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Docket: NRC-2020-0203

Fresh and Spent Fuel Pool Criticality Analyses Applicants and Licensees Subject to 10 CFR Part 50 or Part 52

Comment On: NRC-2020-0203-0001

Fresh and Spent Fuel Pool Criticality Analyses

Document: NRC-2020-0203-DRAFT-0006

Comment on FR Doc # 2020-19774

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General Comment

Comments on Draft Regulatory Guide DG-1373, Fresh and Spent Fuel Pool Criticality Analyses (Docket ID NRC-2020-0203)

Attachments

10-23-20_NEI DG 1373 Comment Response Letter with Comments

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Subject: Comments on Draft Regulatory Guide DG-1373, Fresh and Spent Fuel Pool Criticality Analyses
(Docket ID NRC-2020-0203)

Project Number: 689

Program Management, Announcements and Editing Staff:

On behalf of the nuclear industry, the Nuclear Energy Institute (NEI)¹ submits the attached comments on the draft NRC Regulatory Guide DG-1373, "Fresh and Spent Fuel Pool Criticality Analyses." Industry appreciates the NRC's commitment to develop guidance to support the continued assurance of spent fuel pool criticality safety and to improve the efficiency in the preparation and review of licensing documents involving spent fuel pool criticality analysis.

Based on our review of the draft regulatory guide, we support the overall draft guidance but believe that a couple of points of clarification are needed and are detailed in our attached comments. Most notably, the double contingency principle outlined in "Exception A" focuses on abnormal events and is not applicable to defects or deviations that occur during installation. Spent fuel pool racks and the neutron absorbing material are manufactured and installed under an Appendix B Quality Assurance program. While a licensee or applicant may consider certain unlikely conditions as part of the off-nominal condition, such as the possibility that a neutron absorber panel may not have been correctly installed, this historically has not been and should not be part of the normal condition assumptions.

Furthermore, there is an existing process to address a defect or deviation in the unlikely event that one occurs in the manufacturing or installation of the spent fuel pool racks and/or neutron absorbing material.

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.

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Licensees would follow the Part 21 and Appendix B process to address manufacturing defects and would follow Appendix B and their Corrective Actions Program to address installation errors. Any findings regarding the as-built condition would then be incorporated into the criticality analysis of record as part of the normal condition.

We look forward to working with the NRC on the timely implementation of this important component of the regulatory framework. Please contact me if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Holtzman", with a long horizontal flourish extending to the right.

Ben Holtzman

Attachment

c: Mr. Joe Donoghue, NRC/NRR
Mr. Robert Lukes, NRC/NRR
Mr. Dennis Morey, NRC/NRR
Mr. Kent Wood, NRC/NRR
Mr. Michael Eudy, NRC/RES

Industry Comments on NRC DG-1373

Affected Section	Comment	Recommendation
1. Section C.1.a	The use of the term “burnable absorber” is typically used for in-reactor neutron absorbing material such as gadolinium.	Please change “burnable absorber panel” to “neutron absorber panel”
2. Section C.1.a	<p>NEI 12-16, Section 1.4 discusses the double contingency principle. However, the example provided in DG-1373 “Exception A” is not related to double contingency principle. With respect to the specific example provided under “Exception A,” in many cases, the neutron absorber panels are not yet installed at the time the initial criticality safety analyses are performed. Either the racks have not been manufactured, or the absorber inserts are used only together with assemblies that are inserted in the racks. In both situations, no documents exist to show panels are correctly installed at the time of the criticality analysis. However, this should not lead to the conclusion that because of the absence of such documents, panels cannot be assumed to be correctly installed. Specifically, in these cases, racks would be manufactured, or inserts inserted with assemblies, under a nuclear quality assurance (QA) program with the appropriate controls. Therefore, an assumption of incorrect installation would be inappropriate at the time the analyses are performed.</p> <p>While a licensee or applicant may consider certain unlikely conditions as part of the off-nominal condition, such as the possibility that a neutron absorber panel may not have been correctly installed, this should not be part of the normal condition assumptions. Neutron absorber panels are installed under QA programs and any known deviations are captured in the utility’s corrective action program for resolution. It would be an unnecessary administrative burden to require utilities to produce records regarding the status of the long-standing spent fuel pool racks when other processes are in place.</p>	<p>Please remove “Exception A” as the example is not related to the double contingency principle.</p> <p>If the example noted in “Exception A” is desired to be retained. Please change the reference to Section 5.2.2 of NEI 12-16, spent fuel pool racks. In this case, please also delete the last sentence of the exception:</p> <p>However, if no controls or documents exist to preclude such a condition, then the licensee or applicant should treat it as part of the normal condition.</p>
3. Section C.1.e	The intent of this section is unclear. The clarification/exception refers first to PWR requirements (Section 4.2.3 of NEI 12-16), then BWR requirements (Section 4.3.1 of NEI 12-16), and then again to PWR requirements (Section 4.2.3 of NEI 12-16).	Please revise text to clarify intent.