

NUCLEAR REGULATORY COMMISSION

10 CFR Part 52

[NRC-2020-0269]

RIN 3150-AK56

Extending the Duration of the AP1000 Design Certification

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule and environmental assessment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to update the design to reflect changes provided by Westinghouse Electric Company LLC and to extend the duration of the AP1000 design certification for an additional 5 years. The NRC invites public comment on this proposed rule and environmental assessment.

DATES: Submit comments by **October 22, 2021**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2020-0269. Address questions about NRC dockets to Dawn Forder;

telephone: 301-415-3407; email: Dawn.Forder@nrc.gov. For technical questions contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Email comments to:** Rulemaking.Comments@nrc.gov. If you do not receive an automatic email reply confirming receipt, then contact us at 301-415-1677.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Daniel Doyle, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-3748, email: Daniel.Doyle@nrc.gov, or Bruce Bovol, Office of Nuclear Reactor Regulation, telephone: 301-415-6715, email: Bruce.Bovol@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

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I. Obtaining Information and Submitting Comments

A. Obtaining Information.

Please refer to Docket ID NRC-2020-0269 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2020-0269.
- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the Availability of Documents section.
- **Attention:** The Public Document Room, where you may examine and order copies of public documents, is currently closed. You may submit your request via email at PDR.Resource@nrc.gov or call 1-800-397-4209 between 8:00 a.m. and 4:00 p.m. (ET), Monday through Friday, except Federal holidays.
- **Attention:** The Technical Library, which is located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852, is open by appointment only. Interested parties may make appointments to examine documents by contacting the NRC Technical Library by email at Library.Resource@nrc.gov between 8:00 a.m. and 4:00 p.m. (ET), Monday through Friday, except Federal holidays.

B. Submitting Comments.

The NRC encourages electronic comment submission through the Federal rulemaking website (<https://www.regulations.gov>). Please include Docket ID NRC-2020-0269 in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <https://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Rulemaking Procedure

Because the NRC anticipates that this action will be non-controversial, the NRC is publishing this proposed rule concurrently with a direct final rule in the Rules and Regulations section of this issue of the *Federal Register*. The direct final rule will become effective on **December 6, 2021**. However, if the NRC receives significant adverse comments on this proposed rule or environmental assessment by **October 22, 2021**, then the NRC will publish a document that withdraws the direct final rule and will subsequently address the comments received in any final rule as a response to this proposed rule. Absent significant modifications to the proposed revisions requiring

republishing, the NRC does not intend to initiate a second comment period on this action in the event the direct final rule is withdrawn.

A significant adverse comment is a comment in which the commenter explains why the rule (including the environmental assessment) would be inappropriate, including challenges to the rule's underlying premise or approach, or would be ineffective or unacceptable without a change. A comment is adverse and significant if it meets the following criteria:

1) The comment opposes the rule and provides a reason sufficient to require a substantive response in a notice-and-comment process. For example, a substantive response is required when:

a) The comment causes the NRC to reevaluate (or reconsider) its position or conduct additional analysis;

b) The comment raises an issue serious enough to warrant a substantive response to clarify or complete the record; or

c) The comment raises a relevant issue that was not previously addressed or considered by the NRC.

2) The comment proposes a change or an addition to the rule, and it is apparent that the rule would be ineffective or unacceptable without incorporation of the change or addition.

3) The comment causes the NRC to make a change (other than editorial) to the rule.

For additional information, including procedural information, see the direct final rule published in the Rules and Regulations section of this issue of the *Federal Register*.

III. Background

The NRC is amending the design certification (DC) for the AP1000 standard plant design to extend the duration of the DC for 5 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 (“rulemaking plan”), and approved by the Commission in SRM-SECY-20-0082, dated November 17, 2020. To issue this extension, the NRC must conclude that the standard design continues to meet the applicable standards and requirements of the Atomic Energy Act of 1954, as amended (the AEA), and the Commission’s regulations. This action would allow an applicant to reference the AP1000 design certification while the Commission considers potential changes to the duration and renewal of future and currently valid design certifications more broadly in a separate, ongoing rulemaking (Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing NRC-2009-0196; RIN 3150-AI66). The NRC also is updating the DC to reflect changes provided by Westinghouse Electric Company LLC (Westinghouse), by letter dated March 19, 2021 (ADAMS Accession No. ML21081A023).

The purpose of the amendment is to extend by 5 years the period that the AP1000 DC is valid for referencing by an applicant and to include design changes previously approved by the NRC in multiple combined license proceedings. The extended duration would align with the extended renewal period previously granted by the NRC to Westinghouse for the AP1000 DC in its exemption issued by letter dated February 14, 2018 (ADAMS Accession No. ML17265A099). With this proposed duration extension, the AP1000 DC would remain valid for referencing until February 27, 2026.

The 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. By letter dated June 26, 2020, Westinghouse requested that the NRC extend the duration of the AP1000 DC by 5 years, retroactive to the expiration date.

IV. Discussion

In the rulemaking plan, the NRC staff acknowledged that there were known design issues that it would need to assess in the rulemaking to determine their impact on the necessary safety and environmental findings. The following five aspects of the design were discovered to have issues after the NRC updated the design certification rule to incorporate Revision 19 of the AP1000 design control document (DCD) (ADAMS Accession No. ML11171A500) on December 30, 2011: 1) passive core cooling system containment condensate return, 2) main control room dose, 3) main control room heatup, 4) hydrogen vent inspections, tests, analyses, and acceptance criteria (ITAAC), and 5) neutron flux logic operating bypass. Combined license holders and applicants have previously referenced and resolved these five design issues, and the NRC has approved the same changes to address the issues in multiple combined license applications and amendments.

After the NRC staff began assessing the known design issues for the rulemaking, Westinghouse indicated its preference to update the design to reflect the changes made in the previous applications referencing the AP1000 design. By letter dated March 19, 2021 (ADAMS Accession No. ML21081A023), Westinghouse submitted applicable AP1000 DCD markups and references that illustrate how: 1) the five issues have been corrected based on construction of the current AP1000 reactors for Southern Nuclear Company Vogtle Electric Generating Plant, Units 3 and 4, and 2) Westinghouse has marked up the referenced DCD in accordance with those changes. The NRC staff used

these references to verify the Westinghouse submitted DCD markups are the same as the design changes the NRC has previously reviewed and approved to address the design issues.

The NRC staff verified, as documented in the NRC staff's Verification Evaluation Report, that the corrected information provided in the markups is the same as has been previously reviewed and approved by the NRC for various combined license and license amendment applications. In reviewing those applications, the NRC staff determined that the design changes resolved the identified design issues, met the applicable regulations, and that the design as modified met the applicable requirements of the AEA and the NRC's regulations. Neither the applicable provisions of the AEA nor the NRC's regulations have changed since those applications were approved. Therefore, the NRC concludes that the relevant safety findings reached in the NRC staff reviews of those prior applications apply to the AP1000 design changes incorporated by the direct final rule and that the standard design, as modified by those changes, meets the applicable standards of the AEA and the NRC's regulations.

V. Plain Writing

The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner that also follows other best practices appropriate to the subject or field and the intended audience. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63 FR 31885). The NRC requests comment on the proposed rule with respect to clarity and effectiveness of the language used.

VI. Environmental Assessment and Final Finding of No Significant Impact

The NRC has determined under the National Environmental Policy Act of 1969, as amended (NEPA), and the NRC's regulations in subpart A, "National Environmental Policy Act—Regulations Implementing Section 102(2)," of 10 CFR part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," that this proposed rule, if issued, would not be a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required. The NRC's generic determination in this regard, reflected in § 51.32(b)(1), is based upon the following considerations. A design certification rule does not authorize the siting, construction, or operation of a facility referencing any particular design, but only codifies a standard design certification in a rule (extending the AP1000 design certification and incorporating changes to the design in this case). The NRC will evaluate the environmental impacts and issue an environmental impact statement as appropriate under NEPA as part of the application for the construction and operation of a facility referencing any particular design certification rule. Comments on the environmental assessment will be limited to the consideration of severe accident mitigation design alternatives as required by § 51.30(d). The environmental assessment is available as indicated in the Availability of Documents section.

VII. Paperwork Reduction Act

This proposed rule does not contain any new or amended collections of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

Existing collections of information were approved by the Office of Management and Budget, control number 3150-0151.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid Office of Management and Budget control number.

VIII. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. Design certifications are not generic rulemakings establishing a generally applicable standard with which all 10 CFR parts 50 and 52 nuclear power plant licensees must comply. Design certifications are Commission approvals of specific nuclear power plant designs by rulemaking. Furthermore, design certifications are initiated by an applicant for rulemaking, rather than by the NRC. This action does not constitute the establishment of a standard that contains generally applicable requirements.

IX. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO. / FEDERAL REGISTER CITATION
Environmental Assessment by the U.S. Nuclear Regulatory Commission Relating to Extension of the AP1000 Standard Design Certification Docket No. 52-006, dated September 1, 2021	ML21181A109
Reactor Regulatory History on Design Certification Rules, dated April 26, 2000 ¹	ML003761550
SECY-20-0082, "Rulemaking Plan to Extend the Duration of the AP1000 Design Certification," dated September 8, 2020	ML20252A153
Staff Requirements Memorandum for SECY-20-0082, "Rulemaking Plan to Extend the Duration of the AP1000 Design Certification," dated November 17, 2020	ML20322A047
U.S. Nuclear Regulatory Commission Verification Evaluation Report, dated May 11, 2021	ML21131A221
Westinghouse AP1000 Design Control Document Revision 19, dated June 13, 2011	ML11171A500
NRC Letter for the Staff Evaluation of the Westinghouse Request for Exemptions Related to the Duration of the AP1000 Design Certification, dated February 14, 2018	ML17265A099
Westinghouse Electric Company LLC – AP1000 Design Certification Extension Request, dated June 26, 2020	ML20178A640
Westinghouse Electric Company LLC, Supplemental Information to Support the AP1000 Design Certification Extension (Non-proprietary), DCP NRC 003343, dated March 19, 2021	ML21081A023
Safety Evaluation – Issuance of Amendment Nos. 72 and 71 for Southern Nuclear Company, Inc., Vogtle Units 3 and 4, Respectively, License Amendment Request (LAR) 16-026, dated February 27, 2017	ML17024A307
Safety Evaluation – Amendment Nos. 123 and 122 for Southern Nuclear Company, Inc., Vogtle Electric Generating Plant Units 3 and 4, Respectively, LAR-17-023, dated April 20, 2018	ML18085A628
Safety Evaluation – Amendment Nos. 108 and 107 for Southern Nuclear Company, Inc., Vogtle Units 3 and 4, Respectively, LAR-17-001, dated February 1, 2018	ML18011A894

¹ The regulatory history of the NRC's design certification reviews is a package of documents that is available in the NRC's Public Document Room and NRC Library: Reactor Regulatory History on Design Certification Rules, April 26, 2000. This history spans the period during which the NRC simultaneously developed the regulatory standards for reviewing these designs and the form and content of the rules that certified the designs. This document predates this rulemaking and therefore does not contain a regulatory history for this rulemaking.

Safety Evaluation – Amendment Nos. 84 and 83 for Southern Nuclear Company, Inc., Vogtle Units 3 and 4, Respectively, LAR-17-003, dated August 23, 2017	ML17213A224
Safety Evaluation – Amendment Nos. 71 and 70 for Southern Nuclear Company, Inc., Vogtle Units 3 and 4, Respectively, LAR-16-006, dated February 24, 2017	ML16320A174
Safety Evaluation – Florida Power and Light Company’s Turkey Point Nuclear Generating Units 6 and 7, FSER Chapter 16, “Technical Specifications,” dated November 10, 2016	ML16266A185

The NRC may post materials related to this document, including public comments, on the Federal rulemaking website at <https://www.regulations.gov> under Docket ID NRC-2020-0269.

List of Subjects in 10 CFR Part 52

Administrative practice and procedure, Antitrust, Combined license, Early site permit, Emergency planning, Fees, Incorporation by reference, Inspection, Issue finality, Limited work authorization, Nuclear power plants and reactors, Probabilistic risk assessment, Prototype, Reactor siting criteria, Redress of site, Penalties, Reporting and recordkeeping requirements, Standard design, Standard design certification.

Dated September 1, 2021.

For the Nuclear Regulatory Commission.

/RA/

Margaret M. Doane,
Executive Director for Operations.