

SUPPORTING STATEMENT FOR FINAL RULE
10 CFR PART 52
AP1000 DESIGN CERTIFICATION AMENDMENT
(3150-0151)
REVISION

Description of the Information Collection

The U.S. Nuclear Regulatory Commission (NRC or Commission) is amending its regulations to certify an amendment to the AP1000 standard plant design. The purpose of the amendment is to replace the combined license (COL) information items and design acceptance criteria with specific design information, address the effects of the impact of a large commercial aircraft, incorporate design improvements, and increase standardization of the design. This action is necessary so that applicants or licensees intending to construct and operate an AP1000 design may do so by referencing this design certification rule (DCR), and need not demonstrate in its application the safety of the certified design as amended. The applicant for certification of the amendment to the AP1000 design is Westinghouse Electric Company, LLC (Westinghouse).

A. JUSTIFICATION

Title 10 of the Code of Federal Regulations (10 CFR), Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Subpart B, presents the process for obtaining standard design certifications. Section 52.63, "Finality of standard design certifications," provides criteria for determining when the Commission may amend the certification information for a previously certified standard design in response to a request for amendment from any person.

On May 26, 2007, Westinghouse submitted Revision 16 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML071580939 (public version)) of its application via transmittal letter (ADAMS Accession No. ML071580757) to amend the AP1000 design certification. This application was supplemented by letters dated October 26, November 2, and December 12, 2007, and January 11 and January 14, 2008. On January 18, 2008, the NRC notified Westinghouse that it accepted the May 26, 2007, application, as supplemented, for docketing (Docket No. 52-006) and published a notice of acceptance (ADAMS Accession No. ML073600743) in the *Federal Register* (73 FR 4926, January 28, 2008). On September 22, 2008, Westinghouse submitted Revision 17 to the AP1000 design control document (DCD) (ADAMS No. ML083220482).

Revision 18 to the AP1000 DCD (ADAMS Accession No. ML103480572) was submitted on December 1, 2010, and contains all the DCD changes resulting from staff review of Revision 17, as well as additional design changes submitted during 2010, which have also been reviewed by the staff and documented in the advanced final safety evaluation report.

On June 13, 2011, Westinghouse submitted Revision 19 of the DCD (ADAMS Accession No. ML11171A301). Revision 19 incorporated editorial (correction of typographic, grammatical, and cross-referencing errors) and conforming changes and some technical corrections.

On June 12, 2009, the NRC amended its regulations to require applicants for new nuclear power reactor designs to perform a design-specific assessment of the effects of the impact of a large, commercial aircraft (74 FR 28112). These new provisions in 10 CFR 50.150 (the aircraft impact assessment (AIA) rule) require applicants to use realistic analyses to identify and incorporate design features and functional capabilities to ensure, with reduced use of operator actions, that (1) the reactor

core remains cooled or the containment remains intact, and (2) spent fuel cooling or spent fuel pool integrity is maintained. These requirements apply to various categories of applicants, including applicants for COLs that reference a standard design certification issued before the effective date of the AIA rule, which has not been amended to comply with the rule.

The NRC is seeking clearance with respect to the changes to 10 CFR Part 52 related to changes to the DCR for the AP1000. The new provisions would bring the AP1000 certified design into compliance with the AIA rule (10 CFR 50.150) and would replace COL information items and design acceptance criteria with specific design information and incorporate design improvements resulting from detailed design efforts.

1. Need for and Practical Utility of the Collection of Information

The reasons for the reporting and recordkeeping requirements are to ensure that the NRC has sufficient information to review and make a determination on a license application that references the AP1000 design and to ensure that any license applicants or holders that reference this amendment to the AP1000 design, maintain records associated with the assessment required by 10 CFR 50.150 and any changes to key AIA design features described in the associated Final Safety Analysis Report (FSAR), commonly referred to as the DCD.

10 CFR Part 52, Appendix D. Appendix D, "Design Certification Rule for the AP1000 Design" to 10 CFR Part 52 constitutes the standard design certification for the AP1000 design, in accordance with 10 CFR Part 52, Subpart B, "Standard Design Certifications." Subpart B sets forth the requirements and procedures applicable to Commission issuance of rules granting standard design certifications for nuclear power facilities separate from the filing of an application for a combined license for such a facility. Any person may seek a standard design certification for an essentially complete nuclear power plant design.

10 CFR Part 52, Appendix D, Paragraph IV.A.4. New paragraph IV.A.4. of Section IV, "Additional Requirements and Restrictions," states that an applicant for a combined license that wishes to reference Appendix D must include, as part of its application, a demonstration that an entity other than Westinghouse is qualified to supply the AP1000 certified design unless Westinghouse supplies the design for the applicant's use.

10 CFR Part 52, Appendix D, Paragraph VIII.B.5.d. New paragraph B.5.d of Section VIII, "Processes for Changes and Departures," states that, if an applicant or licensee proposes to depart from the information required by 10 CFR 52.47(a)(28) to be included in the FSAR for the standard design certification, then the applicant or licensee shall consider the effect of the changed feature or capability on the original assessment required by 10 CFR 50.150(a). The applicant or licensee must also document how the modified design features and functional capabilities continue to meet the assessment requirements in 10 CFR 50.150(a)(1), in accordance with Section X of this appendix.

10 CFR Part 52, Appendix D, Paragraph X.A.4. New paragraph A.4.a of Section X, "Records and Reporting," states that the applicant for the AP1000 design shall maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) for the term of the certification (including any period of renewal).

New paragraph A.4.b of Section X states that an applicant or licensee who references this appendix shall maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) throughout the pendency of the application and for the term of the license (including any period of renewal).

2. Agency Use of the Information

The reasons for these reporting and recordkeeping requirements are to ensure that the NRC has sufficient information to review and make a determination on a license application that references the AP1000 design and to ensure that the applicant for the amendment to the AP1000 design, and any license applicants or holders that reference the amendment to the AP1000 design, maintain appropriate AIA records.

The NRC added a new paragraph IV.A.4 to indicate requirements that must be met in cases where the COL applicant is not using the entity that was the original applicant for the design certification (or amendment) to supply the design for the applicant's use. Paragraph IV.A.4. requires that a COL applicant referencing Appendix D include, as part of its application, a demonstration that an entity other than Westinghouse is qualified to supply the AP1000 certified design unless Westinghouse supplies the design for the applicant's use. In cases where a COL applicant is not using Westinghouse to supply the AP1000 certified design, this information is necessary to support any NRC finding under 10 CFR 52.73(a) that an entity other than the one originally sponsoring the design certification or design certification amendment is qualified to supply the certified design.

New paragraph VIII.B.5.d requires an applicant or licensee referencing the AP1000 DCR, who proposed to depart from the information required by 10 CFR 52.47(a)(28) to be included in the FSAR for the standard design certification, to consider the effect of the changed AIA feature or capability on the original 10 CFR 50.150(a) assessment. The FSAR information required by the AIA rule which is subject to this change control requirement are the descriptions of the design features and functional capabilities incorporated into the final design of the nuclear power facility and the description of how the identified design features and functional capabilities meet the assessment requirements in 10 CFR 50.150(a)(1). The objective of the change controls is to determine whether the design of the facility, as changed or modified, is shown to withstand the effects of the aircraft impact with reduced use of operator actions. In other words, the applicant or licensee must continue to show, with the modified design, that the acceptance criteria in 10 CFR 50.150(a)(1) are met with reduced use of operator actions. The applicant or licensee is also required under paragraph VIII.B.5.d to document how the modified design features and functional capabilities continue to meet the assessment requirements in 10 CFR 50.150(a)(1) in accordance with Section X of Appendix D. The addition of these provisions to Appendix D is consistent with the NRC's intent when it issued the AIA rule in 2009, as noted in the statements of consideration for that rule (74 FR 28112; June 12, 2009, at 28122, third column).

Paragraph X.A.4.a requires the applicant for the amendment to the AP1000 design to maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) for the term of the certification (including any period

of renewal). This provision facilitates any NRC inspections of the assessment that the NRC decides to conduct. As noted in the statements of consideration for the AIA rule, the aircraft impact assessment is subject to inspection by the NRC and, therefore, must be maintained by the applicant along with the rest of the information that forms the basis for the relevant application (74 FR 28112; June 12, 2009, at 28120, first column).

Paragraph X.A.4.b requires an applicant or licensee who references the AP1000 design to maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) throughout the pendency of the application and for the term of the license (including any period of renewal). For all applicants and licensees, the supporting documentation retained onsite should describe the methodology used in performing the assessment, including the identification of potential design features and functional capabilities to show that the acceptance criteria in 10 CFR 50.150(a)(1) are met. The addition of these paragraphs is consistent with the NRC's intent when it issued the AIA rule in 2009, as noted in the statements of consideration for that rule (74 FR 28112; June 12, 2009, at 28121, second column).

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use new automated information technology when it could be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58792), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, email, special Web-based interface, or other means. It is estimated that 100 percent of the applications will be submitted electronically.

4. Effort to Identify Duplication and Use of Similar Information

There is no duplication of requirements and this information is not available from any source other than the applicants involved. The information required by the NRC in applications, reports, or records concerning the licensing of nuclear power plants does not duplicate other Federal information collection requirements. The NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

The information collection required by this regulation will not be a burden on small business because only large companies have the technical and financial resources to support the large capital investment required to design and construct these nuclear power plants. Therefore, small businesses will not be seeking a design certification, combined license, or manufacturing license made available by 10 CFR Part 52. No small entities are expected to be impacted by the final rule.

6. Consequences to Federal Program Activities if the Collection is Not Conducted or is Conducted Less Frequently

This information required by the revisions to 10 CFR Part 52, Appendix D, is collected once from a single applicant. This information is required only when licensing action is sought on a COL application referencing the AP1000 design. Without this one-time collection of information, the NRC will not have a sufficient technical basis for evaluating whether a COL applicant referencing the AP1000 design is using an entity that is qualified to supply the design for the COL applicant's use in constructing the facility for which it is seeking a license. In addition, without these recordkeeping requirements, the NRC would not have sufficient information to: (1) evaluate the effects of changes made to key AIA design features to determine the facility's resulting ability to withstand the effects of the impact of a large, commercial aircraft and (2) support NRC inspections of the applicant or licensee's compliance with 10 CFR 50.150. The NRC cannot collect the information any less frequently than provided in this rule or it will compromise its ability to (1) make appropriate regulatory or licensing decisions, and (2) determine whether nuclear power plant designers have performed a rigorous assessment of the design, or have adequately evaluated changes to the original assessment, to identify design features and functional capabilities that could provide additional inherent protection to withstand the effects of an aircraft impact.

7. Circumstances Which Justify Variation from OMB Guidelines

The NRC requires an applicant or licensee who references the AP1000 design maintain a copy of the assessment performed to comply with the requirements of 10 CFR 50.150(a) throughout the pendency of the application and for the term of the license (including any period of renewal). These requirements are consistent with the NRC's intent when it issued the final AIA rule (74 FR 28112; June 12, 2009, at 28121). Applicants and licensees are required to retain the assessment until the Commission terminates the facility because it supports the basis for the facility design.

8. Consultation Outside the NRC

On February 24, 2011 (76 FR 10269), the NRC published in the *Federal Register* a proposed design certification rule (DCR) that would amend the AP1000 standard plant design. The *Federal Register* notice provided the public an opportunity to comment on the proposed DCR, the amendment to the AP1000 design, the environmental assessment, and the proposed rule's information collection requirements.

The public comment period for the proposed rule closed on May 10, 2011. The NRC received a large number of comment submissions for the proposed rule (AP1000 rulemaking) from members of the public, non-governmental organizations, and the nuclear industry.

The NRC received more than 13,500 comment submissions, which appear to be variations of two (2) "generic" letters with largely the same content. These comment submissions also contained approximately 100 separate comments. The NRC also received 66 additional comment submissions containing over 100 comments. Finally, the NRC received four "petitions" to suspend or terminate this rulemaking, which are

being treated as public comments. The petitions set forth approximately 39 comments, with only one comment being unique from the comments contained in the other comment submissions.

Seven (7) commenters were in favor of completing the AP1000 rulemaking, while four (4) were unconditionally opposed to completing the proposed amendment to the AP1000 design. The vast majority of commenters were conditionally opposed to the AP1000 rulemaking until lessons are learned from the Fukushima Dai-ichi Nuclear Power Plant (Fukushima) accident that occurred on March 11, 2011, and the NRC applies the lessons learned to U.S. nuclear power plants.

Comments on the AP1000 amendment fell into the following categories:

1. Fukushima-related,
2. Shield building,
3. Containment,
4. Severe accident mitigation design alternative,
5. Spent fuel,
6. Environmental,
7. General concerns, and
8. Other AP1000 topics.

Some comments opposed the AP1000 rulemaking until purported shield building flaws are corrected. Many comments opposed completing the AP1000 rulemaking for reasons outside the scope of this rulemaking. For example, many comments opposed the completion of the AP1000 rulemaking until there is resolution of high level radioactive waste storage issues.

Due to the large number of comments received and the length of the NRC responses provided, a detailed description of comments and the NRC's response is contained in a comment response document, which is available electronically through ADAMS Accession No. ML112212319. No comments were made on the proposed rule information collection requirements and no change was made to the rule, the DCD, or the EA as a result of any of the comments.

9. Payments or Gifts to Respondents

Not applicable.

10. Confidentiality of Information

Information identified as proprietary or confidential will be handled and protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). If the applicant includes any sensitive information in its reports, it will only be available to those NRC staff that are authorized and have a need-to-know. Certain information designated as safeguards information is prohibited from public disclosure in accordance with the provisions of the Atomic Energy Act of 1954, as amended, Chapter 12, Section 147, or designated as classified National Security Information, in accordance with Executive Order 12958.

11. Justification for Sensitive Questions

Not applicable.

12. Estimate of Annualized Burden and Burden Hour Cost

The final rule increases the reporting burden for COL applicants not using the entity that was the original applicant for the AP1000 design certification amendment, to supply the design for the applicant's use (Paragraph IV.A.4). The NRC expects zero new COL applicants to reference the AP1000 original design certification amendment during this OMB clearance period. The NRC expects seven COL applicants to reference this amendment to the AP1000 during this OMB clearance period, but these COL applicants are expected to use the original applicant for this design certification amendment to supply the design for the COL applicant's use. Therefore, the NRC expects zero COL applicants to reference this amendment to the AP1000 design that will not use the Westinghouse to supply the design. The NRC expects no burden increase related to this provision during this OMB clearance period. If such an application were submitted during a future OMB clearance period, the NRC estimates that the annualized reporting burden will be 120 hours for a COL applicant not using the entity that was the original applicant for the AP1000 design certification.

The NRC is expecting seven COL application amendments that will reference the AP1000 design certification which are Vogtle, Units 3 and 4; Bellefonte Nuclear Station, Units 3 and 5; Levy County, Units 1 and 2; Shearon Harris, Units 2 and 3; Turkey Point, Units 6 and 7; Virgil C. Summer, Units 2 and 3; and William States Lee III, Units 1 and 2. The vendor is Westinghouse.

The final rule increases the recordkeeping burden for COL applicants or holders that reference the AP1000 design and choose to depart from the key AIA design features identified in the AP1000 DCD (Paragraph VIII.B.5.d). The NRC expects zero COL applicants or holders to reference the AP1000 design that will depart from the key AIA design features identified in the AP1000 DCD. Therefore, the NRC expects no burden increase related to this provision during this OMB clearance period. If a COL applicant or holder were to reference the AP1000 design and depart from key AIA design features, the NRC estimates that the annualized one-time recordkeeping burden would be 20 hours.

This final rule would increase the recordkeeping burden for the applicant for this amendment to the AP1000 design (Paragraph X.A.4.a). The NRC estimates the annual recordkeeping burden to maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) for the term of the certification (including any period of renewal) would be 3 hours.

This final rule would increase the recordkeeping burden for the seven combined license applicants and holders referencing the AP1000 design (Paragraph X.A.4.b). The NRC estimates the annual recordkeeping burden to maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) throughout the pendency of the application and for the term of the license (including any

period of renewal) would be 3 hours. Therefore, the total annualized recordkeeping burden for this requirement would be 21 hours.

Total Burden and Burden Hour Cost

The burden for the annualized reporting burden is given in Table 1. The burden for the annualized recordkeeping burden is given in Tables 2 and 3. The total annualized burden for all information collections is 24 hours, broken down as follows:

- 0 hours for annual reporting burden
- 0 hours for one-time recordkeeping burden
- 24 hours for annual recordkeeping burden

The annual estimated cost for the collection is \$6,216 (24 hours x \$259/hr).

13. Estimate of Other Additional Cost

NRC has determined that the records storage cost is roughly proportional to the recordkeeping burden cost. Based on a typical clearance, the recordkeeping storage cost has been estimated to be equal to .0004 percent of the recordkeeping burden. Therefore, the annual recordkeeping storage cost for this collection is estimated to be \$2.49 (24 recordkeeping hours x \$259 x .0004).

14. Estimated Annualized Cost to the Federal Government

This section calculates the estimated cost to the government over the 3-year OMB clearance period covered by this analysis. The NRC will incur costs to review the required information for applications referencing the AP1000 design but not using the entity that was the original applicant for the AP1000 design certification amendment to supply the design for the applicant's use. The NRC expects zero new combined license applicants to reference the AP1000 original design certification during this OMB clearance period and zero combined license applicants to reference this amendment to the AP1000 design that will not use the original amendment applicant to supply the design. The NRC expects no NRC costs related to this provision during this OMB clearance period. If such an application were submitted during a future OMB clearance period, the NRC estimates that the NRC cost will be 30 hours to review and process the information required for a combined license applicant not using the entity that was the original applicant for this amendment to the AP1000 design certification.

15. Reasons for Change in Burden or Cost

The overall burden for this final rule will increase by 24 hours from 204,075 hours to 204,099 hours because of the following: (1) requiring combined license applicants to report information demonstrating that an entity other than the original applicant is qualified to supply the AP1000 certified design, unless the original applicant supplies the design for the combined license applicant's use; (2) an applicant referencing the AP1000 design, that proposes to depart from the information required by 10 CFR 52.47(a)(28) to be included in the FSAR, to consider the effect of the changed AIA feature or capability on the original 10 CFR 50.150(a) assessment and to document

how the modified design features and functional capabilities continue to meet the assessment requirements in 10 CFR 50.150(a)(1); and (3) the applicant for this amendment to the AP1000 design, and any applicant of licensee referencing this amendment, to maintain a copy of the aircraft impact assessment performed to comply with the requirements of 10 CFR 50.150(a) for the term of the certification or license (including any period of renewal).

16. Publication for Statistical Use

The collected information is not published for statistical use.

17. Reason for Not Displaying the Expiration Date

The requirement will be contained in a regulation. Amending the *Code of Federal Regulations* to display information that, in an annual publication, could become obsolete would be unduly burdensome and too difficult to keep current.

18. Exceptions to the Certification Statement

None.

A. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable. Statistical methods are not used in this collection of information.

TABLE 1
ANNUAL REPORTING BURDEN, 10 CFR PART 52, APPENDIX D
AP1000 DESIGN CERTIFICATION RULE

| Section | No. of Respondents | Responses per Respondent | Total No. of Responses | Burden Hours per Response | Total Annual Reporting Burden (Hrs) |
|--------------|--------------------|--------------------------|------------------------|---------------------------|-------------------------------------|
| IV.A.4.a | 0 | 1 | 0 | 120 | 0 |
| TOTAL | 0 | | 0 | | 0 |

TABLE 2
ANNUAL RECORDKEEPING BURDEN, 10 CFR PART 52, APPENDIX D
AP1000 DESIGN CERTIFICATION RULE

| Section | No. of Recordkeepers | No. of Records per Recordkeeper | Hours per Record | Total Annual Burden |
|--------------|----------------------|---------------------------------|------------------|---------------------|
| X.A.4.a | 1 | 1 | 3 | 3 |
| X.A.4.b | 7 | 1 | 3 | 21 |
| TOTAL | 8 | | | 24 |

TABLE 3
ONE-TIME RECORDKEEPING BURDEN, 10 CFR PART 52, APPENDIX D (ANNUALIZED)
AP1000 DESIGN CERTIFICATION RULE

| Section | No. of Recordkeepers | Annualized One-Time Burden per Respondent | Total Annual Reporting Burden (Hrs) |
|--------------|----------------------|---|-------------------------------------|
| VIII.B.5.d | 0 | 20 | 0 |
| TOTAL | 0 | | 0 |

TOTAL BURDEN HOURS: 24 hours
TOTAL BURDEN HOUR COST: \$6,216 (24 hours x \$259/hr)
ANNUAL RESPONDENTS: 8 respondents
RESPONSES: 8 responses