



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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March 5, 2019

MEMORANDUM TO: Dennis C. Morey, Chief
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

FROM: Jason J. Drake, Project Manager */RA/*
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE DECEMBER 20, 2018, PUBLIC MEETING
BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION STAFF,
THE NUCLEAR ENERGY INSTITUTE AND THE ELECTIC POWER
RESEARCH INSTITUTE

On December 20, 2018, U. S. Nuclear Regulatory Commission (NRC) staff met with representatives from the Nuclear Energy Institute (NEI) and the Electric Power Research Institute (EPRI) to discuss Topical Report 3002010613, "Benchmarks for Qualifying Fuel Reactivity Depletion Uncertainty—Revision 1" and Topical Report 3002010614, "Utilization Of The EPRI Depletion Benchmarks for Burnup Credit Validation—Revision 1", (Agencywide Document Access and Management System (ADAMS) package Accession No. ML18121A243). Both topical reports are under review as supporting references to NEI 12-16, "Guidance for Performing Criticality Analyses of Fuel Storage at Light-Water Reactor Power Plants," Subsection 4.2.3, "PWR Depletion Bias and Uncertainty", (ADAMS Accession No. ML14112A517).

The meeting began with introductory remarks from Mirela Gavrilas (NRC, Office of Nuclear Reactor Regulation, Director of the Division of Safety Systems), Nima Ashkeboussi (NEI, Director, Fuel Cycle Programs), and Tina Taylor (EPRI, Senior Director R&D and Deputy Chief Nuclear Officer).

The NRC staff gave an initial presentation to review "Proposed Options for Closure of EPRI Depletion Code Validation Approach Review" with focus on potential resolution paths to address bias and uncertainty. Three additional presentations from EPRI, MIT and Dominion Energy were conducted to highlight methodology pedigree and subject areas of concern. Presentation materials for the meeting can be found under ADAMS package Accession No. ML18360A449.

CONTACT: Jason J. Drake, NRR/DLP/PLPB
301-415-8378

Meeting Takeaways:

1. The NRC staff clarified that the TRs will not be limited to the specific PWR fuel types used in the benchmark study.
2. EPRI requested to use their technical justification within the TR with the acknowledgement that a penalty may be applied.
3. The NRC staff clarified that Draft SE, Appendix C was included as a confirmatory analysis and was not intended for industry use.
4. NEI and EPRI have agreed to provide formal comments to the Draft SE with the inclusion of an EPRI data supplement.
5. Linear fit vs. quadratic fit regression bias question could not be resolved but an agreement was made to identify differences within the SE utilizing support materials from EPRI as needed.
6. NEI requested that staff review the wording on page 18 of the Draft SE for values above 30 GWd/MTU and provide clarification regarding how to handle bias/uncertainty data above 30 GWd/MTU.
7. Resolution options discussed (Option "b" chosen):
 - a. Revise TR for linear fit.
 - b. Keep quadratic fit in TR with imposed limitations and conditions in the SE at high burnup values consistent with linear vs. quadratic fit data.

Next Actions:

1. NEI-EPRI to provide the NRC staff official comments on the Draft SE and supplemental EPRI developed linear fit data by January 31, 2019.
2. NRC staff to revise the limitations and conditions in the Final SE; approximate timing is 3Q-FY2019.
3. Update Utilization Report concurrently with –A development.

Docket No. 689

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ADAMS Accession Nos. Package (ML18360A449); Summary (ML18360A522)

NRC Presentation: ML18360A465

NEI-EPRI 1 ML18360A462

NEI-EPRI 2 ML18360A463

NEI-EPRI 3 ML18360A464

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OFFICE	NRR/DLP/PLPB/PM	DSS/SNPB/BC*	NRR/DLP/PLPB/BC	NRR/DLP/PLPB/PM
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