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Mr. David Garmon
Project Manager for RG 1.183
Office of Nuclear Regulation
U.S. Nuclear Regulatory Commission

Subject: NEI White Papers Supporting NRC Workshop Discussions Regarding Nuclear Regulatory Commission's (NRC) Potential Changes to Regulatory Guide 1.183

Project Number: 689

Dear Mr. Garmon,

The Nuclear Energy Institute (NEI)[1], on behalf of its members, appreciates the opportunity to provide the enclosed white papers as follow-up to discussions during the NRC workshops regarding potential changes to RG 1.183. The upcoming plans for Revision 2 to RG 1.183 is of high importance to the industry as utilities seek approvals of increased enrichments with extended burnups for longer refueling cycles. The industry applauds the NRC's initiative and use of workshops to discuss the technical and regulatory details of the potential changes to RG 1.183 that will enable increased enrichments up to 10 weight percent U-235 and burnups to 75 GWd/MTU.

The first white paper, "Impacts of Higher Source Term Release Fractions on Environmental Qualification," intends to provide a technical and licensing justification for the continued use of a Technical Information Document -14844[2] based source term for environmental qualification of electric equipment subject to 10 CFR 50.49 and how this satisfies the applicable NRC requirements for those licensees who opt to modify their licensing basis associated with AST implementation. This justification is intended to support the scope of environmental qualification analyses considered in association with Section 1.3.5 of Regulatory Guide 1.183 as it relates to determining whether licensee action is warranted.

[1] The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

[2] Technical Information Document 14844, Calculation of Distance Factors for Power and Test Reactor Sites, March 23, 1962.

The second white paper, “Proposed Control Room Dose Acceptance Criteria Supporting RG 1.183 R2,” proposes a framework identifying a range of acceptable values for risk-informed control room design criteria based on sound regulatory precedents and leveraging scientific recommendations, thereby enabling deterministic evaluations using traditional radiological consequence analyses, within the risk-informed boundaries provided by the proposed new control room design criteria.

Industry’s perspectives provided in the enclosed two white papers are intended to assist the staff in the development of a clear, efficient, and durable Revision 2 to RG 1.183. This regulatory guide revision is needed to support the completion of the Increased Enrichment rulemaking by 2026 to meet the strategic and aspirational goals of the existing light-water-reactor fleet. Specifically, the industry goals to safely and economically enable 24-month cycle operation for the entire fleet of existing light-water reactors by achieving the regulatory infrastructure to support burnup and enrichment extensions beyond legacy limits by 2027.

These white papers were developed in collaboration with NEI member utilities, the PWR and BWR Owners Groups, Westinghouse, GE, Framatome, and other industry organizations.

If you have any questions, please contact me at fap@nei.org or (202) 340-7491.

Sincerely,

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Enclosures

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