP | Frank Akstulewicz | A to Z Reactor Consulting Services |
| Juan Uribe | NRC/NRR/DANU/UARP | Darrell Gardner | Kairos Power |
| Amy Cabbage | NRC/NRR/DANU/UARP | George Wadkins | GE Hitachi |
| Joe Sebrosky | NRC/NRR/DANU/UARP | Farshid Shahrokhi | Framatome |
| Nan Valliere | NRC/NRR/DANU/UARP | Jason Christensen | INL |
| Jordan Hoellman | NRC/NRR/DANU/UARP | Peter Hastings | Kairos Power |
| Chris Van Wert | NRC/NRR/DANU/UARP | Tammy Morin | Holtec International |
| Jim Kinsey | Idaho National Laboratory (INL) | Jana Bergman | Curtiss-Wright |
| Wayne Moe | INL | Ross Moore | Oklo |
| Tom Hicks | INL | Junaid Razvi | Ultra Safe Nuclear Corporation |
| Tom King | INL | Randy Belles | Oak Ridge National Lab |
| Christopher Chwasz | INL | Rob Burg | Engineering Planning and Management Inc. |
| Amir Afzali | Southern Company | Ed Wallace | Not Available (NA) |
| Brandon Chisholm | Southern Nuclear | Travis Chapman | NA |
| Jason Redd | Southern Nuclear | Kurt Harris | NA |
| Clint Medlock | Southern Company stopped here | Christopher Courtenay | NA |
| Stu Magruder | NRC/NRR/DANU/UARL | Scott Nelson | NA |
| Adrian Muniz | NRC/NRR/DANU/UARL | Richard Paese | NA |
| Lucieann Vechioli Feliciano | NRC/NRR/DANU/UARL | Rebecca Norris | NA |
| Michelle Hayes | NRC/NRR/DANU/UARP | Derek Widmayer | NRC/ACRS |
| Michelle Hart | NRC/NRR/DANU/UARP | Bob Beall | NMSS/REFS/RRPB |
| Scott Bussey | NRC/OCHCO/ADHRTD/RTTB | | |

* Attendance list based on Microsoft Teams Participant list. List does not include 17 individuals that connected via phone.

Enclosure