

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 52**

**RIN 3150-AI84**

**[NRC-2010-0134]**

**U.S. Advanced Boiling Water Reactor Aircraft Impact Design Certification Amendment**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC or the Commission) is amending its regulations to certify an amendment to the U.S. Advanced Boiling Water Reactor (U.S. ABWR) standard plant design to comply with the NRC's aircraft impact assessment (AIA) regulations. This action allows applicants or licensees intending to construct and operate a U.S. ABWR to comply with the NRC's AIA regulations by referencing the amended design certification rule (DCR). The applicant for certification of the amendment to the U.S. ABWR design is STP Nuclear Operating Company (STPNOC).

**EFFECTIVE DATE:** The effective date of this rule is **[Insert date 30 days after publication in the *Federal Register*]**. The incorporation by reference of certain material specified in this regulation is approved by the Director of the Office of the Federal Register as of **[insert date 30 days after publication in the *Federal Register*]**.

**ADDRESSES:** You can access publicly available documents related to this document using the following methods:

- **NRC's Public Document Room (PDR):** The public may examine and have copied, for a fee, publicly available documents at the NRC's PDR, O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.
- **NRC's Agencywide Documents Access and Management System (ADAMS):** Publicly available documents created or received at the NRC are available online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of the NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, 301-415-4737, or by e-mail at [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).
- **Federal Rulemaking Web Site:** Public comments and supporting materials related to this final rule can be found at <http://www.regulations.gov> by searching on Docket ID NRC-2010-0134. Address questions about NRC dockets to Carol Gallagher at 301-492-3668, or by e-mail at [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).

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## I. Background

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 June 30, 2009, the 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 No. ML092040048). The STPNOC submitted this application in accordance with 10 CFR 52.63. The STPNOC proposed several changes to the certified U.S. ABWR design to comply with 10 CFR 50.150, including the addition of an alternate feedwater injection system, the addition and upgrading of fire barriers and doors, and the strengthening of certain structural barriers. 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 (74 FR 28112), 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 (the AIA rule). These new provisions in 10 CFR 50.150 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. When it issued the AIA rule, the Commission stated that the requirements in existence at that time, in conjunction with the March 2009 revisions to 10 CFR 50.54 to address loss of large areas of the plant due to explosions or fires, would continue to provide adequate protection of the public health and safety and the common

defense and security. Nevertheless, the Commission decided to also require applicants for new nuclear power reactors to incorporate into their design additional features to show that the facility can withstand the effects of an aircraft impact. The Commission stated that the AIA rule to address the capability of new nuclear power reactors relative to an aircraft impact is based both on enhanced public health and safety and enhanced common defense and security, but is not necessary for adequate protection. Rather, the AIA rule's goal is to enhance the facility's inherent robustness at the design stage.

The AIA rule 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. 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. The STPNOC submitted an application for a COL on September 20, 2007. The STPNOC has requested this amendment to the U.S. ABWR-certified design to address the requirements of the AIA rule.

## **II. Summary and Analysis of Public Comments on the Proposed Rule**

The NRC published the U.S. ABWR Aircraft Impact Design Certification Amendment proposed rule in the *Federal Register* on January 20, 2011 (76 FR 3540). 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 (NINA), was in favor of the proposed amendment to the U.S. ABWR; one commenter, GE Hitachi Nuclear Energy (GEH), was against 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. The comments and responses are summarized in the following paragraphs.

## **NRC Use of “Branches” and “Options”**

*Comment: The NRC should suspend the STPNOC amendment and review the proposed changes to the ABWR design certification as departures in the STP Units 3 and 4 combined license application, as is allowed by the AIA Rule, 10 CFR 50.150(a)(3)(v)(B) and the associated provision in 10 CFR 52.79(a)(47). The proposed rulemaking uses a regulatory approach solely for the purpose of supporting the combined license application for the STP Units 3 and 4. (GEH-1)*

NRC Response: The NRC disagrees with the commenter’s understanding that the “options” approach is being used in this proposed amendment of the U.S. ABWR DCR solely to support the COL application for the South Texas Project (STP) Units 3 and 4. On the contrary, as stated in the statements of consideration (SOC) for the proposed U.S. ABWR amendment, the NRC is proposing to use the “options” approach after a comprehensive review of a set of considerations. To reiterate the NRC’s bases (as stated in the SOC for the proposed U.S. ABWR amendment), there is no statute or NRC regulation prohibiting the use of the “options” approach, nor are there any statutory or NRC regulatory provisions which prohibit the use of the “options” approach. All of the NRC’s safety and regulatory objectives are met under the “options” approach. The STPNOC is providing sufficient information to determine its technical qualifications to supply the STPNOC-sponsored amendments addressing the AIA rule to third party users (i.e., users other than the STPNOC itself).

In addition, the NRC believes that there are no insurmountable issues in requiring the user (in most cases, the COL applicant referencing the U.S. ABWR and the STPNOC option) to prepare a single Design Control Document (DCD) integrating information from both the DCD developed by GE Nuclear Energy (GE) and the DCD developed by the STPNOC. The “options” approach avoids or addresses all of the STPNOC’s concerns with the use of the “branches” alternative for its request to amend the U.S. ABWR. There would be a limited

period in which the STPNOC option could be referenced by a future COL applicant, that is, until the renewal of the U.S. ABWR design certification. Finally, the “options” approach fully protects the legitimate proprietary and commercial interests of GE in the original U.S. ABWR design certification. Upon consideration of the information presented by the STPNOC in light of the NRC’s technical and regulatory concerns, the NRC developed the “options” approach to address the STPNOC amendment. As was stated in the SOC, if the NRC receives other limited-scope design certification amendments (similar in scope to the STPNOC amendment request), it will consider whether the “branches” approach or the “options” approach offers the most effective and efficient regulatory option at that time based on the scope of the amendment and the specific circumstances associated with the particular application.

Inasmuch as the basis for the commenter’s proposal is incorrect, the NRC declines to adopt the commenter’s proposed course of action. No change was made to the final rule as a result of this comment.

*Comment: The NRC should suspend the STPNOC amendment and review the proposed changes to the ABWR design certification as departures in the STP Units 3 and 4 combined license application, as is allowed by the AIA Rule, 10 CFR 50.150(a)(3)(v)(B) and the associated provision in 10 CFR 52.79(a)(47). The “options” and “branches” approaches introduce complexity and does not encourage standardization within a single design. (GEH-2)*

NRC Response: The NRC agrees with the commenter that the adoption of both the “option” and “branches” approaches to amendment (and renewal) of a DCR will introduce complexity to the regulatory scheme. However, the commenter did not explain why the NRC’s proposal to use the “options” approach was not the best alternative to address the circumstances raised by the STPNOC amendment, as discussed in the SOC of the proposed rule.

Moreover, the solution proposed by the commenter, viz., to process the amendment as a plant-specific departure for the STPNOC plants, ignores the following considerations. First, the “departure” concept itself may be regarded as movement away from standardization. GEH did not present any argument why “departures” are preferable to “options” when considering the effect on standardization. Second, a departure, by its nature, represents a plant-specific dispensation from compliance with the standardized provisions of a design certification. A departure from the same design provision of a design certification could be different among different plants. By contrast, the option represents a single alternative to a provision of a design certification that would be used by every applicant/licensee referencing that option and is more in keeping with the standardization goal envisioned by the NRC under the design certification rulemaking process. Thus, the use of the “option” approach embodies the standardization concept more closely than the commenter’s proposed use of departures. Third, the STPNOC wishes to be a supplier of the U.S. ABWR-certified design as is permitted by the current regulation. Processing the STPNOC amendment request as a “departure” would be inconsistent with the applicant’s goals, and there appeared to be no significant issues or considerations which, considered individually or together, precluded the use of the “options” approach as an acceptable approach for accommodating the STPNOC objectives. Finally, the “options” approach is limited in its “lifetime.” As discussed earlier, the STPNOC design changes, which are the subject of this U.S. ABWR amendment, are embodied in the proposed U.S. ABWR design certification renewal currently being pursued by the Toshiba Corporation. Upon renewal of the U.S. ABWR with the design changes requested by Toshiba Corporation in its renewal application, the STPNOC option cannot be referenced by any other applicant. These considerations were addressed in the SOC for the proposed U.S. ABWR rule, and the comment did not contain a critique of these considerations.

For these reasons, the NRC declines to adopt the commenter’s proposed course of

action. No change was made to the final rule as the result of this comment.

*Comment: The “options” approach, as well as the “branches” approach, undermines the protection afforded by the Commission in its decision to use rulemaking to certify standard designs. (GEH-3)*

NRC Response: The NRC disagrees with the comment. The commenter provided no basis for the assertion that the “branches” approach undermines the protection afforded by the design certification rulemaking concept. The comment included no analysis of the discussion in the SOC for the proposed U.S. ABWR amendment, which explains the NRC’s bases for its view that protection of the original design certification applicant’s legitimate commercial interests is afforded by the “branches” approach. No change was made to the final rule as the result of this comment.

*Comment: If the NRC proceeds with the ABWR amendment, then the NRC should remove the SOC discussion regarding renewal of a design certification rule. The STPNOC is not an applicant for renewal, and the NRC need not make a decision at this time regarding how it will later treat multiple renewal applications for a single design certification. (GEH-4)*

NRC Response: The NRC disagrees with the comment. The NRC believes that the most effective regulatory approach for addressing the multiple supplier issue is to consider all relevant technical, regulatory, and legal issues associated with multiple suppliers of a design the first time that the multiple supplier issue must actually be resolved by the NRC. The NRC regards such early consideration, with the view of establishing (to the extent that it is practical) a consistent regulatory approach on multiple suppliers at both amendment and renewal, to be desirable. Stakeholders will have the benefit of the NRC’s position and may conduct their business accordingly. By focusing on the multiple supplier issue at one time, the NRC believes that its determination of the issue will integrate all known issues and considerations, and be accomplished in the most resource-efficient manner. Public understanding of the NRC’s

regulatory consideration and determination ensures public confidence in the NRC's approach. In short, NRC resolution in a comprehensive fashion of the multiple supplier issue is intended to provide regulatory stability, predictability, transparency, and public confidence.

The NRC concedes that the NRC is not *legally* required to make a decision, in the context of a DCR amendment raising the issue of multiple suppliers, to also address multiple suppliers at design certification renewal. However, the commenter did not assert that the NRC is legally *prohibited* from addressing the multiple supplier issues in a comprehensive fashion as part of the STPNOC amendment, and the NRC is not aware of any such prohibition.

For these reasons, the NRC declines to adopt the course of action proposed in the comment. No change was made to either the SOC's for the final STPNOC amendment or the final rule language as the result of this comment.

*Comment: The NRC should remove all discussion regarding commercial value of a design certification, as the NRC has no direct knowledge regarding how potential customers would value a design certification. (GEH-5)*

NRC Response: The NRC notes that the commenter did not cite specific portions of the SOC for the proposed rule which are objectionable nor did it cite specific portions of the SOC that should be removed. The NRC does not believe that the SOC actually attempts to characterize or place a "commercial value" of a design certification. The NRC also agrees with the commenter's implicit assertion that the character and magnitude of any "commercial value" to any particular design certification has no relevance to the NRC's resolution of the multiple suppliers' issue.

Thus, the NRC interprets this comment as requesting that the NRC remove references in the SOC with respect to the Commission's determination that the "branches" approach protects, *inter alia*, the "legitimate *commercial interests* [emphasis added]" of the original design certification applicant. This discussion is set forth in the proposed rule's SOC. The NRC

disagrees with the comment as understood. As discussed in the SOC, industry stakeholders in the original 10 CFR Part 52 rulemaking opposed the use of rulemaking to approve (certify) designs because they felt that their legitimate commercial interests (including, but not limited to, protection of trade secrets and other proprietary information) would not be protected in rulemaking. Industry stakeholders repeated and amplified these concerns in the development of the U.S. ABWR and the System 80+, the first two DCRs. The NRC's response to industry stakeholder concerns were reflected in the regulatory approach adopted for the U.S. ABWR and System 80+, as discussed in the SOC for this amendment of the U.S. ABWR DCR. Hence, the NRC believes that it must address the protection of the (legitimate) commercial interests of the original design certification applicant where an entity intending to supply the certified design that is not the original applicant seeks either the amendment or the renewal of a DCR. Such NRC discussion simply recognizes the potential existence of the commercial interests of the original design certification applicant, as a reference for assuring that the proposed rulemaking does not significantly diminish or eliminate entirely those commercial interests *without determining their actual existence or magnitude*.

For these reasons, the NRC declines to adopt the commenter's suggestion. No change was made to either the SOCs for the final STPNOC amendment or the final rule language as the result of this comment.

*Comment: Regardless of NRC regulatory provisions regarding use of an alternative vendor [a "supplier" under the NRC's proposed terminology] in a combined license proceedings, the NRC should treat an alternate entity's application as a new design certification under the provisions of 10 CFR 52.59(c). (GEH-6)*

NRC Response: The NRC disagrees with the comment. The NRC did not intend, when it adopted 10 CFR 52.59(c) as part of the 2007 revision of 10 CFR Part 52, for this provision to address the circumstance where multiple entities wish to supply the same certified design.

Section 52.59 was intended to address a different issue: at what point would the changes requested by the design certification renewal applicant be “so extensive that the NRC concludes that an essentially new standard design is being proposed,” 72 FR 49352, 49444 (second column), August 28, 2007. Thus, the NRC does not regard § 52.59(c) as constituting the NRC’s established approach for dealing with multiple suppliers of the same certified design.

The NRC acknowledges that it may be possible to interpret § 52.59(c) in the manner suggested by the commenter. However, the commenter’s proposed approach was considered and rejected by the NRC during the development of the proposed STPNOC design certification amendment rulemaking. The reasons for the NRC’s rejection of a separate rulemaking were set forth in the SOC for the proposed rule. No comments on the proposed rule have caused the NRC to reconsider its favored approach to address multiple suppliers, as described in the proposed rule. The NRC notes that such re-interpretation may require additional notice and comment. The NRC declines to seek additional public comment on the commenter’s proposed rulemaking approach because that approach was considered and rejected by the NRC in the development of the proposed U.S. ABWR rule amendment and the comment presented no new information that would cause the NRC to seek additional public comment.

For the reasons set forth above, the NRC declines to adopt the commenter’s proposed course of action. No change was made to either the SOCs for the final STPNOC amendment or the final rule language as the result of this comment.

*Comment: The notice of proposed rulemaking discusses policy issues that arise from having multiple suppliers for a single certified design, concludes that the “branches” alternative should be adopted, provides the rationale for concluding that this alternative meets all of the NRC’s regulatory objectives, and explains the factors which support approval of the options approach for the STPNOC amendment. For the reasons set forth in the notice, the options approach is the only feasible rulemaking approach that would support application of the*

*proposed amendment to STP 3&4 without jeopardizing the schedule for COL issuance, and is consistent with the NRC regulations and meets all of the NRC's safety and regulatory objectives. Consequently, application of the options approach to the proposed STPNOC amendment is fully justified. (NINA-6)*

NRC Response: The NRC agrees with the comment. No change was made to the SOC or the language of the final rule as the result of this comment.

### **Comments in Support of the Proposed Amendment to the U.S. ABWR**

*Comment: Amendment of the certified ABWR design would have the advantage of constituting final NRC approval of the AIA matters, which then can be referenced by other COL applications. This would be a significant benefit to NINA if it decides to develop other ABWRs, in addition to STP 3&4. (NINA-1)*

NRC Response: The NRC agrees with this comment. Other COL applications referencing the amended U.S. ABWR and the STPNOC option would benefit from issue resolution with respect to AIA rule (10 CFR 50.150) compliance, in accordance with paragraph VI of the U.S. ABWR DCR, 10 CFR Part 52, appendix A, and 10 CFR 52.83. No change was made to the SOC or the language of the final rule as the result of this comment.

*Comment: The STP 3&4 COLA references the application for amendment of the certified ABWR design. Without NRC adoption of the proposed rule, the STP 3 & 4 COLA would not meet the requirements of the AIA rule. Consequently, adoption of the proposed rule is of vital importance to the success of STP 3&4. (NINA-2)*

NRC Response: The NRC agrees with the comment that without NRC adoption of the proposed rule, the STP Units 3 and 4 COL applications, as currently submitted, do not contain any direct information on compliance with the AIA rule. However, the STP Units 3 and 4 COL applicant may also comply with the AIA rule by submitting its plant-specific information for

complying with the AIA rule, as is required under 10 CFR 50.150(a)(3)(v). The NRC expresses no opinion on whether the adoption of the STPNOC option is of “vital importance to the success of STP 3&4.” No change was made to the SOC or the language of the final rule as the result of this comment.

*Comment: Adoption of the proposed rule also would be consistent with the standardization objective that underlies 10 CFR Part 52. Its adoption obviously would increase standardization if other COL applicants that reference the certified ABWR design also reference the STPNOC amendment. (NINA-3)*

NRC Response: The NRC agrees with the comment. Standardization with respect to design features and functional capabilities for complying with the AIA rule would be increased if COL applications referencing the U.S. ABWR also reference the STPNOC option. No change was made to the SOC or the language of the final rule as the result of this comment.

*Comment: COL applicants referencing the ABWR design certification rule would have the option of addressing the AIA rule in their COL applications, and would not be required to reference the STPNOC amendment. Providing this option does not further standardization, but it does provide assurance that adoption of the amendment will not disadvantage any supplier of the certified design. In fact, adoption of the proposed rule as an option will be a benefit to every potential supplier of the certified ABWR design because it will demonstrate to entities that may be considering selection of the certified ABWR design for a new facility that it is feasible to modify that design to meet the requirements of the AIA rule. (NINA-4)*

NRC Response: The NRC agrees with the commenter’s assertion that COL applicants referencing the U.S. ABWR may elect to address the requirements of the AIA rule in their COL application, as opposed to referencing the STPNOC option. This is inherent in the existing U.S. ABWR design certification, which currently does not address the AIA rule’s requirements. The NRC also agrees with the commenter’s observation that the proposed amendment does not

disadvantage any supplier of the U.S. ABWR-certified design (including the original design certification applicant).

However, the NRC disagrees with the comment to the extent that affording the option does not further standardization. It is not unreasonable for the NRC to conclude that COL applicants may favor a design certification that the NRC has determined meets the requirements of the AIA rule. Thus, by approving the option meeting the AIA rule, the NRC believes that, as a practical matter, standardization will be enhanced. The NRC takes no position on the assertion that the adoption of the proposed rule will be a benefit to other potential suppliers, because it demonstrates to entities that it is feasible to modify the design to meet the AIA rule. Thus, the NRC does not rely upon such an assertion as the basis for adopting the STPNOC amendment to the U.S. ABWR DCR. No change was made to the SOC or the language of the final rule as the result of this comment.

*Comment: Adoption of the proposed rule also would be consistent with the NRC's desire to provide the vendor whose design is certified with some assurance against "arbitrary amendment" of the certification rule. See 54 Fed. Reg. at 15375 (Apr. 18, 1989). In adopting the AIA rule, the NRC decided to require that certified designs be amended to comply with the AIA rule, either through rulemaking or departure from the certified design in any COL application that references that design. Thus, the proposed amendment would not be arbitrary, and since it would only provide an optional design alternative, it would not impose a mandatory design change (amendment) to the overall certified design. (NINA-5)*

NRC Response: The NRC agrees with the comment. This rationale is included in the SOC for the final rule.

### **Comments on Specific Proposed Rule Provisions**

*Comment: The proposed revision to Paragraph I. "Introduction," and in the 10th line of*

*proposed revision to Paragraph III.A.2, should be revised by changing “the South Texas Project Nuclear Operating Company” to “STP Nuclear Operating Company.” The STP Nuclear Operating Company is the full official name of STPNOC, the applicant for the amendment.*  
(NINA-7)

NRC Response: The NRC agrees with the comment. This change is included in the SOC and rule language for the final rule.

*Comment: Proposed new paragraph III.E should be deleted. This proposed new provision is unnecessary, and is not clear. It is unnecessary because, even without any such new provision, existing paragraph III.B will continue to state that the applicant is required to comply with the GE DCD, except to the limited extent otherwise provided in Appendix A to part 52. As a result, the only changes to the GE DCD that will be authorized by the proposed amendment are the changes described in the STPNOC DCD.*

*The notice indicates that the purpose of proposed new III.E is to address the situation in which an applicant discovers unintended consequences or unaddressed issues resulting from 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 21 or sections 52.6, 50.72 or 50.73. 76 Fed. Reg. at 3551, 3rd column. The notice does not explain, however, why there would be a regulatory need for the NRC to receive notice of information that does not meet any of these broad reporting requirements (e.g., 10 CFR 52.6 requires notice to the NRC of information that has “a significant implication for public health and safety or common defense and security”).*

*Proposed new paragraph III.E is not clear because it uses the undefined term “a design matter which implements the STPNOC certified design option but is not specifically described in the STPNOC DCD.” In particular, NINA is not aware of any definition of “design matter” or of any common understanding of this term. In addition, it is not clear how the proposed paragraph III.E could be interpreted as imposing the reporting requirement that the rulemaking notice*

*describes as its purpose, when it does not even mention notice to the NRC. The purpose of the STPNOC DCD is to identify the necessary changes to the GE DCD to meet 10 CFR 50.150(a). Each such change represents a conflict between the GE DCD and the STPNOC DCD. Uncertainties about the meaning of “design matter” and the level of detail required for an item to be “described specifically” have the potential to lead to compliance issues that are not reasonably related to safety. (NINA-8)*

NRC Response: 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 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, through: i) either taking or submitting a request for a departure (including a request for exemption as necessary); or ii) submitting a 10 CFR Part 2, Subpart H rulemaking petition to amend the DCR in order to resolve the apparent conflict. In addition, reporting may also be required under 10 CFR 50.55(e), 10 CFR 50.72, 10 CFR 50.73, or 10 CFR Part 21.

In addition, the NRC agrees with the commenter’s discussion of the reporting obligation of the design certification applicants (both the original applicant, as well as the applicant for an amendment which leads to establishment of an option or “branch”). 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, which leads to establishment of an option or “branch.” For these reasons, the proposed paragraph III.E is not included in the final rule.

*Comment: Proposed new Paragraph IV.A.4 should be deleted. The proposed new paragraph would require an application to include information that already is required by 10 CFR § 52.73(a), and does not appear to be necessary for NRC approval of STPNOC's proposed amendment. (NINA-9)*

NRC Response: The NRC disagrees with the comment. Section 52.73(a) does not clearly apply to the circumstance of a supplier of an "option" to a design certification. In addition, the "generic" provision of § 52.73(a) does not make clear, in the context of this specific design certification option, that both the STPNOC and Toshiba America Nuclear Energy (TANE) Corporation together are technically qualified to supply the STPNOC option addressing the AIA rule. Hence, the NRC believes that paragraph IV.A.4 is necessary for clarity and to ensure that there is no uncertainty with respect to the scope of the NRC's technical qualification finding with respect to the STPNOC option. For these reasons, the NRC declines to adopt the comment, and no change was made to the final rule.

*Comment: Paragraph VI.A. should be revised to read (proposed language in bold):*

*The Commission has determined that the structures, systems, components, and design features of the U.S. ABWR design as contained **in the GE DCD** comply with the provisions of the Atomic Energy Act of 1954, as amended, and the applicable regulations identified in Section V.A.1 of this appendix; and therefore, provide adequate protection to the health and safety of the public. **The Commission has determined that the U.S. ABWR design as contained in the STPNOC DCD** comply with the provisions of the Atomic Energy Act of 1954, as amended, and the applicable regulations identified in Section V.A.2 of this appendix; and therefore, provide adequate protection to the health and safety of the public and achieve the Commission's objectives of enhanced public health and safety and enhanced common defense and security through improvement of the facility's inherent robustness at the design stage. A conclusion that a matter is resolved includes the finding that additional or alternative structures, systems, components, design features, design criteria, testing, analyses, acceptance criteria, or justifications are not necessary for the U.S. ABWR design **or the STPNOC design option.***

*Existing paragraph VI.A contains a reference to Section V that is not consistent with the proposed revision of Section V, which would renumber paragraph V.A to V.A.1, and add a new paragraph V.A.2. New paragraph V.A.2 refers to the NRC regulations as they will exist on the date of adoption of the proposed amendment. Those regulations will apply to the STPNOC DCD, but not to the GE DCD. The regulations that apply to the GE DCD are those that existed on May 2, 1997. Additionally, since the findings stated in paragraph VI.A form the basis for the resolution of issues in paragraph VI.B, paragraph VI.A should include findings sufficient to form the basis for the proposed provision in paragraph VI.B related to the STPNOC design option.*

*(NINA-10)*

NRC Response: The NRC agrees with the commenter's observation that paragraph VI.A does not accurately reflect the scope of the issue resolution accorded the STPNOC option and also does not properly reference the "applicable regulations" under paragraph V. However, the NRC does not agree with the commenter's proposed resolution of the matter. The NRC believes that a more appropriate approach is to define, in separate paragraphs, the scope of issue resolution accorded the original GE DCD, the scope of issue resolution accorded the STPNOC option, and 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 the STPNOC DCD.

*Comment: Paragraph VI.B.1, as proposed to be revised, should be further revised to delete "other" and insert a comma after "requirements," so that these revised lines would read as follows (changes indicated by strikethrough and bold fonts):*

*nuclear safety issues, except for ~~other~~ operational requirements,  
associated with the*

*The reason to delete “other” is that it has no antecedent in the revised sentence, and appears to have been inadvertently retained during drafting. The relevant portion of existing paragraph VI.B1 is: “nuclear safety issues, except for the generic technical specifications and other operational requirements, associated.” There, “the generic technical specifications” is the antecedent of “other.” Since there is no mention of the generic technical specifications in the proposed provision concerning the AIA amendment, there is nothing for the operational requirements to be “other than.”*

*The comma should be inserted after “requirements,” to indicate the end of the description of the exception. Without the comma, it would appear that the exception encompasses the information in the AIA FSER, Tier 1 or Tier 2. Inserting the comma will make it clearer that the matters that the Commission considers to be resolved include all nuclear safety issues, except for operational requirements, addressed in the AIA FSER and the other records mentioned in the revised paragraph. (NINA-11)*

NRC Response: The NRC agrees with the change proposed by the commenter, for the reasons stated in the comment. The final rule has been revised, consistent with the comment.

*Comment: Proposed new paragraph VIII.B.5.d should be revised with the following deletions (indicated by strikethrough) and additions (indicated by bold):*

*~~If an~~ **An** applicant or licensee ~~proposes to~~ **may** depart from the information required by 10 CFR 52.47(a)(28) to be included in the FSAR [final safety analysis report] 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~~ **only if** 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.~~*

*These changes would delete the references to the requirements to consider the effect of the departures and to document how the modified design would continue to meet the relevant regulation. Eliminating these references would make Section VIII.B.5.d more consistent with*

*Sections VIII.B.5.b and c, which specify the standards for determining whether a departure requires a license amendment, but do not explicitly impose a requirement for an evaluation or for documentation of its results. Since existing Section X.A.3 already requires an applicant or licensee to prepare and maintain written evaluations which provide the bases for determinations required by Section VIII, there is no need to duplicate these requirements in new Section VIII.B.5.d. Eliminating this duplication will prevent inconsistent interpretations of the requirements for evaluation and documentation associated with new Section VIII.B.5.d. (NINA-12)*

NRC Response: The NRC disagrees with the comment. Making the change suggested by the commenter would conflict with the Commission's position on how departures from AIA design features and functional capabilities should be addressed in DCRs, as set forth in the SOC accompanying the AIA final rule (74 FR 28112, June 12, 2009, at 28122):

Paragraph (c)(4)(ii) of 10 CFR 50.150 governs combined license applicants or holders which are not subject to 10 CFR 50.150(a) and states that proposed departures from the information required by 10 CFR 52.47(a)(28) to be included in the FSAR for the referenced standard design certification are governed by the change control requirements in the applicable design certification rule. The NRC expects to add a new change control provision to future design certification rules subject to 10 CFR 50.150 (including amendments to any of the four existing design certifications) to govern combined license applicants and holders referencing the design certification that request a departure from the design features or functional capabilities in the referenced design certification. The new change control provision will require that, if the applicant or licensee changes 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 describe in a change to the FSAR (*i.e.*, a plant-specific departure from the generic design control document), how the modified design features and functional capabilities continue to meet the assessment requirements in the aircraft impact rule. An applicant or licensee's submittal of this updated information to the NRC will be governed by the reporting requirements in the applicable design certification rule.

Further, making the changes suggested by the commenter would effectively eliminate the requirement for the COL applicant or holder to consider the effect of proposed changes to AIA design features or functional capabilities on the original assessment required by 10 CFR 50.150(a). It would also eliminate the requirement to document how the modified design continues to meet the AIA rule. Because the changes proposed by the commenter are in direct conflict with the Commission's policy on implementation of the AIA rule for design certifications and because the commenter did not provide any compelling reasons why the Commission should consider changing its policy, the NRC declines to adopt the proposed changes. No change was made to the SOC or the language of the final rule as the result of this comment.

*Comment: The proposed deletion of the current language of paragraph VIII.B.5.d and the substitution of language in the proposed rule should not be adopted. The deletion of the current language in paragraph VIII.B.5.d does not seem appropriate given the context of Paragraph VIII.B. Instead, the new language may be added as proposed, but existing paragraphs VIII.B.5.d and e should be redesignated as paragraphs VIII.B.5.e and f. (GEH-7)*

NRC Response: The commenter has misinterpreted the proposed changes to paragraph VIII.B.5 in the proposed rule. The NRC is not proposing to delete the rule text in current paragraph VIII.B.5.d. As stated in the amendatory language for appendix A to 10 CFR Part 52 (76 FR 3559, second column), section VIII, paragraph B.5.b is revised, paragraphs B.5.d, e, and f are redesignated as paragraphs B.5.e, f, and g, respectively, and new paragraph B.5.d is added. As this is what the commenter suggested, no further changes were made to the final rule as a result of this comment.

#### **Comment Related to Recent Events in Japan**

*Comment: In light of the recent events in Japan and the level of water repeatedly exposing the nuclear rods - isn't there a simpler solution to relying on pumps to supply the*

*cooling water? If the plant was mandated to have a reservoir of water that could gravity feed water via manual valves to keep the rods covered -diesel backups and battery backups would be a non issue. (Shadis-1)*

NRC Response: The NRC staff interprets this comment to be in reference to the certified U.S. ABWR design, which is being amended in the rulemaking. Changes to the U.S. ABWR design that are not directly related to compliance with the NRC's AIA rule, which is the subject of this amendment, are outside of the scope of this rulemaking. With regard to the recent events at the Fukushima Daiichi Nuclear Plant in Japan, the NRC continues to believe that its regulatory framework and requirements provide for a rigorous and comprehensive license review process that examines the full extent of siting, system design, and operation of nuclear power plants. The recommendations of the NRC's task force that was established to examine lessons learned from the events in Japan will certainly be taken into account in the performance of the NRC's ongoing and future reviews of applications, as appropriate. Further, the NRC has the necessary regulatory tools to require changes to existing licenses or applications for certification should the NRC determine that changes are necessary. For example, any new requirements that may result from the task force's recommendations could be implemented in accordance with existing NRC policies that may involve rulemaking or backfitting. If the commenter believes that changes should be made to the U.S. ABWR-certified design, the proper vehicle for proposing such changes is to submit a petition for rulemaking under 10 CFR 2.802, "Petition for rulemaking." No change was made to the final rule as a result of this comment.

### **III. Discussion**

#### **A. Technical Evaluation of the STPNOC Amendment to U.S. ABWR Design**

The NRC's review of the applicant's proposed amendment to the U.S. ABWR design

certification confirmed that the applicant has complied with 10 CFR 50.150. Specifically, the staff confirmed that the applicant adequately described key AIA design features and functional capabilities in accordance with the AIA rule and conducted an assessment reasonably formulated to identify design features and functional capabilities to show, with reduced use of operator action, that the facility can withstand the effects of an aircraft impact. In addition, the staff determined that there will be no adverse impacts from complying with the requirements for consideration of aircraft impacts on conclusions reached by the NRC in its review of the original U.S. ABWR design certification. Finally, the staff determined that the STPNOC and its contractors are technically qualified to perform the design work associated with the amended portion of the U.S. ABWR design represented by the STPNOC's application and to supply the amended portion of the U.S. ABWR design.

The STPNOC's amendment to the U.S. ABWR design has achieved the Commission's objectives of enhanced public health and safety and enhanced common defense and security through improvement of the facility's inherent robustness at the design stage.

## B. Regulatory and Policy Issues

### **Multiple Suppliers for a Single Certified Design**

In the 1989 10 CFR Part 52 rulemaking, the Commission decided to approve standard reactor designs by rulemaking, as opposed to licensing, and stated that a DCR "does not, strictly speaking, belong to the designer" (54 FR 15327; April 18, 1989, at 15375, third column). Nonetheless, the Commission implicitly recognized the need to protect the commercial and proprietary interests of the original applicant who intends to supply the certified design, should there be another entity who intends to use the design in some fashion without approval or compensation to the original design certification applicant. *Id.* The protection was provided, in

part, through the decision of the Commission to protect “proprietary information”<sup>1</sup> developed by the original design certification applicant, as well as by several other regulatory provisions in both 10 CFR Part 52 and 10 CFR Part 170.

Based upon the licensing experience with operating nuclear power plants, the Commission understood that portions of proposed design certifications, primarily in the area of fuel design, would likely be regarded as proprietary information (trade secrets) by future design certification applicants. To ensure that design certification applicants would not be adversely affected in their capability to protect this proprietary information as a result of the NRC’s decision to approve designs by rulemaking rather than licensing, the Commission adopted 10 CFR 52.51(c), which states, in relevant part:

Notwithstanding anything in 10 CFR 2.390 to the contrary, proprietary information will be protected in the same manner and to the same extent as proprietary information submitted in connection with applications for licenses, provided that the design certification shall be published in Chapter I of this title.

Reference: 10 CFR 52.51(c) (1990, as originally promulgated in the 1989 10 CFR Part 52 rulemaking, see 54 FR 15372, April 18, 1989, at 15390).<sup>2</sup>

Having protected proprietary information developed by the design certification applicant, the Commission then adopted several additional rulemaking provisions in 10 CFR Part 52 providing additional regulatory protection to the original design certification applicant against unfair use of the design certification by other suppliers. The Commission required the (original) design certification applicant, as well as the applicant for renewal of the design certification, to

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<sup>1</sup> The term, “proprietary information,” means trade secrets or commercial or financial information that are privileged or confidential, as those terms are used under the Freedom of Information Act and the NRC’s implementing regulation at 10 CFR Part 9.

<sup>2</sup> As originally adopted in 1989, 10 CFR 52.51(c) consisted of two sentences. The first sentence limited the bases for a decision in a hearing on a design certification to information on which all parties had an opportunity to comment. The second sentence is the language of the current regulation. The first sentence was removed in 2004 as a conforming change when the Commission removed the hearing requirements for design certification (69 FR 2182; January 14, 2004).

include in the application:

a level of design information sufficient to enable the Commission to judge the applicant's proposed means of assuring that construction conforms to the design and to reach a final conclusion on all safety questions associated with the design before the certification is granted. The information submitted for a design certification must include performance requirements and design information sufficiently detailed to permit the preparation of acceptance and inspection requirements by the NRC, and procurement specifications and construction and installation specifications by an applicant.

Reference: 10 CFR 52.47(a)(2) (1990, as originally promulgated in the 1989 10 CFR Part 52 rulemaking, see 54 FR 15372; April 18, 1989; at 15390);<sup>3</sup> 10 CFR 52.57(a).

The Commission also adopted 10 CFR 52.63(c), requiring the applicant referencing the design certification to provide the information required to be developed by 10 CFR 52.47(a)(2) or its equivalent:

The Commission will require, before granting a construction permit, combined license, operating license, or manufacturing license which references a design certification rule, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if the information is necessary for the Commission to make its safety determinations, including the determination that the application is consistent with the certification information. This information may be acquired by appropriate arrangements with the design certification applicant.

Reference: 10 CFR 52.63(c) (1990). By requiring a level of detailed information supporting the certified design to be developed and available for NRC audit at renewal and when the design was referenced for use, the Commission ensured (among other things) that entities who were not the original design certification applicant would not have an inordinate financial advantage when either supplying the certified design to a referencing user, or referencing the certified design in an application.

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<sup>3</sup> This language was moved to the introductory paragraph of the current 10 CFR 52.47 in the 2007 revision of 10 CFR Part 52.

In adopting 10 CFR 52.73, the Commission also relied on its statutory authority under Section 182 of the Atomic Energy Act of 1954 (AEA), as amended, to make a technical qualifications finding. Section 52.73 effectively prohibits a COL applicant from referencing a certified design unless the entity that actually supplies the design to the referencing applicant is technically qualified to supply the certified design:

In the absence of a demonstration that an entity other than the one originally sponsoring and obtaining a design certification is qualified to supply such design, the Commission will entertain an application for a combined license which references a standard design certification issued under Subpart B only if the entity that sponsored and obtained the certification supplies the certified design for the applicant's use.

Reference: 10 CFR 52.73 (1990, as originally promulgated in the 1989 10 CFR Part 52 rulemaking, *see* 54 FR 15372; April 18, 1989, at 15393).<sup>4</sup>

Apart from the provisions discussed previously, the Commission also indicated in the SOC for the 1989 10 CFR Part 52 rulemaking that the finality provisions in 10 CFR 52.63 provided some protection against arbitrary amendment or rescission of the design certification. Any proposed rescission or amendment of the design certification must be accomplished under notice and comment rulemaking procedures, as required by 10 CFR 52.63(a)(1). The original applicant would, accordingly, have the opportunity to comment on any proposed change to the design, including those changes initiated by other entities.

Finally, the Commission adopted, as part of the 1989 rulemaking, conforming amendments to 10 CFR 170.12(d) and (e). Under these provisions, entities other than the original design certification applicant who provide either the renewed or original certified design to a referencing applicant for a construction permit, operating license or COL must pay the

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<sup>4</sup> This provision was slightly reworded in the 2007 rulemaking amending 10 CFR Part 52 in a newly-designated paragraph (b) to 10 CFR 52.73 (72 FR 49352; August 28, 2007).

applicable installment of the deferred NRC fee<sup>5</sup> for review of the original or renewed design certification.

After the 1989 rulemaking, in each of the four existing DCRs in 10 CFR Part 52, appendices A through D, the Commission adopted an additional provision serving to protect the proprietary information and safeguards information (SGI) developed by the original design certification applicant. Paragraph IV.A.3 of each rule required an applicant referencing the DCR to “physically include in the plant-specific DCD proprietary information and safeguards information referenced in the DCD.” The Commission’s view was that by “physically” including the proprietary information and SGI developed by the original DCR applicant in the application, this would be demonstrative of the referencing applicant’s rights to use that information; otherwise, the referencing applicant could provide the equivalent information (62 FR 25800; May 12, 1997, at 25818, third column).

In 2007, at the request of the Nuclear Energy Institute and other industry commenters, the word, “physically” was removed from paragraph IV of each of the four DCRs, to allow the DCR applicant more flexibility in how the proprietary information and SGI are included in the application referencing the DCR (72 FR 49352; August 28, 2007, at 49363-49365). This change was not intended to represent a retreat from the Commission’s position that the referencing applicant has the appropriate commercial rights to reference the proprietary and SGI information or its equivalent. However, the NRC acknowledges that under the current language of paragraph IV.A.3, the NRC must do more to verify that the referencing applicant has the appropriate commercial rights to the proprietary and SGI information developed by the

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<sup>5</sup> In the 1989 final 10 CFR Part 52 rulemaking, the Commission decided that the payment of the fee imposed upon the design certification applicant to recover the NRC’s costs for review and approval of the certified design via rulemaking, and renewal of the DCR, should be deferred and recovered in equal increments the first five times the DCR was referenced in an application. See 10 CFR 107.12(d)(2) (renewal of DCR); 10 CFR 170.12(e)(2)(i) (initial certification) (1990), as originally promulgated in the 1989 10 CFR Part 52 rulemaking (see 54 FR 15372; April 18, 1989, at 15399).

originating applicant (unless, of course, the referencing applicant indicates that it is supplying “equivalent” information).

The Commission did not describe in the 1989 rulemaking the particular regulatory approach and structure to be used for a DCR with two or more suppliers of the certified design. In the years after the 1989 10 CFR Part 52 rulemaking, the Commission did not need to address the circumstance of multiple suppliers of the same certified design (multiple suppliers) to an end user.<sup>6</sup> However, with the filing of the U.S. ABWR design certification amendment request by the STPNOC, as well as Toshiba’s March 3, 2010, letter to the NRC stating that it intends to seek renewal of the U.S. ABWR design certification (ADAMS Accession No. ML100710026), the NRC must now determine the regulatory approach and structure for the amendment (and, for completeness, the renewal) of a certified design where there will be multiple suppliers.

When the NRC was advised of the STPNOC’s intent to submit an amendment of the U.S. ABWR design certification, it began a process of identifying and considering possible regulatory alternatives, with the goal of identifying a single regulatory approach and structure to be used for all design certifications with multiple suppliers. The NRC considered three alternatives which it could reasonably select:

1. Separate rules: Develop separate DCRs for each supplier.
2. Branches: Develop one DCR with multiple branches, with each branch describing a complete design to be supplied by each supplier.
3. Options: Develop one DCR with options, with each option describing a portion of the certified design which may be selected by the user as an option to the original “reference” certified design.

Table 1 presents the NRC’s current views with respect to the differences between these

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<sup>6</sup> The term, “user,” means an entity which references the standard DCR in its application, and the holder of a permit or license which incorporates the standard design certification.

three alternatives.

In light of the Commission's past practice of protecting the proprietary information and legitimate commercial interests of the original design certification applicant wherever consistent with other applicable law, the NRC believes that it should consider that practice when evaluating possible alternatives for the approach and structure of a DCR with multiple suppliers. Upon consideration, the NRC concludes that the "branches" alternative should be adopted as the general approach for all renewals of design certifications and for major design certification amendments. The "branches" alternative: 1) is consistent with all applicable law, 2) protects the proprietary information and legitimate commercial interests of the original design certification applicant (as well as the additional suppliers), and 3) meets the NRC's regulatory concerns. Each of these considerations is discussed separately below.

#### **No Statutory or Other Legal Prohibition to the "Branches" Alternative**

There is no statutory or other legal prohibition, explicit or otherwise, against use of the "branches" alternative in the AEA, the Administrative Procedure Act, the National Technology Transfer and Advancement Act, or other statutes applicable to the NRC. Design certification rulemaking is not specifically addressed in the AEA. The AEA provisions do not appear to circumscribe or prohibit the NRC's use of a regulatory approach of approving multiple suppliers of a set of closely-related certified designs in a single codified rule.

Moreover, nothing in 10 CFR Part 52 compels the use of a particular alternative for addressing multiple suppliers. As discussed previously, the Commission contemplated that multiple suppliers could supply the same certified design from the time it first adopted the concept of design certification by rulemaking. However, the Commission did not mandate any specific regulatory approach for accommodating multiple suppliers of a certified design. Those provisions intended to protect proprietary information and the commercial interests of each

supplier do not mandate any specific approach for accommodating multiple suppliers, and do not foreclose the use of the “branches” alternative.

## **Protection of Proprietary Information and Legitimate Commercial Interests of All Suppliers**

The “branches” alternative fully protects the proprietary information and legitimate commercial interests of all suppliers. Under the “branches” alternative, each supplier is responsible for creating and maintaining its own DCD (including the non-public version of the DCD containing sensitive unclassified non-safeguards information (SUNSI), i.e., proprietary information, and SGI developed by the supplier). Because each DCD is self-contained, the NRC does not foresee any circumstance that would require the NRC to provide the non-public DCD (or information supporting its DCD) prepared and supported by the original design certification applicant to the new supplier, or to provide the non-public DCD prepared and supported by the new supplier to the original applicant. Nor does the use of the “branches” alternative affect the legal issues associated with providing access to SUNSI (including proprietary information) and SGI to members of the public to facilitate public comment on a proposed design certification rulemaking adding a new supplier and branch.

The “branches” alternative has no effect on the legal applicability, or on the NRC’s implementation of the 10 CFR Parts 52 and 170 provisions discussed previously, which are directed at protecting the proprietary information and commercial interests of the original design applicant. These provisions, properly applied, should also protect the proprietary information and interests of all other suppliers of a subsequently-approved “branch.” Thus, the “branches” alternative provides all suppliers all of the protection of their proprietary information and commercial interests, which the Commission intended to be afforded to these suppliers.

A rulemaking adopting a new “branch” (a “branch’ rulemaking”) would not disturb the

issue resolution and finality accorded to the original certified design (as amended in any subsequent rulemakings), or to the certified design of any other suppliers in any previously approved branches. Nor would a “branch” rulemaking necessarily require the Commission to consider and address, in the final rulemaking adding the new “branch,” comments on the existing certified design. The NRC believes that each “branch” rulemaking is limited to adding the new “branch,” together with requirements and conditions specific to the new “branch.” Therefore, the NRC asserts that: 1) the nuclear safety and other associated matters (severe accident mitigation design alternatives (SAMDA)) resolved in the preceding design certification rulemaking(s) continue to be effective and are not being re-examined in the “branch” rulemaking; and 2) comments on the existing certified design(s) are out-of-scope and should not be considered in the “branch” rulemaking.<sup>7</sup>

The “branches” alternative would not require the original supplier (or indeed any previously-approved supplier) of the certified design to modify their DCD or incur other costs as part of the “branch” rulemaking. Hence, there is no financial impact upon the pre-existing suppliers. The NRC has not identified any credible argument that could be raised by the original design certification applicant that an NRC decision allowing a new supplier to supply the certified design could be the proximate cause of any diminution in the commercial value of the original applicant’s certified design. The concept of multiple suppliers of a single certified design is inherent in the concept of design certification by rulemaking. The Commission anticipated

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<sup>7</sup> If the out-of-scope comment seeking to modify the existing certified design was submitted by the original sponsor of that design, then the NRC believes that the original sponsor should seek an amendment of its certified design in accordance with the design certification amendment process as addressed in 10 CFR 52.57 and 52.59, and 10 CFR 2.800(c) and 10 CFR 2.811-2.819 (as well as the procedures common to all petitions for rulemaking in 10 CFR 2.804-2.810, as prescribed in 10 CFR 2.800(b)). By contrast, if the out-of-scope comment seeking to modify the existing certified design was submitted by any other entity (e.g., an entity that is not the supplier of that certified design branch), then the staff believes that these comments should be regarded as petitions for rulemaking and processed in accordance with the provisions of 10 CFR 2.800(c) and 10 CFR 2.802-2.803 (as well as the procedures common to all petitions for rulemaking in 10 CFR 2.804-2.810, as prescribed in 10 CFR 2.800(b)).

multiple suppliers of a single design certification when it was considering the regulatory approach for certification (rulemaking versus licensing), and afforded protection to the original applicant by various provisions of 10 CFR Part 52. This protection was embodied in provisions included in each of the DCRs issued to date, and these provisions would continue to be included in future DCRs. Hence, no supplier—including the original design certification applicant—may reasonably claim that the approval of a new “branch” constitutes an unwarranted diminution in the commercial value of the certified design which it sponsored.

### **NRC’s Regulatory Concerns are Met**

The NRC believes that any alternative and structure for a DCR with multiple suppliers must meet the following regulatory concerns. Any rule amendment (or renewal) which introduces a new supplier must minimize the possibility of re-opening the safety and regulatory conclusions reached by the NRC with respect to previously approved aspects of the design and supplier(s). In addition, if the new supplier is proposing changes to the actual certified design, then the substitute or new portions of the design<sup>8</sup>, must to the maximum extent practical, be attributable solely to the “sponsoring” supplier, and therefore distinguishable from the “common” portions of the design which each supplier must support (the “branches” alternative adopting the premise that the supplier must be technically qualified to supply all of the certified design, including the “common” portions).<sup>9</sup> The regulatory approach and structure must reflect a sound

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<sup>8</sup> A “substitute” portion of the certified design sponsored by the new supplier serves to replace a discrete portion of a design as sponsored by the original design certification applicant (in other words, the basis for comparison of a new branch must always be the original certified design), but without augmenting or adding a completely new functional capability. By contrast, a “new” portion of the certified design sponsored by the new supplier serves to either: 1) augment a discrete portion of the design as sponsored by the original design certification applicant or 2) add a completely new functional capability not previously considered and addressed in the original certified design. As an example, the amendment of the U.S. ABWR DCR sought by the STPNOC would add new functional capabilities—the ability to withstand aircraft impacts of the kind described in the AIA rule, 10 CFR 50.150. Hence, the “changes” sought by the STPNOC would be considered “new” portions of the certified design.

<sup>9</sup> The NRC believes a broad finding of technical qualifications is necessary because the original

basis for allowing the NRC to make a technical qualifications finding with respect to the supplier. Finally, the approach and structure must allow for imposition of applicable NRC requirements on each supplier, and the legal ability of the NRC to undertake enforcement and regulatory action on each supplier.

The “branches” alternative meets all of these regulatory concerns. By creating a separate branch for the design to be supplied by the new supplier in the rule and requiring the new certified design to be described in a separate DCD created and supported by the new supplier, there is a strong basis for arguing that the certified design(s) already approved by the NRC are not affected and that the issue finality accorded to those certified designs (as controlled by 10 CFR 52.63) continues. Hence, in any rulemaking approving a new branch, the NRC need not consider any comments seeking changes to the existing certified design.

The use of a separate DCD to describe the new certified design, by its very nature, serves to 1) distinguish any substitute or new portions of the certified design sponsored only by the new supplier and 2) make clear that the substitute or new portions are being sponsored solely by the new supplier (because the other branches do not contain any reference to or mention of the substitute or new portions of the design sponsored by the new supplier). The use of a separate DCD describing the entire design is also consistent with the NRC’s position that it must conduct a technical qualifications review of the new supplier and make a finding that the new supplier is technically qualified to provide the entire certified design. The NRC’s recommendation to use a separate DCD, coupled with a structure of the DCR language (as codified in one of the appendices to 10 CFR Part 52) that applies common regulatory requirements to all suppliers, allows for the NRC to take regulatory action against any supplier

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design certification applicant is under no legal or NRC regulatory obligation (consistent with the concept of providing protection to the proprietary information and legitimate commercial interests of the original supplier) to provide technical support on the “common” portions of the certified design to either the new supplier or a user.

without regard to whether the supplier was the original design certification applicant.

For these reasons, the NRC concluded that its regulatory concerns are met under the “branches” alternative. However, during discussions with the STPNOC about the processing of its request to amend the U.S. ABWR design certification, the STPNOC proposed that the NRC adopt a process similar to the “options” approach for the STPNOC U.S. ABWR amendment. The STPNOC request was based upon a number of factors that the NRC considered to be unique to the STPNOC’s situation. First, under the “branches” approach, the STPNOC would have to supply the U.S. ABWR proprietary information (or its equivalent) which was originally developed by GE and approved by the NRC in the original U.S. ABWR design certification rulemaking. While the STPNOC has contractual rights from GEH to use the GE-developed U.S. ABWR proprietary information for STP Units 3 and 4, it does not have the right to supply the GE-developed U.S. ABWR proprietary information to other companies in connection with any other application for a COL that references the certified U.S. ABWR. In addition, neither the STPNOC nor its contractors would be in a position to provide complete information to substitute for the GE-developed U.S. ABWR proprietary information in time to support the schedule for issuance of the COLs for STP Units 3 and 4, should they be approved by the NRC. Second, the STPNOC indicated that some portion of the GE-developed U.S. ABWR proprietary information relates to fuel design, and the STPNOC does not intend to use the GE fuel design for initial operation of STP Units 3 and 4. Rather, the STPNOC intends to use another fuel design and obtain NRC approval via an application for a COL amendment (i.e., after the issuance of the COLs). The GE-developed fuel design also would not be used to operate any of the possible six U.S. ABWRs that could be developed under the agreement between Toshiba and NINA, which has the right to develop four U.S. ABWRs in addition to STP Units 3 and 4. Finally, the STPNOC indicated that the “options” approach would not be used at renewal; the renewal application Toshiba was developing would reflect the use of the “branches” alternative (i.e.,

Toshiba would be seeking approval of and supplying the entire U.S. ABWR design at renewal, including replacement proprietary information). Based on these factors, the STPNOC requested that it be considered the supplier for only that portion of the U.S. ABWR design certification necessary to comply with the AIA, and which is the subject of its amendment request.

Upon consideration, the NRC has decided to use the “options” approach for the STPNOC amendment of the U.S. ABWR design certification, based on the following considerations. As with the “branches” alternative, there is no statute or NRC regulation prohibiting the use of the “options” approach, nor is there any provision which prohibits the concurrent use of both alternatives—so long as the NRC is able to articulate a basis for doing so. Moreover, all of the NRC’s safety and regulatory objectives are met. The STPNOC is providing sufficient information to determine its technical qualifications<sup>10</sup> to supply the STPNOC-sponsored amendments addressing the AIA rule to third party users (i.e., users other than the STPNOC itself). In addition, the NRC believes that there are no insurmountable issues in requiring the user (in most cases, the COL applicant referencing the U.S. ABWR and the STPNOC option) to prepare a single DCD integrating information from both the DCD developed by GE and the DCD developed by the STPNOC. The “options” approach also avoids or addresses all of the STPNOC’s concerns with the use of the “branches” alternative for its request to amend the U.S. ABWR. The STPNOC does not have to develop and submit to the NRC information equivalent to the proprietary information developed by GE to support the STPNOC amendment application. Nor does the STPNOC have to demonstrate its technical

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<sup>10</sup> The NRC staff determined that the STPNOC and its contractors are technically qualified to perform the design work associated with the amended portion of the U.S. ABWR design represented by the STPNOC’s application and to supply the amended portion of the U.S. ABWR design. However, the NRC staff determined that the STPNOC, by itself, is not technically qualified to supply the amended portion of the U.S. ABWR design certification represented in the STPNOC’s DCD, Revision 1. The NRC is including a provision in the amended U.S. ABWR DCR to specify that if a COL applicant references the STPNOC option but does not show they are obtaining the design from the STPNOC and TANE, acting together, then the COL applicant must demonstrate that the entity supplying the STPNOC option to the applicant possesses the technical qualifications to do so.

qualifications to supply the entire U.S. ABWR-certified design; it has already demonstrated its technical qualifications to supply the STPNOC option. Toshiba has submitted an application for renewal of the U.S. ABWR design certification that is consistent with the “branches” approach. Thus, the STPNOC option will have a limited period in which it can be referenced by a future COL applicant, that is, until the renewal of the U.S. ABWR design certification. Finally, the “options” approach fully protects the legitimate proprietary and commercial interests of GE in the original U.S. ABWR design certification.

Based on these considerations, the NRC is adopting the “options” alternative for the STPNOC amendment of the U.S. ABWR design certification, but will regard the “branches” alternative as the default for all renewals of design certifications and for major design certification amendments. Under the “options” approach, applicants seeking amendments to already certified designs must be found to be qualified to supply the limited scope of the revisions they seek. If the NRC receives other limited-scope design certification amendments (similar in scope to the STPNOC amendment request), it will consider whether the “branches” approach or the “options” approach offers the most effective and efficient regulatory option at that time based on the scope of the amendment and the specific circumstances associated with the particular application.

By implementing the “options” approach for the STPNOC U.S. ABWR amendment, a COL applicant that references the U.S. ABWR standard design certification can meet the requirements of the AIA rule by referencing both the GE DCD and the STPNOC DCD or by referencing only the GE DCD and addressing the requirements of the AIA rule separately in its COL application.

**Table 1**

**Differences in Regulatory Treatment of Alternatives for Addressing Multiple Design Certification Suppliers**

| <b>Regulatory Feature</b>                 | <b>Alternative 1: Separate Rules</b>                                                                                                                                                                                                        | <b>Alternative 2: One Rule with Multiple Branches</b>                                                                                                                                                                                                   | <b>Alternative 3: One Rule with Options</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Summary Description of Alternative</b> | <p>Each supplier's certified design would be contained in a separate design certification rule (separate appendices to 10 CFR Part 52). Thus, there would be multiple rules for the same general design.</p> <p>Single DCD (see below).</p> | <p>Each supplier's certified design would be contained in a single design certification rule (a single appendix to 10 CFR Part 52).</p> <p>Each supplier's design is a complete design and presented as an alternative or "branch" within the rule.</p> | <p>The original applicant's certified design would be contained in a single design certification rule (a single appendix to 10 CFR Part 52). An "option" represents an alternative to the specified portion(s) of the original applicant's certified design. The supplier of the option would be providing only the portion(s) of the certified design contained within the option.</p> <p>A COL referencing a design with options would obtain the total design from two (or more) suppliers: i) the main portion of the design from the original applicant (unless the COL applicant demonstrated that another entity was qualified to supply the design) and ii) the selected design option from the applicable supplier of the option.</p> <p>Two choices for the DCDs (see below).</p> |
| <b>DCD</b>                                | One complete DCD for each rule. Rule language would incorporate by                                                                                                                                                                          | Two separate DCDs (one for each supplier), each DCD describing design for that supplier. Rule                                                                                                                                                           | <u>Choice 1 (NRC preferred)</u><br>Two separate DCDs:<br>i) original applicant's DCD (no change to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Regulatory Feature                                    | Alternative 1: Separate Rules                               | Alternative 2: One Rule with Multiple Branches                                                                                                                                   | Alternative 3: One Rule with Options                                                                                                                                                                                                                                                                                                                                   |
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|                                                       | reference a single DCD.                                     | language would incorporate by reference two DCDs.                                                                                                                                | document) and ii) a limited-scope DCD describing only the information in the option.<br><br><u>Choice 2</u><br>Two separate DCDs:<br>i) original applicant's DCD (no change to document) and ii) new DCD, prepared by supplier of option, integrating the original certified design with the substitute design description of the option in the appropriate locations. |
| <b>Identification of Applicant in Rule</b>            | Each supplier identified as original applicant in its rule. | The original applicant and the applicant for each branch (each entity constituting a supplier) are identified.<br><br>NOTE: Original applicant would always be the first branch. | Original applicant and applicant for each "option" (each entity constituting a supplier) are identified.                                                                                                                                                                                                                                                               |
| <b>Technical Content of Application for Amendment</b> | Design information for amended portion of design.           | Design information for amended portion of design branch.                                                                                                                         | <u>Original supplier</u><br>Design information for amended portion of design.<br><br><u>Supplier of option-initial application for option</u><br>Design information for amended portion of design.<br><br><u>Supplier of option-application for amendment to option</u><br>Design information for amended portion of option.                                           |

| Regulatory Feature                                                                      | Alternative 1: Separate Rules                                                                                                                                                                                                                                                                           | Alternative 2: One Rule with Multiple Branches                                                                                                                                                                                                                                                                                                                                                                        | Alternative 3: One Rule with Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <b>Technical Content of Application for Renewal</b>                                     | Design information for entire design, necessary to comply with renewal updating in accordance with § 52.57.                                                                                                                                                                                             | Design information for entire design branch, necessary to comply with renewal updating in accordance with § 52.57.                                                                                                                                                                                                                                                                                                    | <p><u>Original supplier</u><br/>Design information for entire design necessary to comply with renewal updating in accordance with § 52.57.</p> <p><u>Supplier of option-NA</u><br/>(Supplier of option may not renew the DCR option. If both the original applicant and the applicant for the option seek renewal, then renewal will be implemented as “branches” under Alternative 2 with two named applicants/suppliers. If the original applicant or the applicant for the option, alone, seeks renewal, then renewal will be implemented as a single rule with one named applicant/supplier.)</p> |
| <b>Submission of SUNSI (including proprietary information), and SGI (if applicable)</b> | <p><u>Amendment</u></p> <p><u>Original supplier</u><br/>Submit publicly-available DCD without new SUNSI (including proprietary information) and SGI, and submit separate DCD with any new SUNSI (including proprietary information) and SGI.</p> <p><u>Additional supplier</u><br/>Submit publicly-</p> | <p><u>Amendment</u></p> <p><u>Original supplier</u><br/>Submit publicly-available DCD without new SUNSI (including proprietary information) and SGI, and submit separate DCD with any new SUNSI (including proprietary information) and SGI.</p> <p><u>Supplier of branch</u><br/>Submit publicly-available DCD without SUNSI (including proprietary information) and SGI, and separate DCD with SUNSI (including</p> | <p><u>Amendment</u></p> <p><u>Original supplier</u><br/>Submit publicly-available DCD without new SUNSI (including proprietary information) and SGI, and submit separate DCD with any new SUNSI (including proprietary information) and SGI.</p> <p><u>Supplier of option</u><br/>Submit publicly-available DCD without SUNSI (including proprietary information) and SGI, and submit separate</p>                                                                                                                                                                                                    |

| Regulatory Feature | Alternative 1: Separate Rules                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Alternative 2: One Rule with Multiple Branches                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Alternative 3: One Rule with Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                    | <p>available DCD without SUNSI (including proprietary information) and SGI, and submit separate DCD with SUNSI (including proprietary information) and SGI that is equivalent to all SUNSI (including proprietary information) and SGI provided by original applicant.</p> <p><u>Renewal</u></p> <p><u>Original supplier</u><br/>Submit publicly-available DCD without new SUNSI (including proprietary information) and SGI, and submit separate DCD with any new SUNSI (including proprietary information) and SGI.</p> <p><u>Additional supplier</u><br/>Submit publicly-available DCD without SUNSI (including proprietary information) and SGI, and submit separate DCD with SUNSI (including proprietary</p> | <p>proprietary information) and SGI that is equivalent to all SUNSI (including proprietary information) and SGI provided by original applicant.</p> <p><u>Renewal</u></p> <p><u>Original supplier</u><br/>Submit publicly-available DCD without new SUNSI (including proprietary information) and SGI, and submit separate DCD with any new SUNSI (including proprietary information) and SGI.</p> <p><u>Supplier of branch</u><br/>Submit publicly-available DCD without SUNSI (including proprietary information) and SGI, and submit separate DCD with SUNSI (including proprietary information) and SGI that is equivalent to all SUNSI (including proprietary information) and SGI provided by original applicant (unless previously provided by the non-original applicant in an earlier amendment proceeding).</p> | <p>DCD with SUNSI (including proprietary information) and SGI that is equivalent to that SUNSI (including proprietary information) and SGI provided by original applicant which is within the scope of the amendment, plus any new SUNSI (including proprietary information) and SGI necessary to support the amendment.</p> <p><u>Renewal</u></p> <p><u>Original supplier</u><br/>Submit publicly-available DCD without new SUNSI (including proprietary information) and SGI, and submit separate DCD with any new SUNSI (including proprietary information) and SGI.</p> |

| Regulatory Feature                                       | Alternative 1: Separate Rules                                                                                                                                                                                                  | Alternative 2: One Rule with Multiple Branches                                                                                                                                  | Alternative 3: One Rule with Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                                          | information) and SGI that is equivalent to all SUNSI (including proprietary information) and SGI provided by original applicant (unless previously provided by the non-original applicant in an earlier amendment proceeding). |                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Nature and Scope of NRC Safety Review – Amendment</b> | Findings that:<br>i) portion of design being amended meets current applicable NRC requirements and<br>ii) proposed change does not affect previous conclusions in other design areas.                                          | Findings that: i) portion of design being amended meets current applicable NRC requirements and ii) proposed change does not affect previous conclusions in other design areas. | <p><u>Original supplier</u><br/>Findings that: i) portion of design being amended meets current applicable NRC requirements and ii) proposed change does not affect previous conclusions in other design areas.</p> <p><u>Supplier of option</u><br/>Findings that: i) design proposed to be added as an option, or portion of existing design being amended (as applicable), meets current applicable NRC requirements, ii) (if applicable) proposed change to an option does not affect previous conclusions in other design areas of the option, and iii) design proposed to be added as an option, or proposed change to existing option (as applicable) does not affect safety of design areas in the portion of the design supplied by the original supplier.</p> |

| Regulatory Feature                                                                         | Alternative 1: Separate Rules                                                                                                                                                                                                                                                                                                                                                                                      | Alternative 2: One Rule with Multiple Branches                                                                                                                                                                                                                                                                                                                                                                                                                                            | Alternative 3: One Rule with Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nature and Scope of NRC Safety Review – Renewal</b>                                     | Findings that:<br>i) design complies with AIA Rule, 10 CFR 50.150 (if not already amended);<br>ii) design complies with all regulations applicable and in effect at time or original certification; iii) relevant findings for any changes to the design requested by the supplier, per 10 CFR 52.59(c); and iv) the findings required by 10 CFR 52.59(b) for those changes imposed by the NRC under that section. | Findings that: i) design complies with AIA Rule, 10 CFR 50.150 (if not already amended);<br>ii) design complies with all regulations applicable and in effect at time or original certification; iii) relevant findings for any changes to the design requested by the supplier, per 10 CFR 52.59(c); and relevant findings for changes imposed by the NRC per 10 CFR 52.59(b); and iv) the findings required by 10 CFR 52.59(b) for those changes imposed by the NRC under that section. | <u>Original supplier</u><br>Findings that: i) design complies with AIA Rule, 10 CFR 50.150 (if not already amended);<br>ii) design complies with all regulations applicable and in effect at time or original certification; iii) relevant findings for any changes to the design requested by the supplier, per 10 CFR 52.59(c); and iv) the findings required by 10 CFR 52.59(b) for those changes imposed by the NRC under that section.<br><br><u>Supplier of option</u><br>N/A<br>(Supplier of option would not be allowed to renew the option) |
| <b>Nature and Scope of NRC Technical Qualifications Review – Initial Supplier Approval</b> | Supplier is technically qualified to provide entire design, including detailed design information.                                                                                                                                                                                                                                                                                                                 | <u>Original supplier</u><br>Supplier is technically qualified to provide entire design, including detailed design information.<br><br><u>Supplier of branch</u><br>Supplier is technically qualified to provide entire design, including detailed design information and the equivalent SUNSI (including proprietary information) and SGI.                                                                                                                                                | <u>Original supplier</u><br>Supplier is technically qualified to provide entire design, including detailed design information.<br><br><u>Supplier of option</u><br>Supplier is technically qualified to provide detailed design information and the equivalent SUNSI (including proprietary information) and SGI, if any, which is within the scope of the amendment.                                                                                                                                                                                |
| <b>Nature and Scope of NRC Technical Qualifications</b>                                    | N/A                                                                                                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A<br>(if amendment is in same area as original option)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| <b>Regulatory Feature</b>                                                                        | <b>Alternative 1: Separate Rules</b>                                                                                                                                                    | <b>Alternative 2: One Rule with Multiple Branches</b>                                                                                                                                                                                          | <b>Alternative 3: One Rule with Options</b>                                                                                                                                                                                                                                                                                                                          |
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| <b>Review – Amendment</b>                                                                        |                                                                                                                                                                                         |                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Nature and Scope of NRC Technical Qualifications Review – Renewal</b>                         | None, unless significant change in organization or corporate structure/ownership or information showing a change in circumstances so a supplier no longer has technical qualifications. | None, unless significant change in organization or corporate structure/ownership or information showing a change in circumstances so a supplier no longer has technical qualifications.                                                        | None, unless significant change in organization or corporate structure/ownership, or information showing a change in circumstances so a supplier no longer has technical qualifications.<br><br>(supplier of option would not be allowed to renew the option unless it was incorporated into a wholesale renewal of the design certification)                        |
| <b>Scope of Comments in Proposed Rule FRN – New Rule or Initial Approval of Branch or Option</b> | Comments on design for new rule (no comment on original DCR)                                                                                                                            | <u>Original supplier</u><br>N/A<br>(comments on the original supplier’s design would be out-of-scope of a rulemaking proposing to add a branch)<br><br><u>Supplier of branch</u><br>Same as scope of comments on initial approval of a new DCR | <u>Original supplier</u><br>N/A<br>(comments on the original supplier’s design would be out-of-scope of a rulemaking proposing to add an option)<br><br><u>Supplier of option</u><br>i) Proposed option meets applicable NRC requirements ii) proposed option does not affect safety of design areas in the portion of the design supplied by the original supplier. |
| <b>Scope of Comments in Proposed Rule FRN – Amendment</b>                                        | Whether: i) changed portion of design meets current applicable NRC requirements and ii) changes adversely affect previous conclusions in other design areas.                            | Whether: i) changed portion of design branch meets current applicable NRC requirements and ii) changes adversely affect previous conclusions in other design areas.                                                                            | <u>Original supplier</u><br>Whether: i) changed portion of design meets current applicable NRC requirements, ii) changes adversely affect previous conclusions in other design areas, and iii) changed portion of design requires the NRC                                                                                                                            |

| Regulatory Feature                                      | Alternative 1: Separate Rules                                                          | Alternative 2: One Rule with Multiple Branches                                                                                                                                                                                                               | Alternative 3: One Rule with Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                         |                                                                                        |                                                                                                                                                                                                                                                              | <p>to implement conforming changes in the design option.</p> <p><u>Supplier of option</u><br/>Whether: i) proposed change to the option meets applicable NRC requirements, ii) proposed change to the option affects previous conclusions in unchanged portions of the option, and iii) proposed change to the option affects safety of design areas in the portion of the design supplied by the original supplier.</p>                                                                                                               |
| <b>Scope of Comments in Proposed Rule FRN – Renewal</b> | Consistent with finding that NRC must make at renewal.                                 | Consistent with finding that NRC must make at renewal.                                                                                                                                                                                                       | <p>N/A<br/>(Supplier of option would not be allowed to renew the option)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Part 21 Applicability</b>                            | Each supplier is responsible for 10 CFR Part 21 compliance with respect to its design. | <p>Each supplier is responsible for 10 CFR Part 21 compliance with respect to its design branch.</p> <p>NOTE: NRC is responsible for advising suppliers of branches of any defects in the portion of the design which was sponsored by another supplier.</p> | <p><u>Original supplier</u><br/>Responsible for 10 CFR Part 21 compliance with respect to the entire design with the exception of the option(s).</p> <p><u>Supplier of option</u><br/>Responsible for 10 CFR Part 21 compliance with respect to its option.</p> <p>NOTE: NRC is responsible for advising:<br/>i) suppliers of options of any defects in the design of the original supplier; and ii) original supplier of any defects in any of the options, for the purpose of facilitating the original supplier's consideration</p> |

| <b>Regulatory Feature</b>                      | <b>Alternative 1: Separate Rules</b>        | <b>Alternative 2: One Rule with Multiple Branches</b>                            | <b>Alternative 3: One Rule with Options</b>                                                                                              |
|------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
|                                                |                                             |                                                                                  | of the option's defect on the original supplier's design.                                                                                |
| <b>Supplier Recordkeeping Responsibilities</b> | Each supplier required to maintain its DCD. | Each supplier required to maintain the DCD representing the branch it sponsored. | <u>Original supplier</u><br>Maintain the DCD for the entire design.<br><br><u>Supplier of option</u><br>Maintain the DCD for its option. |
| <b>Mode of Referencing by COL applicant</b>    | Reference the selected rule.                | Reference one branch of the rule.                                                | Reference the rule with identification of option selected.                                                                               |

**NOTES:**

1. If there is only a single description in a table cell, then that means that the description applies to all suppliers.
2. For purposes of this table, "supplier" means an entity that: 1) submits an application for a new design certification, an amendment to an existing design certification, or a renewal for a design certification; and 2) intends to, has offered, or is providing design and engineering services related to the certified design to a license applicant. The information in this table does not apply to petitions for rulemaking under 10 CFR 2.802 submitted by entities who are not acting, do not intend to act, or the NRC believes are not reasonably capable of acting as a "supplier." "Original supplier" means the supplier who was the original applicant for the design certification.

C. Changes to Appendix A to 10 CFR Part 52—Design Certification Rule for the U.S. Advanced Boiling Water Reactor.

**1. Introduction (Section I).**

The NRC is amending Section I, "Introduction," to identify the STPNOC as the applicant for the amendment of the U.S. ABWR DCR to address the AIA rule, 10 CFR 50.150. The portion of the certified design sponsored by the STPNOC in this amendment, and which this rulemaking finds the STPNOC (acting together with TANE) is technically qualified to supply, is termed the "STPNOC-certified design option" or "STPNOC option." As discussed in greater detail in the

section-by-section analysis for Section III, "Scope and Contents," an applicant or licensee referencing this appendix may use the GE-certified design (which was first certified by the NRC in a 1997 rulemaking (62 FR 25800; May 12, 1997)), or both the GE-certified design together with the STPNOC option (the GE/STPNOC composite certified design).

The overall purpose of paragraph I of this appendix is to identify the standard plant design that was approved and the applicant for certification of the standard design. Identification of both the original design certification applicant and the applicant for any amendment to the design is necessary to implement this appendix, for two reasons. First, the implementation of 10 CFR 52.63(c) depends on whether an applicant for a COL contracts with the design certification applicant to provide the generic DCD and supporting design information. If the COL applicant does not use the design certification applicant to provide the design information and instead uses an alternate nuclear plant supplier, then the COL applicant must meet the requirements in paragraph IV.A.4 of this appendix and 10 CFR 52.73. The COL applicant must demonstrate that the alternate supplier is qualified to provide the standard plant design information.

Second, by identifying the STPNOC as the applicant for the amendment of the U.S. ABWR DCR, the provisions of 10 CFR 52.63 will be given effect whenever a COL applicant references the certified design option sponsored by the STPNOC, but does not use the STPNOC to supply the design information for this option and instead uses an alternate supplier. In this circumstance, the COL applicant must meet the requirements in paragraph IV.A.4 of this appendix and 10 CFR 52.73 with respect to the STPNOC option (i.e., the COL applicant must demonstrate that the alternate supplier is qualified to provide the certified design information constituting the STPNOC option).

In addition, by identifying the STPNOC as the applicant, the STPNOC must maintain the generic DCD for the STPNOC option throughout the time this appendix may be referenced by a

COL, as required by paragraph X.A.1 of this appendix.

## **2. Definitions (Section II).**

The NRC is revising the definition of “generic design control document” (generic DCD) in paragraph A in Section II, “Definitions,” to indicate that there will now be two generic DCDs incorporated by reference into this appendix – the DCD for the original U.S. ABWR design certification submitted by GE Nuclear Energy (GE DCD) and the DCD for the amendment to the U.S. ABWR design submitted by the STPNOC (STPNOC DCD). The NRC is making this change to the definition of “generic DCD” to make it clear that all requirements in this appendix related to the “generic DCD” apply to both the GE DCD and the STPNOC DCD, unless otherwise specified.

During development of the first two DCRs, the Commission decided that there would be both generic (master) DCDs maintained by the NRC and the design certification applicant, as well as individual plant-specific DCDs maintained by each applicant and licensee that reference this appendix. This distinction is necessary to specify the relevant plant-specific requirements to applicants and licensees referencing the appendix. To facilitate the maintenance of the master DCDs, the NRC will require that each application for a standard design certification or amendment to a standard design certification be updated to include an electronic copy of the final version of the DCD. The final version will be required to incorporate all amendments to the DCD submitted since the original application as well as any changes directed by the NRC as a result of its review of the original DCD or as a result of public comments. This final version will become the master DCD incorporated by reference in the DCR. The master DCD will be revised as needed to include generic changes to the version of the DCD approved in this design certification rulemaking. These changes would occur as the result of generic rulemaking by the Commission, under the change criteria in Section VIII.

The NRC is incorporating by reference a second DCD into appendix A of 10 CFR Part 52 (i.e., the DCD for the STPNOC option (STPNOC DCD)). Under the revised rule, a reference to a “generic DCD” means, in context, either or both: i) the DCD for the original U.S. ABWR design certification submitted by GE (GE DCD) and ii) the STPNOC DCD submitted by the STPNOC.

### **3. Scope and Contents (Section III).**

The purpose of Section III is to describe and define the scope and contents of this design certification and to present how documentation discrepancies or inconsistencies are to be resolved. Paragraph III.A is the required statement of the Office of the Federal Register (OFR) for approval of the incorporation by reference of Tier 1, Tier 2, and the generic technical specifications into this appendix. The NRC is i) redesignating a portion of the existing paragraph A regarding the OFR approval of the incorporation by reference of the design control documents as paragraph A.1; ii) redesignating the remaining portion of the existing paragraph A regarding the GE DCD availability as paragraph A.2; and iii) adding a new paragraph A.3 regarding STPNOC DCD availability. These changes were directed by OFR so that the incorporation by reference language is consistent with the guidance contained in the Federal Register Document Drafting Handbook, January 2011 Revision.

The legal effect of incorporation by reference is that the incorporated material has the same legal status as if it were published in the *Code of Federal Regulations*. This material, like any other properly issued regulation, has the force and effect of law. The STPNOC DCD was prepared to meet the technical information contents of application requirements for design certifications under 10 CFR 52.47(a) and the requirements of the OFR for incorporation by reference under 1 CFR Part 51. One of the requirements of the OFR for incorporation by reference is that the applicant for the design certification (or amendment to the design

certification) must make the generic DCD available upon request after the final rule becomes effective. Therefore, paragraph III.A.3 identifies a STPNOC representative to be contacted to obtain a copy of the STPNOC DCD.

The generic DCD (master copy) for the STPNOC DCD is electronically accessible in ADAMS under Accession No. ML102870017; at the OFR; and, at [www.regulations.gov](http://www.regulations.gov) by searching under Docket ID NRC-2010-0134. Copies of the STPNOC generic DCD will also be available at the NRC's PDR. Questions concerning the accuracy of information in an application that references this appendix will be resolved by checking the master copy of the generic DCD in ADAMS. If the design certification amendment applicant makes a generic change (through NRC rulemaking) to the DCD under 10 CFR 52.63 and the change process provided in Section VIII of Appendix A, then at the completion of the rulemaking the NRC will request approval of the Director, OFR, for the revised master DCD. The NRC will require that the design certification amendment applicant maintain an up-to-date copy of the master DCD under paragraph X.A.1 that includes any generic changes it has made because it is likely that most applicants intending to reference the standard design will obtain the generic DCD from the design certification amendment applicant.

In addition, the NRC is revising paragraph III.B to add text indicating that an applicant or licensee referencing this appendix may reference either the GE DCD, or both the GE DCD and the STPNOC DCD. An applicant referencing this appendix will be required to indicate in its application and in all necessary supporting documentation which of these two alternatives it is implementing. This information is necessary to support the NRC's review and processing of the license application.

A COL applicant that does not reference both the GE DCD and the STPNOC DCD will be required, in accordance with 10 CFR 50.150(a)(3)(v)(B) to comply with the requirements of 10 CFR 50.150 as part of its COL application.

The NRC is making a minor change to the wording of the last sentence in paragraph III.B in the final rule for clarity. In the proposed rule, this sentence read, “An applicant referencing this appendix shall indicate in its application and in all necessary supporting documentation which of these two options it is implementing.” This sentence is revised in the final rule to read, “An applicant referencing this appendix shall indicate in its application and in all necessary supporting documentation whether it is implementing the GE DCD, or both the GE DCD and the STPNOC DCD.” This avoids the use of the word “options” which was used in a different context in this paragraph than it was in other sections of the rule.

Paragraphs III.C and III.D set forth the way potential conflicts are to be resolved. Paragraph III.C establishes the Tier 1 description in the DCD as controlling in the event of an inconsistency between the Tier 1 and Tier 2 information in the DCD. The NRC is making a minor change to paragraph III.C, which currently states that, if there is a conflict between Tier 1 and Tier 2 of the DCD, then Tier 1 controls. The revised paragraph states that, if there is a conflict between Tier 1 and Tier 2 of a DCD, then Tier 1 controls. This change is necessary to indicate that this requirement applies to both the GE DCD and the STPNOC DCD.

The NRC is also making a change to paragraph III.D. Paragraph III.D establishes the generic DCD as the controlling document in the event of an inconsistency between the DCD and the final safety evaluation report (FSER) for the certified standard design. The revision indicates that this is also the case for an inconsistency between the STPNOC DCD and the NRC’s associated FSER, referred to as the “AIA FSER.”

In the proposed rule, the NRC had proposed to redesignate current paragraph III.E as proposed paragraph III.F and to add a new paragraph, III.E, stating that, if there is a conflict between the design as described in the GE DCD and a design matter which implements the STPNOC-certified design option but is not specifically described in the STPNOC DCD, then the GE DCD controls. The NRC had proposed this paragraph to address the situation when,

despite the best efforts of the STPNOC and the NRC, there were unintended consequences or unaddressed issues resulting from the STPNOC's amendment to the U.S. ABWR design. The NRC received a comment on this aspect of the proposed rule from NINA stating that proposed paragraph III.E should be deleted because it was unnecessary and not clear. Upon consideration of the comment, the NRC has decided to delete proposed paragraph III.E in the final rule. For the reasons set forth in the NRC response to comment NINA-8 in Section II of this document, the NRC agrees that inclusion of this provision is not necessary.

#### **4. Additional Requirements and Restrictions (Section IV).**

Section IV presents additional requirements and restrictions imposed upon an applicant who references this appendix. Paragraph IV.A presents the information requirements for these applicants. Paragraph IV.A.3 currently requires the applicant to include, not simply reference, the proprietary information and SGI referenced in the U.S. ABWR DCD, or its equivalent, to ensure that the applicant has actual notice of these requirements. The NRC is revising paragraph IV.A.3 to indicate that a COL applicant must include, in the plant-specific DCD, the proprietary information and SGI referenced in both the GE DCD and the STPNOC DCD, as applicable.

The NRC is also adding 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 this appendix 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 the STPNOC and TANE acting together is qualified to supply the STPNOC-certified design option, unless the 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 the 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.

Under 10 CFR 52.47(a)(7), a design certification applicant is required to include information in its application to demonstrate that it is technically qualified to engage in the proposed activities (e.g., supplying the certified design to license applicants). Based on the NRC's review of the STPNOC application to amend to the U.S. ABWR-certified design, the NRC determined that the STPNOC and its contractors are technically qualified to perform the design work associated with the amended portion of the U.S. ABWR design represented by the STPNOC's application and to supply the amended portion of the U.S. ABWR design. However, the staff determined that the STPNOC, by itself, is not technically qualified to supply the amended portion of the U.S. ABWR design certification represented in the STPNOC's DCD. Rather, the staff determined that the STPNOC and TANE acting together are qualified to supply the amended portion of the U.S. ABWR design certification represented in the STPNOC's DCD. Therefore, the NRC is including paragraph IV.A.4.b to ensure that the basis for the NRC finding of technical qualifications in support of this design certification amendment remains valid.

#### **5. Applicable Regulations (Section V).**

The purpose of Section V is to specify the regulations applicable and in effect when the design certification is approved (i.e., as of the date specified in paragraph V.A, which is the date that appendix A was originally approved by the Commission and signed by the Secretary of the

Commission). The NRC is revising paragraph V.A to indicate that the current text in this paragraph (new paragraph V.A.1) applies to the GE DCD and to add a new paragraph (V.A.2) indicating the regulations that apply to the STPNOC DCD, as approved by the Commission and signed by the Secretary of the Commission in approving this amendment to Appendix A.

In the final rule, the NRC is making a change to the rule text in proposed paragraph V.A.2, which stated that the regulations that apply to the U.S. ABWR design as contained in the STPNOC DCD are in 10 CFR Parts 50 and 52 that are applicable and technically relevant, as described in the FSER on the STPNOC amendment. The purpose of the change in the final rule is to more accurately reflect the issue resolution afforded to the STPNOC DCD. The NRC's review of the STPNOC's proposed amendment to the U.S. ABWR had three objectives. The first objective was to confirm that the applicant had complied with the AIA rule (10 CFR 50.150). The second objective was to determine that there would be no adverse impacts from complying with the requirements for consideration of aircraft impacts on conclusions reached by the NRC in its review of the original U.S. ABWR design certification. The third objective was to determine if the applicant was technically qualified to perform the design work, to amend a portion of the U.S. ABWR design, and to supply the amended portion of the design. To more accurately reflect these objectives, the NRC modified paragraph V.A.2 to state that the regulations that apply to the U.S. ABWR design as contained in the STPNOC DCD are those described in paragraph V.A.1 (as applicable to the original GE DCD) and 10 CFR 50.150, as described in the FSER on the STPNOC amendment addressing the AIA rule (NUREG-1948).

## **6. Issue Resolution (Section VI).**

The purpose of Section VI is to identify the scope of issues that were resolved by the Commission in the original certification rulemaking and, therefore, are "matters resolved" within the meaning and intent of 10 CFR 52.63(a)(5). The NRC did not identify any changes to

paragraph VI.A in the proposed rule. However, upon consideration of a public comment on the proposed rule suggesting that changes to paragraph VI.A were necessary, the NRC is making changes to paragraph VI.A in the final rule (see comment NINA-10 and associated NRC response in section II of this document).

Paragraph VI.A describes in general terms the nature of the Commission's findings, and makes the finding required by 10 CFR 52.54 for the Commission's approval of this final DCR. Furthermore, paragraph VI.A explicitly states the Commission's determination that this design provides adequate protection to the public health and safety. The NRC is revising paragraph VI.A in the final rule by redesignating current paragraph VI.A as new paragraph VI.A.1 and by adding new paragraphs VI.A.2 and VI.A.3. Paragraph VI.A.2 describes the scope of issue resolution accorded the STPNOC option and states that the Commission has determined that the structures, systems, components, and design features of the U.S. ABWR design, as contained in the STPNOC DCD, comply with the provisions of the AEA of 1954, as amended, and the applicable regulations identified in Section V.A.2, including 10 CFR 50.150, and therefore, provide enhanced protection to the health and safety of the public afforded by compliance with 10 CFR 50.150. Paragraph VI.A.2 further states that a conclusion that a matter is resolved includes the finding that additional or alternative structures, systems, components, design features, design criteria, testing, analyses, acceptance criteria, or justifications to meet the requirements of 10 CFR 50.150 are not necessary for the U.S. ABWR design.

Paragraph VI.A.3 describes the scope of issue resolution accorded the combination of the GE DCD and the STPNOC option and states that the Commission has determined that the structures, systems, components, and design features of the U.S. ABWR, as contained in both the GE DCD and the STPNOC DCD, when referenced together, comply with the provisions of the AEA of 1954, as amended, and the applicable regulations identified in Section V.A., and, therefore, provide adequate protection to the health and safety of the public. Paragraph VI.A.3

further states that a conclusion that a matter is resolved includes the finding that additional or alternative structures, systems, components, design features, design criteria, testing, analyses, acceptance criteria, or justifications are not necessary for the U.S. ABWR design, when the GE DCD and the STPNOC DCD are referenced together.

Paragraph VI.B presents the scope of issues that may not be challenged as a matter of right in subsequent proceedings and describes the categories of information for which there is issue resolution. Paragraph VI.B.1 provides that all nuclear safety issues arising from the AEA of 1954, as amended, that are associated with the information in the NRC staff's FSER (ADAMS Accession No. ML102710198), the Tier 1 and Tier 2 information and the rulemaking record for this appendix are resolved within the meaning of 10 CFR 52.63(a)(5). These issues include the information referenced in the DCD that are requirements (i.e., "secondary references"), as well as all issues arising from proprietary information and SGI that are intended to be requirements. Paragraph VI.B.2 provides for issue preclusion of proprietary information and SGI.

The NRC is revising paragraphs VI.B.1 and VI.B.2 to redesignate references to the "FSER" as references to the "U.S. ABWR FSER," and references to the "generic DCD" as references to the "GE DCD" to distinguish the FSER and DCD for the original certified design from the FSER and DCD issued to support the STPNOC amendment to the U.S. ABWR design. In addition, this revision adds additional text to paragraph VI.B.1 to identify the information that is resolved by the Commission in this rulemaking to certify the STPNOC amendment to the U.S. ABWR design.

The NRC is also revising paragraph VI.B.7, which identifies as resolved all environmental issues concerning severe accident mitigation design alternatives (SAMDA) arising under the National Environmental Policy Act of 1969 (NEPA) associated with the information in the NRC's final environmental assessment (EA) for the U.S. ABWR design and Revision 1 of the technical support document for the U.S. ABWR, dated December 1994, for

plants referencing this appendix whose site parameters are within those specified in the technical support document. The NRC is revising this paragraph to also identify as resolved all environmental issues concerning SAMDAs associated with the information in the NRC's final EA and Revision 0 of ABWR-LIC-09-621, "Applicant's Supplemental Environmental Report-Amendment to ABWR Standard Design Certification," for the AIA amendment to the U.S. ABWR design for plants referencing this appendix whose site parameters are within those specified in the technical support document.

Finally, the NRC is revising paragraph VI.E, which provides the procedure for an interested member of the public to obtain access to proprietary information and SGI for the U.S. ABWR design, in order to request and participate in proceedings identified in paragraph VI.B of this appendix, that is, proceedings involving licenses and applications which reference this appendix. The NRC is replacing the current information in this paragraph with a statement that the NRC will specify, at an appropriate time, the procedure for interested persons to review SGI or SUNSI (including proprietary information) for the purpose of participating in the hearing required by 10 CFR 52.85, the hearing provided under 10 CFR 52.103, or in any other proceeding relating to this appendix in which interested persons have a right to request an adjudicatory hearing.

Access to such information would be for the sole purpose of requesting or participating in certain specified hearings, viz., i) the hearing required by 10 CFR 52.85 where the underlying application references this appendix, ii) any hearing provided under 10 CFR 52.103 where the underlying COL references this appendix, and iii) any other hearing relating to this appendix in which interested persons have the right to request an adjudicatory hearing.

For proceedings where the notice of hearing was published before **[insert date 30 days after publication in the *Federal Register*]**, the Commission's order governing access to SUNSI and SGI shall be used to govern access to SUNSI (including proprietary information)

and SGI on the STPNOC option. For proceedings in which the notice of hearing or opportunity for hearing is published after **[insert date 30 days after publication in the *Federal Register*]**, paragraph VI.E. applies and governs access to SUNSI (including proprietary information) and SGI for both the original GE-certified design and the STPNOC option; as stated in paragraph VI.E, the NRC will specify the access procedures at an appropriate time.

The NRC expects to follow its current practice of establishing the procedures by order when the notice of hearing is published in the *Federal Register*. (See, e.g., Florida Power and Light Co., Combined License Application for the Turkey Point Units 6 & 7, Notice of Hearing, Opportunity To Petition for Leave To Intervene and Associated Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation (75 FR 34777; June 18, 2010); Notice of Receipt of Application for License; Notice of Consideration of Issuance of License; Notice of Hearing and Commission Order and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation; In the Matter of AREVA Enrichment Services, LLC (Eagle Rock Enrichment Facility) (74 FR 38052; July 30, 2009)).

In the four currently approved design certifications (10 CFR part 52, appendices A through D), paragraph VI.E presents specific directions on how to obtain access to proprietary information and SGI on the design certification in connection with a license application proceeding referencing that DCR. The NRC is making this change because these provisions were developed before the terrorist events of September 11, 2001. After September 11, 2001, the Congress changed the statutory requirements governing access to SGI, and the NRC revised its rules, procedures, and practices governing control and access to SUNSI and SGI. The NRC now believes that generic direction on obtaining access to SUNSI and SGI is no longer appropriate for newly approved DCRs. Accordingly, the specific requirements governing access to SUNSI and SGI contained in paragraph VI.E of the four currently approved DCRs are

not included in the amended DCR for the U.S. ABWR. Instead, the NRC will specify the procedures to be used for obtaining access at an appropriate time in any COL proceeding referencing the U.S. ABWR DCR. The NRC intends to include this change in any future amendment or renewal of the other existing DCRs. However, the NRC is not planning to initiate rulemaking to change paragraph VI.E of the existing DCRs, to minimize unnecessary resource expenditures by both the original DCR applicant and the NRC.

## **7. Processes for Changes and Departures (Section VIII).**

The purpose of Section VIII is to present the processes for generic changes to, or plant-specific departures (including exemptions) from, the DCD. The Commission adopted this restrictive change process to achieve a more stable licensing process for applicants and licensees that reference this DCR. The change processes for the three different categories of Tier 2 information, namely, Tier 2, Tier 2\*, and Tier 2\* with a time of expiration, are presented in paragraph VIII.B.

Departures from Tier 2 that a licensee may make without prior NRC approval are addressed under paragraph VIII.B.5 (similar to the process in 10 CFR 50.59). The NRC is making changes to Section VIII to address the change control process specific to departures from the information required by 10 CFR 52.47(a)(28) to address the NRC's AIA requirements in 10 CFR 50.150. Specifically, the NRC is revising paragraph VIII.B.5.b to indicate that the criteria in this paragraph for determining if a proposed departure from Tier 2 requires a license amendment do not apply to a proposed departure affecting information required by 10 CFR 52.47(a)(28) to address 10 CFR 50.150. In addition, the NRC is redesignating paragraphs VIII.B.5.d, B.5.e, and B.5.f as paragraphs VIII.B.5.e, B.5.f, and B.5.g, respectively, and adding a new paragraph VIII.B.5.d. Paragraph VIII.B.5.d requires an applicant or licensee 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 feature or capability on the original assessment required by 10 CFR 50.150(a). The FSAR information required by the aircraft impact rule which is subject to this change control requirement consists of 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 rule does not require an applicant or a licensee implementing a design change to redo the complete AIA to evaluate the effects of the change. The NRC believes it may be possible to demonstrate that a design change is bounded by the original design or that the change provides an equivalent level of protection, without redoing the original assessment.

Consistent with the NRC's intent when it issued the AIA rule, under the revision to this section, plant-specific departures from the AIA information in the FSAR do not require a license amendment, but may be made by the licensee upon compliance with the substantive requirements of the AIA rule (i.e., the AIA rule acceptance criteria). The applicant or licensee is also required to document, in the plant-specific departure, 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. Applicants and licensees making changes to design features or capabilities included in the certified design may also need to develop alternate means to cope with the loss of large areas of the plant from explosions or fires to comply with the requirements in 10 CFR 50.54(hh). The addition of these provisions to this

appendix is consistent with the NRC's intent when it issued the AIA rule in 2009, as noted in the SOC for that rule (74 FR 28112; June 12, 2009, at 28122, third column).

## **8. Records and Reporting (Section X).**

The purpose of Section X is to present the requirements that apply to maintaining records of changes to and departures from the generic DCD, which would be reflected in the plant-specific DCD. Section X also presents the requirements for submitting reports (including updates to the plant-specific DCD) to the NRC. Paragraph X.A.1 requires that a generic DCD and the proprietary information and SGI referenced in the generic DCD be maintained by the applicant for this rule. The NRC is revising paragraph X.A.1 to indicate that there are two applicants for this appendix and that the requirements to maintain a copy of the applicable generic DCD applies to both the applicant for the original U.S. ABWR certification (GE) and the applicant for the AIA amendment to the U.S. ABWR design (STPNOC). Paragraph X.A.1 also requires the design certification applicant to maintain the proprietary information and SGI referenced in the generic DCD. The NRC is replacing the term "proprietary information" with the broader term "sensitive unclassified non-safeguards information (including proprietary information)." Information categorized as SUNSI is information that is generally not publicly available and encompasses a wide variety of categories, including information about a licensee's or applicant's physical protection or material control and accounting program for special nuclear material not otherwise designated as SGI or classified as National Security Information or Restricted Data (security-related information), but which the NRC may protect from public disclosure under 10 CFR 2.390.

This change ensures that both GE and the STPNOC (as well as any future applicants for amendments to the U.S. ABWR DCR who intend to supply the certified design) are required to maintain a copy of the applicable generic DCD, and maintain the applicable SUNSI (including

proprietary information) and SGI—developed by that applicant—that were approved as part of the relevant design certification rulemakings. In the certification of the original U.S. ABWR design, the NRC approved both proprietary information and SGI as part of the design certification rulemaking. In this amendment to the U.S. ABWR design, the NRC is approving information designated as SUNSI as part of the amendment rulemaking.

The NRC notes that the generic DCD concept was developed, in part, to meet OFR requirements for incorporation by reference, including public availability of documents incorporated by reference. However, the proprietary information and SGI were not included in the public version of the DCD prepared by GE, and the SUNSI was not included in the public version of the DCD prepared by the STPNOC. Only the public version of the generic STPNOC DCD is identified and incorporated by reference into this rule. Nonetheless, the SUNSI for the STPNOC option was reviewed by the NRC and, as stated in paragraph VI.B.2, the NRC considers the information to be resolved within the meaning of 10 CFR 52.63(a)(5). Because this information is in the non-public versions of the GE and STPNOC DCDs, this SUNSI (including proprietary information) and SGI, or its equivalent, is required to be provided by an applicant for a license referencing this DCR.

In addition, the NRC is adding a new paragraph X.A.4.a that requires the applicant for the amendment to the U.S. ABWR design to address the AIA requirements to maintain a copy of the AIA performed to comply with the requirements of 10 CFR 50.150(a) for the term of the certification (including any period of renewal). The NRC is also adding new paragraph X.A.4.b that requires an applicant or licensee who references this appendix to include both the GE DCD and the STPNOC DCD to maintain a copy of the AIA 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). The addition of paragraphs X.A.4.a and X.A.4.b is consistent

with the NRC's intent when it issued the AIA rule in 2009 (74 FR 28112; June 12, 2009, at 28121, second column).

#### **IV. Section-by-Section Analysis**

##### **A. Introduction (Section I)**

The NRC is amending Section I, "Introduction," to identify the STPNOC as the applicant for the amendment of the U.S. ABWR DCR to address the AIA rule, 10 CFR 50.150.

##### **B. Definitions (Section II)**

The NRC is revising the definition of "generic design control document (generic DCD)" to indicate that there will be two generic DCDs incorporated by reference into this appendix—the DCD for the original U.S. ABWR design certification submitted by GE Nuclear Energy (GE DCD) and the DCD for the amendment to the U.S. ABWR design submitted by the STPNOC (STPNOC DCD). This will make it clear that all requirements in this appendix related to the "generic DCD" apply to both the GE DCD and the STPNOC DCD, unless otherwise specified.

##### **C. Scope and Contents (Section III)**

The NRC is i) redesignating a portion of the existing paragraph A regarding the OFR approval of the incorporation by reference of the design control documents as paragraph A.1; ii) redesignating the remaining portion of the existing paragraph A regarding the GE DCD availability as paragraph A.2; and iii) adding a new paragraph A.3 regarding STPNOC DCD availability.

The NRC is revising paragraph III.B to add text indicating that an applicant or licensee referencing this appendix may use either the GE DCD, or both the GE DCD and the STPNOC

DCD. By doing so, the applicant or licensee effectively indicates which generic design it is using (i.e., the GE-certified design, or the GE/STPNOC composite certified design). An applicant referencing this appendix is required to indicate in its application and in all necessary supporting documentation which of these two alternatives it is implementing.

The NRC is making a minor change to paragraph III.C, which currently states that, if there is a conflict between Tier 1 and Tier 2 of the DCD, then Tier 1 controls. The revised paragraph states that, if there is a conflict between Tier 1 and Tier 2 of a DCD, then Tier 1 controls, because the requirement also applies to the STPNOC DCD.

Paragraph III.D establishes the generic DCD as the controlling document in the event of an inconsistency between the DCD and the FSER for the certified standard design. The NRC is making a change to paragraph III.D which indicates that in the event of an inconsistency between the STPNOC DCD and the AIA FSER, the STPNOC DCD controls.

#### **D. Additional Requirements and Restrictions (Section IV)**

The NRC is revising paragraph IV.A.3 to indicate that a COL applicant must include, in the plant-specific DCD, the proprietary information and SGI referenced in both the GE DCD and the STPNOC DCD, as applicable, or its equivalent.

Section IV presents additional requirements and restrictions imposed upon an applicant who references this appendix. Paragraph IV.A presents the information requirements for these applicants. Paragraph IV.A.3 requires the applicant to include the proprietary information and SGI referenced in the DCD, or its equivalent, to ensure that the applicant has actual notice of these requirements. The NRC is revising paragraph IV.A.3 to indicate that a COL applicant must include, in the plant-specific DCD, the SUNSI (including proprietary information) and SGI referenced in both the GE DCD and the STPNOC DCD, as applicable, or the equivalent of this information. If the COL applicant is referencing only the GE DC, then the applicant must include

the proprietary information and SGI developed by GE (as presented in the non-public version of the GE DCD), or the equivalent of this information. If the COL applicant is referencing both the GE DCD and the STPNOC DCD, then the applicant must include: 1) the proprietary information and SGI developed by GE (as presented in the non-public version of the GE DCD), or the equivalent of this information; and 2) the SUNSI developed by the STPNOC (as presented in the non public version of the STPNOC DCD), or the equivalent of this information.

The NRC is also adding 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 this appendix include, as part of its application, a demonstration that an entity other than GE is qualified to supply the U.S. ABWR-certified design unless GE 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 the STPNOC and TANE acting together is qualified to supply the STPNOC-certified design option, unless the STPNOC and TANE acting together supply the design option for the applicant's use. In cases where a COL applicant is not using GE to supply the U.S. ABWR-certified design, or is not using the STPNOC and TANE acting together to supply the STPNOC-certified design option, the required information will be used 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.

#### **E. Applicable Regulations (Section V)**

Paragraph V.A is revised so that the paragraph V.A.1 identifies the applicable regulations for the GE-certified design, and paragraph V.A.2 presents the applicable regulations

for the STPNOC Option. In the final rule, the NRC is making a change to the rule text in proposed paragraph V.A.2, which stated that the regulations that apply to the U.S. ABWR design as contained in the STPNOC DCD are in 10 CFR Parts 50 and 52 that are applicable and technically relevant, as described in the FSER on the STPNOC amendment. The purpose of the change in the final rule is to more accurately reflect the issue resolution afforded to the STPNOC DCD, as reflected in the objectives of the NRC's review of the STPNOC's proposed amendment to the U.S. ABWR: 1) to confirm that the applicant had complied with the AIA rule (10 CFR 50.150); 2) to determine that there would be no adverse impacts from complying with the AIA rule on conclusions reached by the NRC in its review of the original U.S. ABWR design certification; and 3) to determine if the applicant was technically qualified to perform the design work to amend a portion of the U.S. ABWR design and to supply the amended portion of the design. To more accurately reflect these objectives, the NRC modified paragraph V.A.2 to state that the regulations that apply to the U.S. ABWR design as contained in the STPNOC DCD are those described in paragraph V.A.1 (as applicable to the original GE DCD) and 10 CFR 50.150, as described in the FSER on the STPNOC amendment addressing the AIA rule (NUREG-1948).

#### **F. Issue Resolution (Section VI)**

The NRC is revising paragraph VI.A in the final rule by redesignating current paragraph VI.A as new paragraph VI.A.1 and by adding new paragraphs VI.A.2 and VI.A.3. Paragraph VI.A.1 describes the scope of issue resolution accorded the original GE DCD. Paragraph VI.A.2 describes the scope of issue resolution accorded the STPNOC option. Paragraph VI.A.3 describes the scope of issue resolution accorded the combination of the GE DCD and the STPNOC option.

The NRC is revising paragraphs VI.B.1 and VI.B.2 to redesignate references to the “FSER” as references to the “U.S. ABWR FSER” and references to the “generic DCD” as references to the “GE DCD” to distinguish the FSER and DCD for the original certified design from the FSER and DCD issued to support the STPNOC amendment to the U.S. ABWR design. In addition, this revision adds text to paragraph VI.B.1 to identify the information resolved by the Commission in this rulemaking to certify the STPNOC AIA amendment to the U.S. ABWR design.

The NRC is revising paragraph VI.B.7 to identify as resolved all environmental issues concerning SAMDAs associated with the information in the NRC’s final EA and Revision 0 of ABWR-LIC-09-621, “Applicant’s Supplemental Environmental Report-Amendment to ABWR Standard Design Certification,” for the AIA amendment to the U.S. ABWR design for plants referencing this appendix whose site parameters are within those specified in the technical support document. The existing site parameters specified in the technical support document are not affected by this design certification amendment.

#### **G. Processes for Changes and Departures (Section VIII)**

The NRC is revising Section VIII to address the change control process specific to departures from the information required by 10 CFR 52.47(a)(28) to address the NRC’s AIA requirements in 10 CFR 50.150. Specifically, the NRC is revising paragraph VIII.B.5.b to indicate that the criteria in this paragraph for determining if a proposed departure from Tier 2 requires a license amendment do not apply to a proposed departure affecting information required by 10 CFR 52.47(a)(28) to address aircraft impacts.

In addition, the NRC is redesignating paragraphs VIII.B.5.d, B.5.e, and B.5.f as paragraphs VIII.B.5.e, B.5.f, and B.5.g, respectively, and adding a new paragraph VIII.B.5.d. New paragraph VIII.B.5.d requires an applicant referencing the U.S. ABWR DCR, that 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 feature or capability on the original 10 CFR 50.150(a) assessment.

#### **H. Records and Reporting (Section X)**

The NRC is revising paragraph X.A.1 to refer to “applicants” for this appendix and to replace the term “proprietary information” with the broader term “sensitive unclassified non-safeguards information.” Paragraph X.A.1 is revised to require the design certification amendment applicant to maintain the SUNSI which it developed and used to support its design certification amendment application. This ensures that the referencing applicant has direct access to this information from the design certification amendment applicant, if it has contracted with the applicant to provide the SUNSI to support its license application. The STPNOC generic DCD and the NRC-approved version of the SUNSI are required to be maintained for the period that this appendix may be referenced.

The NRC is also adding a new paragraph X.A.4.a that requires the STPNOC to maintain a copy of the AIA performed to comply with the requirements of 10 CFR 50.150(a) for the term of the certification (including any period of renewal). This new provision, which is consistent with 10 CFR 50.150(c)(3), will facilitate any NRC inspections of the assessment that the NRC decides to conduct.

Similarly, the NRC is adding new paragraph X.A.4.b that requires an applicant or licensee who references this appendix, to include both the GE DCD and the STPNOC DCD, to maintain a copy of the AIA 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). This provision is consistent with 10 CFR 50.150(c)(4). 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) would be met.

### V. Agreement State Compatibility

Under the “Policy Statement on Adequacy and Compatibility of Agreement States Programs,” approved by the Commission on June 20, 1997, and published in the *Federal Register* (62 FR 46517; September 3, 1997), this rule is classified as compatibility “NRC.” Compatibility is not required for Category “NRC” regulations. The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the AEA or the provisions of this chapter. Although an Agreement State may not adopt program elements reserved to the NRC, it may wish to inform its licensees of certain requirements by a mechanism that is consistent with the particular State’s administrative procedure laws. Category “NRC” regulations do not confer regulatory authority on the State.

### VI. Availability of Documents

The NRC is making the documents identified below available to interested persons through one or more of the following methods, as indicated. To access documents related to this action, see the ADDRESSES section of this document.

| Document                                                                                                                                                | PDR | Web | ADAMS       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------------|
| Comment Letter (1) of Thomas Shadis on Proposed Rule PR-52 Regarding U.S. Advanced Boiling Water Reactor Aircraft Impact Design Certification Amendment | X   | X   | ML110760174 |
| Comment Letter (2) of Jerald G. Head on Behalf of GE-Hitachi Opposing Proposed Rule                                                                     | X   | X   | ML110950657 |

| Document                                                                                                                                                                                                   | PDR | Web | ADAMS       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------------|
| PR 52 regarding U.S. Advanced Boiling Water Reactor Aircraft Impact Design Certification Amendment                                                                                                         |     |     |             |
| Comment Letter (3) of Mark McBurnett on Behalf of Nuclear Innovation North America LLC on Proposed Rule PR 52 regarding U.S. Advanced Boiling Water Reactor Aircraft Impact Design Certification Amendment | X   | X   | ML11103A032 |
| SECY-10-0142, "Proposed Rule - U.S. Advanced Boiling Water Reactor Aircraft Impact Design Certification Amendment"                                                                                         | X   | X   | ML102100129 |
| STPNOC Application to Amend the Design Certification Rule for the U.S. ABWR                                                                                                                                | X   | X   | ML092040048 |
| South Texas Project, Units 3 and 4, Combined License Application                                                                                                                                           | X   | X   | ML072850066 |
| March 3, 2010, letter from Toshiba to NRC stating that Toshiba intends to seek renewal of the U.S. ABWR design certification                                                                               | X   |     | ML100710026 |
| General Electric ABWR Design Control Document                                                                                                                                                              | X   |     | ML11126A129 |
| ABWR STP AIA Amendment Design Control Document, Revision 3 (public version)                                                                                                                                | X   | X   | ML102870017 |
| Applicant's Supplemental Environmental Report – Amendment to the ABWR Standard Design Certification                                                                                                        | X   | X   | ML093170455 |
| Final Safety Evaluation Report for the STPNOC Amendment to the ABWR Design Certification                                                                                                                   | X   | X   | ML102710198 |
| NUREG-1948, "Final Safety Evaluation Report Related to the Aircraft Impact Amendment to the U.S. Advanced Boiling Water Reactor (ABWR) Design Certification"                                               |     | X   | ML11182A163 |
| NRC's Final Environmental Assessment Relating to the Certification of the U.S. ABWR (Attachment 2 of SECY 96-077)                                                                                          | X   | X   | ML003708129 |
| Revision 1 of the Technical Support Document for the U.S. ABWR, December 1994                                                                                                                              | X   |     | ML100210563 |
| Environmental Assessment by the U.S. NRC Relating to the Certification of the STPNOC Amendment to the U.S. ABWR Standard Plant                                                                             | X   |     | ML110970669 |

| Document                                                                                                                             | PDR | Web | ADAMS       |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------------|
| Design                                                                                                                               |     |     |             |
| NUREG-1503, "Final Safety Evaluation Report Related to the Certification of the Advanced Boiling Water Reactor Design"               | X   | X   | ML080670592 |
| NUREG-1503, Supplement 1, "Final Safety Evaluation Report Related to the Certification of the Advanced Boiling Water Reactor Design" | X   | X   | ML080710134 |
| Regulatory History of Design Certification <sup>11</sup>                                                                             | X   |     | ML003761550 |

### VII. Voluntary Consensus Standards

The National Technology and Transfer Act of 1995 (the Act), Public Law 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless using such a standard is inconsistent with applicable law or is otherwise impractical. In this final rule, the NRC is approving the AIA amendment to the U.S. ABWR standard plant design for use in nuclear power plant licensing under 10 CFR Parts 50 or 52. Design certifications (and amendments thereto) 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 (and amendments thereto) are Commission approvals of specific nuclear power plant designs by rulemaking. Furthermore, design certifications (and amendments thereto) are initiated by an applicant for rulemaking, rather than by the NRC. For these reasons, the NRC concludes that the Act does not apply to this rule.

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<sup>11</sup> The regulatory history of the NRC's design certification reviews is a package of documents that is available in the NRC's PDR and ADAMS. 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.

### **VIII. Finding of No Significant Environmental Impact: Availability**

The Commission has determined under NEPA, and the Commission'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 DCR amendment is not a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement (EIS) is not required. The basis for this determination, as documented in the final EA, is that the Commission has made a generic determination under 10 CFR 51.32(b)(2) that there is no significant environmental impact associated with the issuance of an amendment to a design certification.

This amendment to 10 CFR Part 52 does not authorize the siting, construction, or operation of a facility using the AIA amendment to the U.S. ABWR design; it only codifies the AIA amendment to the U.S. ABWR design in a rule. The NRC will evaluate the environmental impacts and issue an EIS as appropriate under NEPA as part of the application for the construction and operation of a facility referencing the AIA amendment to the U.S. ABWR DCR.

In addition, as part of the EA for the AIA amendment to the U.S. ABWR design, the NRC reviewed the STPNOC's evaluation of various design alternatives to prevent and mitigate severe accidents in Revision 0 of ABWR-LIC-09-621, "Applicant's Supplemental Environmental Report-Amendment to ABWR Standard Design Certification." According to 10 CFR 51.30(d), an EA for a design certification amendment is limited to the consideration of whether the design change which is the subject of the amendment renders a SAMDA previously rejected in the earlier EA to become cost beneficial, or results in the identification of new SAMDAs, in which case the costs and benefits of new SAMDAs and the bases for not incorporating new SAMDAs in the design certification must be addressed. Based upon review of the STPNOC's evaluation, the Commission concludes that the design changes 1) do not cause a SAMDA previously

rejected in the EA for the original U.S. ABWR design certification to become cost-beneficial and 2) do not result in the identification of any new SAMDAs that could become cost beneficial.

The Commission did not receive any comments on the draft EA and has prepared a final EA. All environmental issues concerning SAMDAs associated with the information in the final EA and Revision 0 of ABWR-LIC-09-621, "Applicant's Supplemental Environmental Report-Amendment to ABWR Standard Design Certification," are considered resolved for plants referencing the AIA amendment to the U.S. ABWR design whose site parameters are within those specified in Revision 1 of the technical support document for the U.S. ABWR, dated December 1994. The existing site parameters specified in the technical support document are not affected by this design certification amendment.

The final EA, upon which the Commission's finding of no significant impact is based, and the STPNOC DCD are available for examination and copying at the NRC's PDR, One White Flint North, 11555 Rockville Pike, Room O1-F21, Rockville, Maryland 20852.

### **IX. Paperwork Reduction Act Statement**

This rule contains new or amended information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). These requirements were approved by the Office of Management and Budget, approval number 3150-0151.

The burden to the public for these information collections is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments on any aspect of these information collections, including suggestions for reducing the burden, to the Information Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001, or by Internet electronic mail to [Infocollects.Resource@NRC.gov](mailto:Infocollects.Resource@NRC.gov); and to the Desk Officer, Office of Information and Regulatory

Affairs, NEOB-10202 (3150-0151), Office of Management and Budget, Washington, D.C. 20503. You may also e-mail comments to [Christine J. Kymn@omb.eop.gov](mailto:Christine.J.Kymn@omb.eop.gov) or comment by telephone at (202) 395-4638.

#### Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

#### **X. Regulatory Analysis**

The NRC has not prepared a regulatory analysis for this rule. The NRC prepares regulatory analyses for rulemakings that establish generic regulatory requirements applicable to all licensees. Design certifications (and amendments thereto) are not generic rulemakings in the sense that design certifications (and amendments thereto) do not establish standards or requirements with which all licensees must comply. Rather, design certifications (and amendments thereto) are Commission approvals of specific nuclear power plant designs by rulemaking, which then may be voluntarily referenced by applicants for COLs. Furthermore, design certification rulemakings are initiated by an applicant for a design certification (or amendments thereto), rather than the NRC. Preparation of a regulatory analysis in this circumstance would not be useful because the design to be certified is proposed by the applicant rather than the NRC. For these reasons, the Commission concludes that preparation of a regulatory analysis is neither required nor appropriate.

## **XI. Regulatory Flexibility Act Certification**

Under the Regulatory Flexibility Act (5 U.S.C. 605(b)), the Commission certifies that this rule does not have a significant economic impact on a substantial number of small entities. The final rule provides for certification of an amendment to a nuclear power plant design. Neither the design certification amendment applicant, nor prospective nuclear power plant licensees who reference this DCR, fall within the scope of the definition of “small entities” presented in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810). Thus, this rule does not fall within the purview of the Regulatory Flexibility Act.

## **XII. Backfitting**

The Commission has determined that this rule does not constitute a backfit as defined in the backfit rule (10 CFR 50.109) because this design certification amendment does not impose new or changed requirements on existing 10 CFR Part 50 licensees, nor does it impose new or changed requirements on existing DCRs in Appendices A through D of 10 CFR Part 52. Therefore, a backfit analysis was not prepared for this rule.

The rule does not constitute backfitting as defined in the backfit rule (10 CFR 50.109) with respect to either operating licenses under 10 CFR Part 50 because there are no operating licenses referencing this DCR. The rule does not constitute backfitting as defined in the backfit rule or otherwise impose requirements inconsistent with the applicable finality requirements under 10 CFR Part 52 (10 CFR 52.63, 52.83 and 52.98) because: i) there are no COLs issued by the NRC referencing this rule, and ii) neither the backfit rule nor the finality provisions in 10 CFR Part 52 protect COL applicants from changes in NRC requirements which may occur during the pendency of their application before the NRC.

The rule is not inconsistent with the finality requirements in 10 CFR 52.63 as applied to COLs. The rule establishes an option to the existing DCR which addresses the requirements of

the AIA rule. A COL referencing the U.S. ABWR DCR may voluntarily choose to select the STPNOC option, or may choose to reference the U.S. ABWR design without selecting the STPNOC option.

The AIA rule itself mandated that the U.S. ABWR DCR be revised (either during the DCR's current term or no later than its renewal) to address the requirements of the AIA rule. The AIA rule may therefore be regarded as inconsistent with applicable finality provisions in 10 CFR Part 52 and section VI of the U.S. ABWR DCR. However, the NRC provided an administrative exemption from these finality requirements when the final AIA rule was issued. (See 74 FR 28112; June 12, 2009, at 28143-45). Accordingly, the NRC has already addressed the backfitting implications of applying the AIA rule to the U.S. ABWR.

Because the rule does not constitute backfitting and is not otherwise inconsistent with finality provisions in 10 CFR Part 52, the NRC has not prepared a backfit analysis or documented evaluation for this rule.

### **XIII. Congressional Review Act**

In accordance with the Congressional Review Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

### **List of Subjects**

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

For the reasons set out in the preamble and under the authority of the AEA of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553; the NRC is proposing to adopt the following amendments to 10 CFR Part 52.

## **PART 52 – LICENSES, CERTIFICATIONS, AND APPROVALS FOR NUCLEAR POWER PLANTS**

1. The authority citation for 10 CFR Part 52 continues to read as follows:

**AUTHORITY:** Secs. 103, 104, 161, 182, 183, 186, 189, 68 Stat. 936, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2133, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, 202, 206, 88 Stat. 1242, 1244, 1246, as amended (42 U.S.C. 5841, 5842, 5846); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. No. 109–58, 119 Stat. 594 (2005), secs. 147 and 149 of the Atomic Energy Act.

2. Section I of Appendix A to 10 CFR Part 52 is revised to read as follows:

### **I. Introduction**

Appendix A constitutes the standard design certification for the U.S. Advanced Boiling Water Reactor (U.S. ABWR) design, in accordance with 10 CFR part 52, subpart B. The applicant for the original certification of the U.S. ABWR design was GE Nuclear Energy (GE).

The applicant for the amendment to the U.S. ABWR design to address the requirements in 10 CFR 50.150, "Aircraft impact assessment," (AIA rule) is the STP Nuclear Operating Company (STPNOC).

3. In section II of Appendix A to 10 CFR Part 52, paragraph A is revised to read as follows:

## **II. Definitions**

A. *Generic design control document (generic DCD)* means either or both of the documents containing the Tier 1 and Tier 2 information and generic technical specifications that are incorporated by reference into this appendix.

\* \* \* \* \*

4. Section III of Appendix A to 10 CFR Part 52 is revised to read as follows:

## **III. Scope and Contents**

### *A. Design Control Documents*

1. *Incorporation by reference approval.* Certain documents identified in paragraphs III.A.2 and III.A.3 of this section are approved for incorporation by reference into this appendix by the Director of the Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Documents approved for incorporation by reference and created or received at the NRC are available online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of the NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, then contact the NRC's Public Document Room (PDR) reference staff at 800-397-4209, 301-415-3747, or by email at [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov). A copy of these DCDs approved for incorporation by reference are available for examination

and copying at the NRC's PDR located at Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. Copies are also available for examination at the NRC Library located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852, telephone: 301- 415-5610, email: [Library.Resource@nrc.gov](mailto:Library.Resource@nrc.gov). All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

2. *GE DCD*: All Tier 1, Tier 2, and the generic technical specifications in the U.S. ABWR Design Control Document, GE Nuclear Energy (GE), Revision 4 dated March 1997 (GE DCD). You may obtain copies of the GE DCD from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, 703-605-6515. To view the GE DCD in ADAMS, search under ADAMS Accession No. ML11126A129. The GE DCD can also be viewed at the Federal Rulemaking Web site, <http://www.regulations.gov>, by searching for documents filed under Docket ID NRC-2010-0134.

3. *STPNOC DCD*: All Tier 1 and Tier 2 information in the ABWR STP AIA Amendment Design Control Document, Revision 3 dated September 23, 2010 (STPNOC DCD). You may obtain copies of the STPNOC DCD from the Regulatory Affairs Manager for STP Units 3 and 4, STP Nuclear Operating Company, P.O. Box 289, Wadsworth, Texas 77483, telephone: 361-972-8440. To view the STPNOC DCD in ADAMS, search under ADAMS Accession No. ML102870017. The STPNOC DCD can also be viewed at the Federal Rulemaking Web site, <http://www.regulations.gov>, by searching for documents filed under Docket ID NRC-2010-0134.

B. An applicant or licensee referencing this appendix, in accordance with Section IV of this appendix, shall incorporate by reference and comply with the requirements of this appendix, including Tier 1, Tier 2, and the generic technical specifications except as otherwise provided in this appendix. An applicant or licensee referencing this appendix may reference either the GE

DCD, or both the GE DCD and the STPNOC DCD. An applicant referencing this appendix shall indicate in its application and in all necessary supporting documentation whether it is implementing the GE DCD, or both the GE DCD and the STPNOC DCD.

Conceptual design information, as set forth in the generic DCD, and the “Technical Support Document for the ABWR” are not part of this appendix. Tier 2 references to the probabilistic risk assessment (PRA) in the ABWR standard safety analysis report do not incorporate the PRA into Tier 2.

C. If there is a conflict between Tier 1 and Tier 2 of a DCD, then Tier 1 controls.

D. If there is a conflict between the generic DCD and the application for design certification of the U.S. ABWR design, NUREG–1503, “Final Safety Evaluation Report related to the Certification of the Advanced Boiling Water Reactor Design” (ABWR FSER), and Supplement No. 1, or NUREG–1948 “Safety Evaluation Report – The STP Nuclear Operating Company Amendment to the Advanced Boiling Water Reactor (ABWR) Design Certification” (AIA FSER), then the generic DCD controls.

\* \* \* \* \*

5. In Section IV of appendix A to 10 CFR Part 52, paragraph A.3 is revised, and new paragraph A.4 is added to read as follows:

#### **IV. Additional Requirements and Restrictions**

A. \* \* \*

3. Include, in the plant-specific DCD, the sensitive unclassified non-safeguards information (SUNSI) (including proprietary information) and safeguards information referenced in the GE DCD and the STPNOC DCD, as applicable.

4.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.

b. For an applicant referencing the STPNOC-certified design option, include, as part of its application, a demonstration that an entity other than the STPNOC and Toshiba America Nuclear Energy (TANE) acting together is qualified to supply the STPNOC-certified design option, unless the STPNOC and TANE acting together supply the design option for the applicant's use.

\* \* \* \* \*

6. In Section V of Appendix A to 10 CFR Part 52, paragraph A is revised to read as follows:

**V. Applicable Regulations**

A.1. Except as indicated in paragraph B of this section, the regulations that apply to the U.S. ABWR design as contained in the GE DCD are in 10 CFR parts 20, 50, 73, and 100, codified as of May 2, 1997, that are applicable and technically relevant, as described in the FSER (NUREG–1503) and Supplement No. 1.

2. Except as indicated in paragraph B of this section, the regulations that apply to the U.S. ABWR design as contained in the STPNOC DCD are those described in paragraph A.1 of this section and 10 CFR 50.150, codified as of **[insert date final rule signed]**, as described in the FSER on the STPNOC amendment addressing the AIA rule (NUREG–1948).

\* \* \* \* \*

7. In section VI of Appendix A to 10 CFR Part 52, paragraphs A, B, and E are revised to read as follows:

## **VI. Issue Resolution**

A. 1. *GE DCD*. The Commission has determined that the structures, systems, components, and design features of the U.S. ABWR design, as contained in the GE DCD, comply with the provisions of the Atomic Energy Act of 1954, as amended, and the applicable regulations identified in Section V.A.1 of this appendix; and, therefore, provide adequate protection to the health and safety of the public. A conclusion that a matter is resolved includes the finding that additional or alternative structures, systems, components, design features, design criteria, testing, analyses, acceptance criteria, or justifications are not necessary for the U.S. ABWR design. This conclusion does not include a finding with respect to compliance with the requirements of 10 CFR 50.150.

2. *STPNOC DCD*. The Commission has determined that the structures, systems, components, and design features of the STPNOC amendment to the U.S. ABWR design, as contained in the STPNOC DCD, comply with the provisions of the Atomic Energy Act of 1954, as amended, and the applicable regulations identified in Section V.A.2 of this appendix, including 10 CFR 50.150; and, therefore, provide enhanced protection to the health and safety of the public afforded by compliance with 10 CFR 50.150. A conclusion that a matter is resolved includes the finding that additional or alternative structures, systems, components, design features, design criteria, testing, analyses, acceptance criteria, or justifications to meet the requirements of 10 CFR 50.150 are not necessary for the STPNOC amendment to the U.S. ABWR design.

3. *GE and STPNOC DCD referenced together*. The Commission has determined that the structures, systems, components, and design features of the U.S. ABWR, as contained in

both the GE DCD and the STPNOC DCD, when referenced together, comply with the provisions of the Atomic Energy Act of 1954, as amended, and the applicable regulations identified in Section V.A. of this appendix; and, therefore, provide adequate protection to the health and safety of the public. A conclusion that a matter is resolved includes the finding that additional or alternative structures, systems, components, design features, design criteria, testing, analyses, acceptance criteria, or justifications are not necessary for the U.S. ABWR design, when the GE DCD and the STPNOC DCD are referenced together.

B. The Commission considers the following matters resolved within the meaning of 10 CFR 52.63(a)(5) in subsequent proceedings for issuance of a combined license, amendment of a combined license, or renewal of a combined license, proceedings held under 10 CFR 52.103, and enforcement proceedings involving plants referencing this appendix:

1. All nuclear safety issues, except for the generic technical specifications and other operational requirements, associated with the information in the ABWR FSER and Supplement No. 1, Tier 1, Tier 2 (including referenced information which the context indicates is intended as requirements), and the rulemaking record for the original certification of the U.S. ABWR design and all nuclear safety issues, except for operational requirements, associated with the information in the AIA FSER, Tier 1, Tier 2 (including referenced information which the context indicates is intended as requirements), and the rulemaking record for certification of the AIA amendment to the U.S. ABWR design;

2. All nuclear safety and safeguards issues associated with the referenced sensitive unclassified non-safeguards information (including proprietary information) and safeguards information which, in context, are intended as requirements in the GE DCD and the STPNOC DCD;

3. All generic changes to the DCD under and in compliance with the change processes in Sections VIII.A.1 and VIII.B.1 of this appendix;

4. All exemptions from the DCD under and in compliance with the change processes in Sections VIII.A.4 and VIII.B.4 of this appendix, but only for that plant;

5. All departures from the DCD that are approved by license amendment, but only for that plant;

6. Except as provided in paragraph VIII.B.5.g of this appendix, all departures from Tier 2 pursuant to and in compliance with the change processes in paragraph VIII.B.5 of this appendix that do not require prior NRC approval, but only for that plant;

7. All environmental issues concerning severe accident mitigation design alternatives associated with the information in the NRC's final environmental assessment for the U.S. ABWR design and Revision 1 of the technical support document for the U.S. ABWR, dated December 1994, and for the NRC's final environmental assessment and Revision 0 of ABWR-LIC-09-621, "Applicant's Supplemental Environmental Report-Amendment to ABWR Standard Design Certification," for the AIA amendment to the U.S. ABWR design for plants referencing this appendix whose site parameters are within those specified in the technical support document.

\* \* \* \* \*

E. The NRC will specify at an appropriate time the procedures to be used by an interested person who wishes to review sensitive, unclassified non-safeguards information (SUNSI) (including proprietary information<sup>1</sup>), or Safeguards Information (SGI) for the U.S. ABWR-certified design (including the STPNOC option), for the purpose of participating in the hearing required by 10 CFR 52.85, the hearing provided under 10 CFR 52.103, or in any other proceeding relating to this appendix in which interested persons have a right to request an

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<sup>1</sup> Proprietary information includes trade secrets and commercial or financial information obtained from a person that are privileged or confidential (10 CFR 2.390 and 10 CFR part 9).

adjudicatory hearing.

8. In Section VIII of Appendix A to 10 CFR Part 52, paragraph B.5.b is revised, paragraphs B.5.d, B.5.e, and B.5.f are redesignated as paragraphs B.5.e, B.5.f, and B.5.g, respectively, and new paragraph B.5.d is added to read as follows:

### **VIII. Processes for Changes and Departures**

\* \* \* \* \*

B. \* \* \*

5. \* \* \*

b. A proposed departure from Tier 2, other than one affecting resolution of a severe accident issue identified in the plant-specific DCD or one affecting information required by 10 CFR 52.47(a)(28) to address 10 CFR 50.150, requires a license amendment if it would:

\* \* \* \* \*

d. 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.

\* \* \* \* \*

9. In Section X of Appendix A to 10 CFR Part 52, paragraph A.1 is revised and new paragraph A.4 is added to read as follows:

**X. Records and Reporting**

A. \* \* \*

1. The applicants for this appendix shall maintain a copy of the applicable generic DCD that includes all generic changes to Tier 1, Tier 2, and the generic technical specifications and other operational requirements. The applicants shall maintain the sensitive unclassified non-safeguards information (including proprietary information) and safeguards information referenced in the applicable generic DCD for the period that this appendix may be referenced, as specified in Section VII of this appendix.

\* \* \* \* \*

4.a. The applicant for the amendment to the U.S. ABWR design to address the requirements in 10 CFR 50.150, "Aircraft impact assessment," 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).

b. An applicant or licensee who references this appendix 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).

Dated at Rockville, Maryland, this     day of     2011.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,  
Secretary of the Commission.