



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

May 31, 2018

Mr. Rod McCullum,  
Senior Director, Fuel & Decommissioning  
Nuclear Energy Institute  
1201 F Street, NW, Suite 1100  
Washington, DC 20004

SUBJECT: DRAFT SAFETY EVALUATION FOR THE ELECTRIC POWER RESEARCH INSTITUTE (EPRI) 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"

Dear Mr. McCullum:

By letter dated January 3, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13004A392), Nuclear Energy Institute (NEI) submitted NEI 12-16, "Guidance for Performing Criticality Analyses of Fuel Storage at Light-Water Reactor Power Plants," Revision 0 (ADAMS Accession No. ML130840163) to the NRC for review and endorsement through a regulatory guide.

Subsection 4.2.3, "PWR Depletion Bias and Uncertainty," references two reports created by the Electric Power Research Institute (EPRI) detailing methods for validating pressurized water reactor (PWR) criticality calculations that credit depleted fuel in spent fuel pool storage configurations. One report, "Benchmarks for Quantifying Fuel Reactivity Depletion Uncertainty" (ADAMS Accession No. ML18088B397), details the use of flux map data to infer the uncertainty associated with depletion reactivity calculations using Studsvik Scandpower's CASMO-5 and SIMULATE-3 reactor analysis tools. The other report, "Utilization of the EPRI Depletion Benchmarks for Burnup Credit Validation," relates to the benchmark report by providing eleven calculational PWR depletion benchmarks allowing for determination of an application-specific depletion reactivity bias adjustment (ADAMS Accession No. ML18088B395).

The NRC staff found that the reports provide a sufficient technical basis for the determination of depletion code bias and uncertainty as part of a SFP criticality safety uncertainty analysis application.

Twenty working days are provided for you to provide any factual errors or clarity concerns contained in the SE. The final SE will be issued after making any necessary changes. The NRC staff's disposition of your comments on the draft SE will be discussed in the final SE.

R. McCullum

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To facilitate the NRC staff's review of your comments, please provide a marked-up copy of the revised draft SE showing proposed changes and provide a summary table of the proposed changes.

If you have any questions, please contact Brian Benney at 301-415-2767.

Sincerely,

***/RA/***

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

Docket No. 99902028

Enclosure:  
Draft Safety Evaluation

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ADAMS Accession Nos.: **ML18121A246 (Letter); ML18121A245 (Enclosure); ML18121A243 (Package); \*concurrence via e-mail** **NRR-106**

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