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Extending the Duration of the AP1000 Design Certification

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Extending the Duration of the AP1000 Design Certification

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General Comment

See attached file(s)

Attachments

Comment on AP1000 Docket NRC-2020-0269

10/19/2021

Subject: Review of the Proposed Extension of the Westinghouse AP1000 Design Certification

Westinghouse Electric Company requested that the Nuclear Regulatory Commission (NRC) extend the AP1000 Design Certification (DC) duration by five years. This request was made to extend the period for which a nuclear reactor license applicant can reference the AP1000 DC, and also to incorporate design updates made by Westinghouse since the initial DC was approved. The Westinghouse AP1000 DC in Appendix D, “Design Certification Rule for the AP1000 Design,” to part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants,” of title 10 of the Code of Federal Regulations (10 CFR) expired on February 27, 2021. The extension of a DC has precedence. An extension for the AP1000 DC was previously requested in 2016 and subsequently granted in 2018.

In response, the NRC is amending the DC for the AP1000 standard plant design to extend the duration of the DC for five years, as proposed by the NRC staff in SECY-20-0082, “Rulemaking Plan to Extend the Duration of the AP1000 Design Certification,” dated September 8, 2020. With this proposed duration extension, the AP1000 DC would remain valid for referencing until February 27, 2026.

To issue this extension, the NRC is required to conclude that the standard design meets the applicable standards and requirements of the Atomic Energy Act of 1954 and the NRC’s regulations. The NRC staff identified the following five known design issues that required further assessment prior to granting the extension: (1) Passive core cooling system containment condensate return, (2) main control room dose, (3) main control room heat-up, (4) hydrogen vent inspections, tests, analyses, and acceptance criteria (ITAAC), and (5) neutron flux logic operating bypass. The NRC acknowledged that Westinghouse and Combined License holders and applicants have addressed the five identified issues, as reflected in the marked-up Westinghouse Design Certification Document (DCD).

Based on the NRC’s review, and its acceptance of the resolution of the previously identified design issues, the Breakthrough Institute finds no basis to support a “significant adverse comment” to refuse the request for DC extension as defined in

the rulemaking. Therefore, the Breakthrough Institute supports the decision to extend the Westinghouse AP1000 DC, as proposed by the NRC. The Breakthrough Institute and its consultants have also separately reviewed the Westinghouse DCD and found that it meets critical safety standards and requirements of the Atomic Energy Act of 1954 and the NRC's regulations, and that Westinghouse has generally been conservative in its licensing approach. As an example, the Westinghouse DCD conservatively excludes known fission product deposition mechanisms, which suggests lower doses may be experienced in the event of accidental release than what is currently assumed in the DCD. This simple example, which shows a conservative approach to the fundamental objective of nuclear safety, which is the protection of people and the environment from dose, encapsulates the overall approach to the DCD.

Sincerely,

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