

SUPPORTING STATEMENT FOR FINAL RULE
10 CFR PART 52
U.S. ADVANCED BOILING WATER REACTOR
AIRCRAFT IMPACT DESIGN CERTIFICATION AMENDMENT
(3150-0151)
REVISION

Description of the Information Collection

The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations to certify an amendment to the U.S. Advanced Boiling Water Reactor (ABWR) standard plant design to comply with the Title 10 of the *Code of Federal Regulations* (10 CFR) 50.150, "Aircraft Impact Assessment." This action allows applicants or licensees intending to construct and operate a U.S. ABWR to comply with 10 CFR 50.150 by referencing the amended design certification rule (DCR). The applicant for certification of the amendment to the ABWR design is STP Nuclear Operating Company (STPNOC).

. JUSTIFICATION

Title 10 of the *Code of Federal Regulations*, (10 CFR) Part 52 "Licenses, Certifications, and Approvals for Nuclear Power Plants", Subpart B, sets forth 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 June 30, 2009, STPNOC tendered its application with the NRC for amendment of the U.S. ABWR standard plant design certification to comply with the requirements of 10 CFR 50.150, "Aircraft impact assessment" (ADAMS Accession Number ML092040048). STPNOC submitted this application in accordance with 10 CFR 52.63. The NRC formally accepted the application as a docketed application for amendment to the U.S. ABWR design certification (Docket No. 52-001) on December 1, 2009 (74 FR 62829).

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 combined licenses (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. These COL applicants have two methods by which they can comply with 10 CFR 50.150. Either they can request an amendment to the certified design or they can address the requirements of 10 CFR 50.150 directly in their COL application. STPNOC submitted an application for a COL on September 20, 2007. STPNOC has requested this amendment to the U.S. ABWR certified design to address the requirements of the AIA rule.

The NRC is seeking clearance with respect to the changes to 10 CFR Part 52 related to changes to the DCR for the U.S. ABWR. The new provisions would bring the U.S. ABWR certified design into compliance with the AIA rule (10 CFR 50.150).

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 U.S. ABWR design and to ensure that the applicant for the amendment to the U.S. ABWR design, and any license applicants or holders that reference this amendment to the U.S. ABWR 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 Design Control Document (DCD).

10 CFR Part 52, Appendix A. Appendix A, "Design Certification Rule for the U.S. Advanced Boiling Water Reactor" to 10 CFR Part 52 constitutes the standard design certification for the U.S. ABWR 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 A, Paragraph IV.A.4. New paragraph IV.A.4.a, "Additional Requirements and Restrictions," states that an applicant for a combined license that wishes to reference Appendix A must include, as part of its application, a demonstration that an entity other than GE Nuclear Energy is qualified to supply the U.S. ABWR certified design unless GE Nuclear Energy supplies the design for the applicant's use.

New paragraph IV.A.4.b requires that a combined license applicant referencing the STPNOC certified design option, must include, as part of its application, a demonstration that an entity other than STPNOC and Toshiba American Nuclear Energy (TANE) acting together is qualified to supply the STPNOC certified design option, unless STPNOC and TANE acting together supply the design option for the applicant's use.

10 CFR Part 52, Appendix A, 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 Appendix A.

10 CFR Part 52, Appendix A, Paragraph X.A.4. New paragraph A.4.a of Section X, "Records and Reporting," states that the applicant for the amendment to the

U.S. ABWR design to address the requirements in 10 CFR 50.150 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 Appendix A, to include both the GE DCD and the STPNOC DCD, 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 U.S. ABWR design and to ensure that the applicant for the amendment to the U.S. ABWR design, and any license applicants or holders that reference the amendment to the U.S. ABWR 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.a requires that a COL applicant referencing Appendix A include, as part of its application, a demonstration that an entity other than GE Nuclear Energy is qualified to supply the U.S. ABWR certified design unless GE Nuclear Energy supplies the design for the applicant's use. Paragraph IV.A.4.b requires that a COL applicant referencing the STPNOC certified design option include, as part of its application, a demonstration that an entity other than STPNOC and TANE acting together is qualified to supply the STPNOC certified design option, unless STPNOC and TANE acting together supply the design option for the applicant's use. In cases where a COL applicant is not using GE Nuclear Energy to supply the U.S. ABWR certified design, or is not using STPNOC and TANE acting together to supply the STPNOC certified design option, 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 or certified design option.

New paragraph VIII.B.5.d requires an applicant or licensee referencing the U.S. ABWR 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 A. The addition of these provisions to Appendix A 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 U.S. ABWR 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 STPNOC certified design option 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 A, is collected once from a single applicant. This information is required only when licensing action is sought on a COL application referencing the U.S. ABWR 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 U.S. ABWR 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 that STPNOC retain the assessment required by 10 CFR 50.150(a) for the term of the certification (including any period of renewal). In addition, the NRC requires that an applicant or licensee who references the STPNOC certified design option 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 January 20, 2011 (76 FR 3540), the NRC published in the *Federal Register* a proposed DCR that would amend the U.S. ABWR standard plant design. The *Federal Register* notice provided the public an opportunity to comment on the proposed DCR, the STPNOC's amendment to the U.S. ABWR design, and the environmental assessment. The public comment period for the proposed rule closed on April 5, 2011. The NRC received three comment letters on the proposed rule. Of those comments, one commenter, Nuclear Innovation North America LLC, was in favor of the proposed amendment to the U.S. ABWR; one commenter, GE Hitachi Nuclear Energy, was opposed to the proposed amendment to the U.S. ABWR; and one commenter, Thomas Shadis, addressed issues unrelated to the proposed amendment to the U.S. ABWR.

Summaries of the major changes from the proposed rule to the final rule are provided below. The Federal Register notice discusses all of these changes in more detail.

Deletion of Proposed Paragraph III.E. The proposed rule would have added proposed new paragraph III.E to address the situation in which an applicant discovers unintended consequences or unaddressed issues resulting from the STPNOC's amendment, and that, in such a situation, the applicant would be expected to notify the NRC if the situation is not reportable under 10 CFR Part 21 or 10 CFR 52.6, 50.72, or 50.73 (76 FR 3551, third column). Upon consideration of the matter, the NRC agrees with the comment that the proposed paragraph III.E is unnecessary. The NRC's intent in proposing the reporting requirement is to ensure that the NRC is made aware of conflicts between the GE Nuclear Energy (GE) design control document (DCD) and the STPNOC DCD, which may be identified by a referencing COL applicant or holder. Upon consideration of the comment, the NRC agrees that any material conflict identified by the COL applicant or holder would ultimately be brought to the attention of the NRC by virtue of the legally binding need to comply with both DCDs. If there is a conflict, the referencing COL applicant or holder would seek resolution of the conflict, either through i) submission of a request for departure; ii) reporting under 10 CFR 50.55(e), 10 CFR 50.72, 10 CFR 50.73, or 10 CFR Part 21; or iii) submission of a 10 CFR Part 2, Subpart H, rulemaking petition to amend the DCR in order to resolve the apparent conflict. Thus, proposed paragraph III.E does not appear to be needed to ensure necessary reporting of such conflicts identified by either the original applicant or the applicant for an amendment that leads to establishment of an option or branch. For these reasons, the final rule does not include the proposed paragraph III.E.

Inclusion of Findings Sufficient to Form the Basis for the STPNOC Design Option. The NRC agrees with one commenter's observation that existing paragraph VI.A does not accurately reflect the scope of the issue resolution accorded the STPNOC option. Upon consideration of the matter, the staff proposes to add separate paragraphs in the final rule to address 1) the scope of issue resolution accorded the original GE DCD, 2) the scope of issue resolution accorded the STPNOC option, and 3) the scope of issue resolution accorded the combination of the GE DCD and the STPNOC option.

Accordingly, the final rule includes new paragraphs VI.A.1, VI.A.2, and VI.A.3, which describe the issue finality provided for nuclear safety issues for the GE DCD, for the STPNOC DCD, and for the combination of the GE DCD and STPNOC DCD.

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 (SGI) 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 U.S. ABWR design certification, or for this amendment, to supply the design for the applicant's use (Paragraph IV.A.4). The NRC expects zero new COL applicants to reference the U.S. ABWR original design certification during this OMB clearance period. The NRC expects one COL applicant to reference this amendment to the U.S. ABWR during this OMB clearance period, but that COL applicant is 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 U.S. ABWR design that will not use the original amendment applicant 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 U.S. ABWR design certification and 40 hours for a COL applicant not using the entity that was the original applicant for this amendment to the U.S. ABWR design certification.

The final rule increases the recordkeeping burden for COL applicants or holders that reference the STPNOC certified design option and choose to depart from the key AIA design features identified in the STPNOC DCD (Paragraph VIII.B.5.d). The NRC expects zero COL applicants or holders to reference the STPNOC certified design option that will depart from the key AIA design features identified in the STPNOC 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 STPNOC certified design option 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 U.S. ABWR 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 combined license applicants and holders referencing the STPNOC certified design option (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.

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 6 hours, broken down as follows:

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

The annual estimated cost for the collection is \$1554 (6 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 \$0.62 (6 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 U.S. ABWR design but not using the entity that was the original applicant for the U.S. ABWR design certification, or for this amendment, to supply the design for the applicant's use. The NRC expects zero new combined license applicants to reference the U.S. ABWR original design certification during this OMB clearance period and zero combined license applicants to

reference this amendment to the U.S. ABWR 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 the U.S. ABWR design certification and 10 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 U.S. ABWR design certification.

15. Reasons for Change in Burden or Cost

The overall burden for this final rule will increase by 6 hours from 204,075 hours to 204,081 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 U.S. ABWR certified design, or this amendment to the U.S. ABWR certified design, unless the original applicant supplies the design for the combined license applicant's use; (2) an applicant referencing the U.S. ABWR 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 U.S. ABWR 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.

B. 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 A
ABWR 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
IV.A.4.b	0	1	0	40	0
TOTAL	0		0		0

TABLE 2
ANNUAL RECORDKEEPING BURDEN, 10 CFR PART 52, APPENDIX A
ABWR 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	1	1	3	3
TOTAL	2			6

TABLE 3
ONE-TIME RECORDKEEPING BURDEN, 10 CFR PART 52, APPENDIX A (ANNUALIZED)
ABWR 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: 6 hours
 TOTAL BURDEN HOUR COST: \$1554 (6 hours x \$259/hr)
 ANNUAL RESPONDENTS: 2 respondents
 RESPONSES: 2 responses