



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

August 17, 2020

MEMORANDUM TO: Christian Araguas, Acting Deputy Director
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

FROM: Tilda Liu, Senior Project Manager *Tilda Liu*
Material Control and Accounting Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

SUBJECT: SUMMARY OF JULY 28, 2020, CATEGORY 1 PUBLIC
WORKSHOP ON SPENT FUEL PERFORMANCE MARGINS

On July 28, 2020, the U.S. Nuclear Regulatory Commission (NRC) held a Category 1 remote public workshop with the Nuclear Energy Institute (NEI) and other industry representatives to continue dialogue on recommendations contained in the NEI's white paper on Spent Fuel Performance Margins dated November 8, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19318D971). This workshop built upon previous held meetings and workshops including those conducted on January 22, 2020 (ADAMS Accession No. ML20028F277), March 25-26, 2020 (ADAMS Accession No. ML20106F135), April 15-16, 2020 (ADAMS Accession No. ML20126G388), June 11, 2020 (ADAMS Accession No. ML20170A355), and June 23 (ADAMS Accession No. ML20197A299) respectively.

During the July 28, 2020, workshop, the NRC staff and the industry discussed two NRC staff led initiatives for transforming spent fuel licensing reviews: alternative approaches for shielding reviews, and implementation of a graded approach to licensing reviews through the application of risk insights. NEI shared its understanding of the proposal on shielding. In addition, NEI and EPRI discussed the plans for re-evaluating the definition of gross rupture of spent fuel cladding. The staff and industry continued to refine project plans and identify next steps for enhancing spent fuel storage licensing.

The following presentation materials were used by the NRC staff during the subject workshop:

- Shielding Topics (ADAMS Accession No. ML20205L387)
- Spent Fuel Storage and Transportation Issue Resolution Plan (ADAMS Accession No. ML20205L616)

The following presentation materials were used by the industry and the EPRI during the subject workshop:

CONTACT: Tilda Liu, NMSS/DFM/MCAB
404-997-4730

- Industry Understanding of Proposal on Shielding (ADAMS Accession No. ML20205L396)
- Risk Tool for Spent Fuel Dry Storage (ADAMS Accession No. ML20205L395)
- Path Forward for Implementing Gross Rupture Expert Panel (ADAMS Accession No. ML20205L397)

The NRC staff shared with the industry that it plans to complete the draft review processes for alternative approaches for shielding reviews, and to implement a graded approach to licensing reviews, through the application of risk insights. The NRC staff also shared that it is working to have the draft processes completed by October 2020, and to conduct joint tabletop exercises with NEI by utilizing industry-provided examples to evaluate the effectiveness and efficiency of the new processes. The NRC and the industry agreed that a significant milestone was reached during this workshop since multiple actions corresponding to the recommendations contained in NEI's white paper on Spent Fuel Performance Margins dated November 8, 2019, have now entered the implementation phase.

At the end of the workshop, the NRC staff provided an opportunity for the members of the public to comment or ask questions regarding NRC's regulatory process related to the topics discussed. There was one question raised by a member of the public during the comment period of the meeting. The NRC staff requested the member of the public to reach out to the respective NRC staff member to obtain additional information.

More than 60 individuals from industry, vendor groups, public citizens, and NRC staff attended the workshop (some participating in portions only) via Skype and telephone bridge line. The discussions held during this workshop benefited both the NRC staff and industry representatives, as they provided an effective and efficient forum of communication for all parties involved. No NRC staff decision was made during the meeting.

Enclosure 1 contains the meeting agenda for the July 28, 2020, workshop as previously noted in the public meeting notice (ADAMS Accession No. ML20196L658). Enclosure 2 provides a list of those who participated in the July 28, 2020, remote public workshop. Enclosure 3 is the detailed meeting summary for the workshop. Enclosure 4 contains a summary table which was shared by the NRC staff during the workshop on spent fuel performance margins.

Enclosures:

1. Meeting Agenda
2. List of Participants
3. Meeting Summary
4. Summary Table: July 28, 2020, Workshop on Spent Fuel Performance Margins

SUBJECT: SUMMARY OF JULY 28, 2020, CATEGORY 1 PUBLIC WORKSHOP ON
SPENT FUEL PERFORMANCE MARGINS

DATED: August 17, 2020

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MEETING AGENDA

CATEGORY 1 PUBLIC WORKSHOP ON SPENT FUEL PERFORMANCE MARGINS

July 28, 2020

Time	Topic	Speaker(s)
12:30 pm – 12:45 pm	Introductions and opening remarks	NRC/NEI
12:45 pm – 2:15 pm	Discussion on alternative approach for shielding analysis and reviews	NRC/Industry
2:15 pm – 2:30 pm	Break	All
2:30 pm – 3:15 pm	Discussion on graded approach for licensing reviews	Industry
3:15 pm – 4:00 pm	Path forward for implementing gross rupture expert panel	EPRI/Industry
4:00 pm – 4:15 pm	Opportunity for public comment	All
4:15 pm – 4:30 pm	Summarize meeting and adjourn	NRC/NEI

LIST OF PARTICIPANTS

CATEGORY 1 PUBLIC WORKSHOP ON SPENT FUEL PERFORMANCE MARGINS

July 28, 2020

Name	Affiliation
Tae Ahn	Nuclear Regulatory Commission (NRC)
Christian Araguas	NRC
Andrew Barto	NRC
Alana Bell	NRC
Tanner Boone	NRC
Tom Boyce	NRC
Michel Call	NRC
Richard Chang	NRC
Donald Chung	NRC
Yaira Diaz-Sanabria	NRC
Arlette Howard	NRC
Christian Jacobs	NRC
Paul Kallan	NRC
Andrea Kock	NRC
Matthew Learn	NRC
Zhian Li	NRC
Tilda Liu	NRC
Timothy McCartin	NRC
John McKirgan	NRC
Jason Piotter	NRC
Christopher Regan	NRC
Jeremy Smith	NRC
Ricardo Torres	NRC
Veronica Wilson	NRC
John Wise	NRC
Marlone Davis	NRC
Christopher Adams	Public
Aladar Csontos	Electric Power Research Institute (EPRI)
Andrew Orrell	Public
Bob Capstick	Public
Donna Gilmore	Public
E Supko	Public
Elena Kalinina	Public
Jack DeSando	Public
Andrea Jennetta	Public
Glenn Schwartz	PSEG Nuclear
Brady Hanson	Public
Hatice Akkurt	EPRI
Jana Bergman	Public
K Manzione	Public
Kalene Walker	Public
Keith Waldrop	Public

Name	Affiliation
Jon Kapitz	Public
Nicholas Klymyshyn	Public
John Biersdorf	Public
Ned Larson	Department of Energy
Robert Quinn	Public
Steven Ross	Public
Samuel Durbin	Public
Mark Richter	Nuclear Energy Institute (NEI)
Don Shaw	Public
Prakash	Public
Paul Plante	3 Yankees - NAC
Rick Migliore	Public
Rodney McCullum	NEI
Shannon Chu	Public
Stefan Anton	Holtec International
Steve Baker	Transware
Sven Bader	Public
Tom Tramm	Centrec/IUG
Zita Martin	Tennessee Valley Authority - Holtec

MEETING SUMMARY

CATEGORY 1 PUBLIC WORKSHOP ON SPENT FUEL PERFORMANCE MARGINS

July 28, 2020

On July 28, 2020, the U.S. Nuclear Regulatory Commission (NRC) held a Category 1 public workshop with the Nuclear Energy Institute (NEI) and other industry representatives to discuss NEI's white paper on Spent Fuel Performance Margins (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19318D971). This workshop built upon previous held meetings and workshops including those conducted on January 22, 2020 (ADAMS Accession No. ML20028F277), March 25-26, 2020 (ADAMS Accession No. ML20106F135), April 15-16, 2020 (ADAMS Accession No. ML20126G388), June 11, 2020 (ADAMS Accession No. ML20170A355), and June 23, 2020 (ADAMS Accession No. ML20197A299) respectively.

The July 28, 2020, workshop focused on two NRC staff led initiatives for transforming spent fuel licensing reviews related to shielding and graded approach. NEI shared its understanding of the proposal on shielding. In addition, NEI and Electric Power Research Institute (EPRI) discussed the plans for re-evaluating the definition of gross rupture of spent fuel cladding. The staff and industry continued to refine project plans and identify next steps for enhancing spent fuel storage licensing. As a result of the workshop, the participants aligned on detailed problem statements for the associated recommendations, planned regulatory products, and next steps.

The NRC staff made opening remarks and began with a presentation entitled "Shielding Topics." The discussion specifically included pertinent regulatory background, relevant inspections, method of evaluation (MOE) within Technical Specifications and associated reviews. During the discussion, The NRC staff shared its expectation regarding demonstration evaluations as applied to cask vendors, and that the MOE should consider analysis of normal operations, anticipated occurrences and accident conditions. In addition, the NRC staff shared that the applicant may use a "representative" source to perform this demonstration, as determined by the MOE. The staff then concluded the presentation with the sharing of the Spent Fuel Storage and Transportation Issue Resolution Plan related to risk-informing 10 CFR Part 72 Certificate of Compliance (COC) shielding reviews. The NRC staff sought additional external stakeholder's inputs on the available data which contain more realistic values to perform shielding evaluations. The NRC staff also requested industry feedback by identifying areas where there may be excessive conservatism in the NRC's guidance documents.

In response, the industry shared its understanding of the proposal on shielding with NRC staff, and noted the currently open issues including basis of the MOE, determination of "representative" content, and fixed dose limits in COC. The NEI then made a presentation entitled "Risk Tool for Spent Fuel Dry Storage: Making it Real." In particular, the NEI highlighted the imperative of dry storage efficiency, its understanding and applicability of NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems," and its associated impacts on spent fuel performance margins.

EPRI then made a presentation entitled "Path Forward for Implementing Gross Rupture Expert Panel." In particular, EPRI discussed Phenomenon Identification and Ranking Tables (PIRT) Expert Panel Process, detailing the steps including: 1) preparation, by way of a steering committee, 2) pre-elicitation, with reviewing the state of knowledge, 3) elicitation, via expert ranking process, and 4) documentation of the PIRT results.

The NRC staff shared with the industry that it plans to complete the draft review processes for alternative approaches for shielding reviews, and to implement a graded approach to licensing reviews, through the application of risk insights. The NRC staff also shared that it is working to have the draft processes completed by October 2020, and to conduct joint tabletop exercises with NEI by utilizing industry-provided examples to evaluate the effectiveness and efficiency of the new processes. The NRC and the industry agreed that a significant milestone was reached during this workshop since multiple actions corresponding to the recommendations contained in NEI's white paper on Spent Fuel Performance Margins dated November 8, 2019, have now entered the implementation phase.

Finally, the NRC staff summarized the July 28, 2020, workshop on Spent Fuel Performance Margins by sharing a detailed listing of technical topics related to the NEI's November 8, 2019, white paper. The summary chart listed requested regulatory products, and associated milestones for the NRC and the industry.

At the end of the workshop, the NRC staff provided an opportunity for the members of the public to comment/ask questions regarding NRC's regulatory process related to the topics discussed. There was one question raised by a member of the public during this period. The NRC staff requested the member of the public to reach out to the respective NRC staff member to obtain additional information.

More than 60 individuals from industry, vendor groups, public citizens, and NRC staff attended the workshop (some participating in portions only) via Skype and telephone bridge line. The NRC staff is planning future workshops to continue efforts on the NEI white paper recommendations.