



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SECRETARY

February 9, 2011

COMMISSION VOTING RECORD

DECISION ITEM: SECY-11-0002

TITLE: PROPOSED RULE: AP1000 DESIGN CERTIFICATION  
AMENDMENT (RIN 3150-AI81)

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of February 9, 2011.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

A handwritten signature in black ink, appearing to read "Annette Vietti-Cook", written over a horizontal line.

Annette L. Vietti-Cook  
Secretary of the Commission

Attachments:

1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Jaczko  
Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff  
OGC  
EDO  
PDR

## VOTING SUMMARY - SECY-11-0002

### RECORDED VOTES

	APRVD	DISAPRVD.	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACZKO	X				X	1/30/11
COMR. SVINICKI	X				X	2/2/11
COMR. APOSTOLAKIS	X				X	1/28/11
COMR. MAGWOOD	X				X	1/28/11
COMR. OSTENDORFF	X				X	1/27/11

### COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on February 9, 2011.

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary

FROM: Chairman Gregory B. Jaczko

SUBJECT: SECY-11-0002 – PROPOSED RULE: AP1000 DESIGN  
CERTIFICATION AMENDMENT (RIN 3150-AI81)

Approved  X  Disapproved   Abstain

Not Participating

COMMENTS: Below   Attached  X  None

  
\_\_\_\_\_  
SIGNATURE

11/25/11   
DATE

Entered on "STARS" Yes  x  No

**Chairman Jaczko's Comments on SECY-11-0002,  
"Proposed Rule: AP1000 Design Certification Amendment"**

I continue to believe that certification of reactor designs through rulemaking is important to promoting design standardization, ensuring safety and security through rigorous independent technical and engineering reviews, promoting early resolution of technical and regulatory issues, and providing greater regulatory certainty and efficiencies to applicants seeking combined licenses. I approve the staff's recommendation to publish the proposed rule that will amend the AP1000 Design Certification Rule subject to my comments below.

The amendment to the AP1000 Design Certification Rule is a substantial improvement over the AP1000 design previously approved by the Commission. Many significant changes have been made by Westinghouse to resolve issues previously deferred to the combined license applicants referencing the AP1000 standard design, to resolve design acceptance criteria, to increase the detail of the design, to address a number of technical issues, and to address the aircraft impact issues. The review elicited a number of differing views from the staff in several non-concurrences. These differences are a visible example of how the staff exhibits the NRC's Organizational Values, in particular by their consistent commitment to our mission and their abiding respect for differing views. I applaud the staff for the professional manner in which they dealt with these issues. Most importantly, I applaud the staff for ensuring their review was focused on the protection of public health and safety in the face of persistent schedule pressures. The commitment and respect demonstrated by the staff and ACRS during this process furthers the type of open collaborative work environment that is key to our success as an agency.

There are many technical areas of importance reviewed by the staff in preparation of the proposed rule for the design certification amendment. I want to comment on the most significant continued point of disagreement among members of the staff, the ability of the shield building to meet the agency's requirements for seismic loads. This is an area of technical complexity, but the staff presented a clear explanation in the documents related to the non-concurrence. As with so many of the issues we deal with as an agency, even matters of technical complexity often come down to subjective judgments and interpretations of regulations, guidance, codes, and standards.

As I understand the issue, the disagreement rests on the necessity of the structural elements of the shield building to perform in a ductile manner. In revising the shield building design to satisfy staff concerns, Westinghouse proposed two types of modules to comprise the bulk of the shield building. Since these modules represent a new type of steel-concrete composite structure previously unused in the nuclear context in the United States, the staff required Westinghouse to confirm many of the structural properties of these modules through a series of tests. One of these modules, which would be used in approximately 60 percent of the shield building, was unable to satisfy the experimental protocol developed by Westinghouse and agreed to by the staff. In particular, this structural module failed the out of plane shear test in a brittle manner and therefore failed to exhibit ductile behavior. As I understand the issue, had the second module type satisfied the test protocols, there would be no disagreement among the staff. (This was in fact the case for the first module type used in the areas of the shield building which are expected to experience higher loads during the design basis event.)

The point of contention appears to me to be whether this is necessary to comply with the agency's regulations. The staff believes it does not because the forces that the shield building

would experience in the regions where these modules would be used would be much lower than the loads that would lead to failure of the module, in other words the module is strong enough. This has been determined by Westinghouse through simulation and reviewed and approved by the staff. As a result, the *overall structure* would exhibit ductile behavior because the second module type would not be expected to suffer significant deformation. In addition, the areas of the shield building in which the energy dissipation are concentrated would involve the first module type, which did exhibit ductile failure in experimental tests. Moreover the staff believes that the most relevant code here American Concrete Institute (ACI)-349 does not *require* ductility of all elements of the structure.

The non-concurren, however, believes this does matter, because the most relevant code ACI-349-approved by the staff as an acceptable code for demonstrating compliance with seismic and structural regulations requires each element of the structure to demonstrate ductile failure *even for loads* which exceed the expected design loads of the design basis event, namely the safe shutdown earthquake. As I understand the position of the non-concurren, the ductility requirement is a defense in depth measure to account for the inability to predict all the possible loads on a structure, but still ensure that there is not a catastrophic collapse if actual forces during an earthquake or other event are different than the forces analyzed by Westinghouse and the staff. Moreover ductility is an inherent property of the material determined by a test protocol which subjects the material to forces several times the forces necessary to deform steel. As a result, the ductility property is independent of the specific forces of any specific scenario.

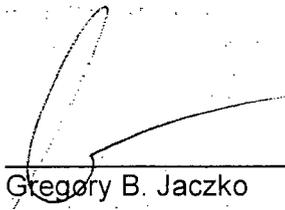
Many individuals have reviewed this disagreement, including the Advisory Committee on Reactor Safeguards, and have found the approach taken by the staff acceptable. Based on the information, I have seen at this point there appears to be no one technically correct judgment in this case. Rather, the many reviewers of the shield building have different philosophical approaches to acceptable design. I applaud the non-concurren for pursuing his view of the most appropriate manner in which to provide reasonable assurance of adequate protection.

I am not convinced at this time, however, that the design as presented does not comply with the Commission's regulations. While it is clear that the use of a ductile material in all areas of the shield building would provide an additional enhancement to safety, I am not convinced that there is a clear case that such a design requirement exists in the most relevant ACI code or any of the other codes referenced by Westinghouse and the staff and therefore would be seen as a necessary condition for approval by the staff. I suspect stakeholders will comment on this issue during the proposed rule stage and I encourage the Commission to specifically develop one or more questions to frame the issue and guide stakeholders to comment in the most productive manner for the Commission's consideration of the final rule for the design certification.

As part of their review, the staff effectively developed a standard for steel-concrete composite structures; however, I believe it would be more effective to develop such an approach apart from any specific design review. It is clear from the staff's safety evaluation that one of the challenges that they faced in reviewing the AP1000 shield building was the lack of a directly acceptable design and construction consensus standard. The lack of a directly applicable standard necessitated the reliance on portions of closely related standards produced by ACI, American Institute of Steel Construction, Japan Electric Association Code, and Federal Emergency Management Agency. If this type of construction is to be continued in the United States for facilities regulated by the NRC, it would be advantageous to have such a detailed standard developed independent of any specific design approval. Therefore, I also encourage the staff to aid in any effort by the ACI or other consensus standard organization to develop a

standard that covers the proper design and construction of steel-concrete composite structure that form part of a nuclear power plant and that has nuclear safety-related functions.

As the staff evaluates comments on this proposed rule, I am confident that the staff will continue to demonstrate their commitment to public health and safety and respect for differing views by their thoughtful consideration of the public comments that may be submitted on the proposed rule and the technical changes to the AP1000 standard design, specifically, the shield building and instrumentation and controls.



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Gregory B. Jaczko

11/31/11  
Date

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary  
FROM: COMMISSIONER SVINICKI  
SUBJECT: SECY-11-0002 – PROPOSED RULE: AP1000 DESIGN  
CERTIFICATION AMENDMENT (RIN 3150-AI81)

Approved XX Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below XX Attached XX None \_\_\_\_\_

I approve the proposed amendment to 10 CFR Part 52 for publication in the *Federal Register*, subject to the attached edits. I commend the staff's successful demonstration of the NRC's nonconcurrency process, which allows issues to be raised, evaluated, and dispositioned with finality.



\_\_\_\_\_  
SIGNATURE

02/ **2** /11

\_\_\_\_\_  
DATE

Entered on "STARS" Yes  No \_\_\_\_\_

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 52**

**RIN 3150-A181**

**NRC-2010-0131**

**AP1000 Design Certification Amendment**

**AGENCY:** U.S. Nuclear Regulatory Commission.

**ACTION:** Proposed rule.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC or Commission) proposes to amend its regulations to certify an amendment to the AP1000 standard plant design. The purpose of the amendment is to replace the combined license (COL) information items and design acceptance criteria (DAC) with specific design information, address the effects of the impact of a large commercial aircraft, incorporate design improvements, and increase standardization of the design. Upon NRC rulemaking approval of its amendment to the AP1000 design, an applicant seeking an NRC license to construct and operate a nuclear power reactor using the AP1000 design need not demonstrate in its application the safety of the certified design. The applicant for this amendment to <sup>the</sup> AP1000 certified design is Westinghouse Electric Company, LLC (Westinghouse). The public is invited to submit comments on this proposed design certification rule (DCR), the revised generic design control document (DCD) that would be incorporated by reference into the DCR, and the environmental assessment (EA) for this amendment to the AP1000 design. X

**DATES:** Submit comments on the DCR, the revised DCD and/or the EA for this amendment by **[insert date 75 days after publication in the *Federal Register*]**. Submit comments specific to the information collections aspects of this rule by **[insert date 30 days after publication in the *Federal Register*]**. Comments received after the above dates will be considered if it is practical

will not be edited to remove any identifying or contact information, the NRC cautions you against including any information in your submission that you do not want to be publicly disclosed. The NRC requests that any party soliciting or aggregating comments received from other persons for submission to the NRC inform those persons that the NRC will not edit their comments to remove any identifying or contact information, and, therefore, they should not include any information in their comments that they do not want publicly disclosed.

~~Documents which are not publicly available because they contain proprietary information (PI), sensitive unclassified non-safeguards information (SUNSI), or safeguards information (SGI) may be requested by interested persons who wish to comment on the proposed DCR. Such persons shall follow the procedures described in Section VII of the Supplementary Information SUPPLEMENTARY INFORMATION section of this document.~~

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 fee publicly available documents at the NRC's PDR, Room O-1F21, 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 electronically at the NRC's Electronic Reading Room 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 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 to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov).

**Federal Rulemaking Web site:** Public comments and supporting materials related to this proposed rule can be found at <http://www.regulations.gov> by searching on Docket ID NRC-2010-0131.

Documents that are not publicly available because they are considered to be either SUNSI (including SUNSI constituting <sup>proprietary information</sup> (PI)) or SGI may be available to interested persons who may wish to comment on the proposed design certification amendment. Interested persons shall follow the procedures described in the Supplementary Information section of this notice, Section VII, "Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Preparation of Comments on the Proposed Amendment to the AP1000 Design Certification." X

## II. 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.

During its initial certification of the AP1000 design, the NRC issued a final safety evaluation report (FSER) for the AP1000 as NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," in September 2004. From March 2006 through May 2007, NuStart Energy Development, LLC (NuStart)<sup>1</sup> and Westinghouse provided the NRC with a number of technical reports (TRs) for pre-application review in an effort to: 1) close specific, generically applicable COL information items (information to be supplied by COL

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<sup>1</sup> The NuStart member companies are: Constellation Generation Group, LLC, Duke Energy Corporation, EDF-International North America, Inc., Entergy Nuclear, Inc, Exelon Generation Company, LLC, Florida Power and Light Company, Progress Energy, and Southern Company Services, Inc.

applicants/holders) in the AP1000 certified standard design; 2) identify standard design changes resulting from the AP1000 detailed design efforts; and 3) provide specific standard design information in areas or for topics where the AP1000 DCD was focused on the design process and acceptance criteria. TRs typically addressed a topical area (e.g., redesign of a component, structure or process) and included the technical details of a proposed change, design standards, analyses and justifications as needed, proposed changes to the DCD, and Westinghouse's assessment of the applicable regulatory criteria (e.g. the assessment of the criteria in 10 CFR Part 52, Appendix D, Section VIII, "Processes for Changes and Departures"). The NRC identified issues associated with the TRs and engaged Westinghouse in requests for additional information and meetings during the pre-application phase to resolve them.

On May 26, 2007, Westinghouse submitted Revision 16 (ADAMS Accession No. ML071580939) of its application via transmittal letter (ADAMS Accession No. ML071580757) to amend the AP1000 design certification. This application was supplemented by letters dated October 26, November 2, and December 12, 2007, and January 11 and January 14, 2008. The application noted, in part:

1) Generic amendments to the design certification including additional design information to resolve DAC and design-related COL information items, as well as design information to make corrections and changes, would result in further standardization and improved licensing efficiency for the multiple COL applications referencing the AP1000 DCR that were planned for submittal in late 2007 and early 2008. X

2) Westinghouse, in conjunction with NuStart, has been preparing TRs since late 2005. These TRs were developed with input, review, comment, and other technical oversight provided by NuStart members including the prospective AP1000 COL applicants. Submittal of these TRs to the NRC was initiated in March 2006. The TRs contain X

change packages and changes already accepted by the NRC in the review process of Revision 17 to the AP1000 DCD. In the course of the review of both design change packages, the NRC determined that DCD changes were needed. In response to NRC questions, Westinghouse proposed such changes. Once the NRC was satisfied with these DCD markups, they were documented in the safety evaluation report (SER) as <sup>confirmatory items</sup> CIs. The CIs were first identified during the NRC's review of Revision 17 of the AP1000 DCD. With the review of Revision 18, the NRC will confirm that Westinghouse has made those changes to the DCD accepted by the NRC that were not addressed in Revision 17 to the AP1000 DCD. The use of CIs is restricted to cases where the NRC has reviewed and approved specific design control document proposals. For the final rule, the NRC will complete the review of the CIs and prepare a FSER reflecting that action. The CIs are closed based upon an acceptable comparison between the revised DCD text and the text required by the CI. No technical review of Revision 18 by the NRC is necessary, because only CIs and design changes pursuant to DC/COL-ISG-011 previously accepted by the NRC are contained in Revision 18 to the DCD.

In order to simplify the NRC's review of the design change documentation, and to simplify subsequent review by the NRC's Advisory Committee on Reactor Safeguards (ACRS), the design changes pursuant to DC/COL-ISG-011 are reviewed in a separate chapter (Chapter 23) of the FSER. This chapter indicates which areas of the DCD are affected by each design change and the letters from Westinghouse that submitted them. In some cases, NRC's review of the design changes reviewed in Chapter 23 may be incorporated into the chapters of the FSER where this material would normally be addressed because of the relationship between individual design changes and the review of prior DCD changes from Revisions 16 and 17 of the DCD.

The Westinghouse Revision 18 letter includes an enclosure providing a cross-reference to the DCD changes and the applicable 10 CFR 52.63(a)(1) criteria. Revision 17 provides a

similar cross-reference in the September 22, 2008, Westinghouse letter for those changes associated with the revised DCD. Revision 16 on the other hand, uses TRs to identify the DCD changes and lists the corresponding applicable 10 CFR 52.63(a)(1) criteria via Westinghouse memorandum, dated May 26, 2007 (Table 1).

As of the date of this document, the application for amendment of the AP1000 design certification has been referenced in the following COL applications:

- Vogtle, Units 3 and 4, Docket No. 05200025/6, 73 FR 33118
- Bellefonte Nuclear Station, Units 3 and 4, Docket Nos. 05200014/5, 73 FR 4923
- Levy County, Units 1 and 2, Docket Nos. 05200029/30, 73 FR 60726
- Shearon Harris, Units 2 and 3, Docket Nos. 05200022/3, 73 FR 21995
- Turkey Point, Units 6 and 7, Docket Nos. 05200040/1, 74 FR 51621
- Virgil C. Summer, Units 2 and 3, Docket Nos. 05200027/8, 73 FR 45793
- William States Lee III, Units 1 and 2, Docket Nos. 05200018/9, 73 FR 11156

### III. Discussion

#### A. Technical Evaluation of Westinghouse Amendment to the AP1000 Design

Westinghouse's request to amend the AP1000 design contained several classes of changes. Each class is discussed below:

##### Editorial Changes

Westinghouse requested changes to the AP1000 DCD to correct spelling, punctuation, grammar, designations, and references. None of these changes is intended to make any substantive changes to the certified design, and NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," Supplement 2 (SER) does not address these changes.

##### Changes to Address Consistency and Uniformity

Westinghouse requested changes to the AP1000 DCD to achieve consistency and uniformity in the description of the certified design throughout the DCD. For example, a change to the type of reactor coolant pump (RCP) motor is evaluated in Chapter 5 of the SER on the application for the AP1000 amendment; Westinghouse requested that wherever this RCP motor is described in the DCD, the new description of the changed motor be used. The NRC reviewed the proposed change (to be used consistently throughout the DCD) to ensure that the proposed changes needed for uniformity and consistency are technically acceptable and do not adversely affect the previously approved design description. The NRC's bases for approval of these changes are set forth in the SER for the AP1000 amendment.

Substantive Technical Changes to the AP1000 Design (other than those needed for compliance with the AIA rule)

Among the many technical changes that are proposed by Westinghouse for inclusion in Revision 18 of the AP1000 DCD, the NRC selected 15 substantive changes for specific discussion in this proposed rule notice, based on their safety significance:

- Removal of Human Factors Engineering (HFE) Design Acceptance Criteria (DAC) from the DCD X
- Change to Instrumentation and Control (I&C) DAC and Inspection, Test, Analysis, and Acceptance Criteria (ITAAC)
- Minimization of Contamination
- ~~Change to I&C DAC and ITAAC~~ { Extension of Seismic Spectra to Soil Sites and Changes to Stability and Uniformity of Subsurface Materials and Foundations X
- Long-Term Cooling
- Control Room Emergency Habitability System
- Changes to the Component Cooling Water System (CCWS)
- Changes to I&C Systems

categories of information for which there is issue resolution. Paragraph B.1 provides that all nuclear safety issues arising from the Atomic Energy Act of 1954 (the Act), as amended, that are associated with the information in the NRC's final safety evaluation report related to certification of the AP1000 standard design (ADAMS Accession No. ML103260072) and the Tier 1 and Tier 2 information and the rulemaking record for Appendix D to 10 CFR Part 52, 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 <sup>PI</sup>proprietary and SGI, which are intended to be requirements. Paragraph B.2 provides for issue preclusion of <sup>PI</sup>proprietary and SGI. X X

The NRC is proposing to revise paragraph B.1 to extend issue resolution to the information contained in the NRC's FSER (Supplement No. 2) and the rulemaking record for this amendment. In addition, the NRC is proposing to revise paragraph B.2 to extend issue resolution to the broader category of SUNSI, including PI, referenced in the generic DCD.

The NRC is also proposing to revise paragraph 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 EA for the AP1000 design and Appendix 1B of the generic DCD (Revision 15) for plants referencing Appendix D to 10 CFR Part 52 whose site parameters are within those specified in the SAMDA evaluation. The NRC is proposing to revise this paragraph to also identify as resolved all environmental issues concerning SAMDA associated with the information in the NRC's final EA for this amendment and Appendix 1B of Revision 18 of the generic DCD for plants referencing Appendix D to 10 CFR Part 52 whose site parameters are within those specified in the SAMDA evaluation. X

Finally, the NRC is proposing to revise paragraph E, which provides the procedure for an interested member of the public to obtain access to SUNSI (including PI) and SGI for the X

AP1000 design <sup>in order</sup> to request and participate in proceedings, as identified in paragraph B, involving licenses and applications <sup>that</sup> which reference Appendix D to 10 CFR Part 52. The NRC is proposing to replace 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 PI) <sup>of</sup> 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 Appendix D to 10 CFR Part 52 in which interested persons have a right to request an adjudicatory hearing. 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 and 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).)

X  
X

X

In the four currently approved design certifications (10 CFR Part 52, Appendices A through D), paragraph E presents specific directions on how to obtain access to PI and SGI on the design certification in connection with a license application proceeding referencing that DCR. The NRC is proposing this change because these provisions were developed before the terrorist events of September 11, 2001. After September 11, 2001, 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 E of the four currently approved DCRs should not be included in the DCR for the AP1000. Instead, the NRC should specify the procedures to be used for obtaining access at an appropriate time in the COL proceeding referencing the AP1000 DCR. The NRC intends to include the new rule language in any future amendments or renewals of the currently existing DCRs, as well as in new <sup>i.e.,</sup> (initial) DCRs. However, the NRC is not planning to initiate rulemaking to change paragraph E of the existing DCRs, to minimize unnecessary resource expenditures by both the original DCR applicant and the NRC. X

#### 5. 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 B.

Departures from Tier 2 that a licensee may make without prior NRC approval are addressed under paragraph B.5 (similar to the process in 10 CFR 50.59). The NRC is proposing 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 proposing to revise paragraph 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 proposing to redesignate paragraphs B.5.d, B.5.e, and B.5.f as paragraphs B.5.e, B.5.f, and B.5.g, respectively, and to add a new paragraph B.5.d. Proposed paragraph B.5.d would require an

of the plant from explosions or fires to comply with the requirements in 10 CFR 50.54(hh). The proposed addition of these provisions to Appendix D to 10 CFR Part 52 is consistent with the NRC's intent when it issued the AIA rule in 2009, as noted in the statements of consideration for that rule (74 FR 28112; June 12, 2009, at page 28122, third column).

Paragraph B.6 of Appendix D to 10 CFR Part 52 provides a process for departing from Tier 2\* information. The creation of, and restrictions on changing, Tier 2\* information resulted from the development of the Tier 1 information for the ABWR design certification (Appendix A to 10 CFR Part 52) and the ABB-CE [ASEA Brown Boveri - Combustion Engineering] System 80+ design certification (Appendix B to 10 CFR Part 52). During this development process, these applicants requested that the amount of information in Tier 1 be minimized to provide additional flexibility for an applicant or licensee who references these appendices. Also, many codes, standards, and design processes that would not be specified in Tier 1, but were acceptable for meeting ITAAC were specified in Tier 2. The result of these actions was that certain significant information only exists in Tier 2 and the Commission did not want this significant information to be changed without prior NRC approval. This Tier 2\* information was identified in the generic DCD with italicized text and brackets (See Table 1-1 of the AP1000 DCD Introduction for a list of the Tier 2\* items). Although the Tier 2\* designation was originally intended to last for the lifetime of the facility, like Tier 1 information, the NRC determined that some of the Tier 2\* information could expire when the plant first achieves full power (100 percent), after the finding required by 10 CFR 52.103(g), while other Tier 2\* information must remain in effect throughout the life of the facility. The factors determining whether Tier 2\* information could expire after the first full-power was achieved were whether the Tier 1 information would govern these areas after first full-power and the NRC's determination that prior approval was required before implementation of the change due to the significance of the information. Therefore, certain Tier 2\* information listed in paragraph B.6.c would cease to retain its Tier 2\* designation after

full-power operation is first achieved following the Commission finding under 10 CFR 52.103(g). Thereafter, that information would be deemed to be Tier 2 information that would be subject to the departure requirements in paragraph B.5. By contrast, the Tier 2\* information identified in paragraph B.6.b would retain its Tier 2\* designation throughout the duration of the license, including any period of license renewal.

The NRC is proposing to revise certain items designated as Tier 2\*. The item on HFE would be moved from paragraph B.5.b to paragraph B.5.c, with the effect that the Tier 2\* designation on that information would expire after full-power operation is achieved rather than never expiring. In addition, a new item would be added to paragraph B.5.b for RCP type. The NRC determined that certain specific characteristics of the RCP were significant to the safety review and that prior approval of changes affecting those characteristics would be required. This Tier 2\* designation does not expire.

Finally, the NRC also concluded that the Tier 2\* designation was not necessary for the specific Code edition and addenda for the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), as listed in item VIII.B.6.c.(2). At the time of the initial certification, the NRC determined that this information should be Tier 2\*. Subsequently, 10 CFR Part 50 was modified to include provisions in 10 CFR 50.55a(b)(1)(iii) to provide restrictions in the use of certain editions/addenda to the ASME Code, Section III, that the NRC found unacceptable. In addition, 10 CFR 50.55a(c)(3), (d)(2) and (e)(2), for reactor coolant pressure boundary, Quality Group B Components, and Quality Group C Components, respectively, provide regulatory controls on the use of later edition/addenda to the ASME Code, Section III, through the conditions NRC established on use of paragraph NCA-1140 (of the Code). As a result, these rule requirements adequately control the ability of a licensee to use a later edition of the ASME Code and addenda such that Tier 2\* designation is not necessary. Thus, the Tier 2\* item in paragraph B.6.c.(2) for ASME Code was modified to be limited to ASME Code



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.

The NRC is proposing to revise certain items designated as Tier 2\*. The item on HFE would be moved from paragraph B.6.b to paragraph B.6.c, with the effect that the Tier 2\* designation on that information would expire after full-power operation is achieved rather than never. In addition, a new item would be added to paragraph B.6.b for RCP type. The NRC determined that certain specific characteristics of the RCP were significant to the safety review and that prior approval of changes affecting those characteristics would be required. This Tier 2\* designation does not expire.

The NRC also concluded that the Tier 2\* designation was not necessary for the specific Code edition and addenda for the ASME code as listed in paragraph B.6.c(2). Thus, the item in paragraph B.6.c(2) for <sup>the</sup> ASME Code would be modified to be more limited in scope. The NRC would retain the Tier 2\* designation for the Code edition applicable to containment in paragraph B.6.c(14) and added paragraph B.6.c(16) on ASME Code cases, which are specified in Table 5.2-3 of the generic DCD.

#### G. Records and Reporting (Section X).

The NRC is proposing to amend Section X, Records and Reporting, to revise paragraph A.1 to replace the term "proprietary information" with the broader term "sensitive unclassified non-safeguards information." Paragraph A.1 would also be 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 would ensure 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 AP1000 generic DCD and the NRC-approved version of the SUNSI would be required to be maintained for the period that Appendix D to 10 CFR Part 52 may be referenced.

The NRC is also proposing to add a new paragraph A.4.a, which would require Westinghouse 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 proposed provision, which is consistent with 10 CFR 50.150(c)(3), would facilitate any NRC inspections of the assessment that the NRC decides to conduct.

NDENT → Similarly, the NRC is proposing new paragraph A.4.b, which would require an applicant or licensee who references Appendix D to 10 CFR Part 52 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. X

#### **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 Act or the provisions of this section. 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 Section I, "Submitting Comments and Accessing Information" of this <sup>notice</sup> document. X

Document	PDR	Web	ADAMS
SECY-11-0002, "Proposed Rule – AP1000 Design Certification Amendment"	x	x	ML103000397
AP1000 Design Control Document (DCD) Revision 18, Transmittal Letter	x	x	ML103480059
Westinghouse AP1000 DCD Revision 18 (public version)	x	.....	ML103480572
Advanced Final Safety Evaluation Report for Revision 18 to the AP1000 Standard Design Certification (publicly available)	x	.....	ML103260072
AP1000 Environmental Assessment	x	x	ML103000415
Interim Staff Guidance DC/COL-ISG-011, "Finalizing Licensing-basis Information"	x	x	ML092890623
Design Changes Submitted by Westinghouse, Revision 18	x	x	ML100250873
AP1000 Technical Reports (Appendix)	x	----	ML103350501

cost-beneficial; and 2) do not result in the identification of any new SAMDAs that could become cost beneficial.

The Commission is requesting comment on the draft EA. As provided in 10 CFR 51.31(b), comments on the draft EA will be limited to the consideration of SAMDAs as required by 10 CFR 51.30(d). The Commission will prepare a final EA following the close of the comment period for the proposed standard design certification. If a final rule is issued, all environmental issues concerning SAMDAs associated with the information in the final EA and Appendix 1B of the AP1000 DCD Tier 2 will be considered resolved for plants referencing Amendment 1 to the AP1000 design whose site parameters are within those specified in SAMDA evaluation. The existing site parameters specified in the SAMDA evaluation are not affected by this design certification amendment.

The draft EA, upon which the Commission's finding of no significant impact is based, and Revision 18 of the AP1000 DCD are available for examination and copying at the NRC's PDR, One White Flint North, 11555 Rockville Pike, Room O-1 F21, Rockville, Maryland 20852.

#### **XI. Paperwork Reduction Act Statement**

This proposed 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.). This rule has been submitted to OMB for review and approval of the information collection requirements.

*Type of submission, new or revision:* Revision

*The title of the information collection:* 10 CFR Part 52, AP1000 Design Certification  
Amendment

*The form number if applicable:* N/A

*How often the collection is required:* On occasion. Reports required under 10 CFR Part 52, Appendix D, paragraph IV.A.4, are collected and evaluated once <sup>delete</sup> if licensing action is <sup>extra space</sup> sought on a COL application referencing the AP1000 design and the COL applicant is not using

(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.

### **XIII. Regulatory Flexibility Certification**

Under the Regulatory Flexibility Act (5 U.S.C. 605(b)), the Commission certifies that this rule would not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed 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.

### **XIV. Backfitting**

The NRC has determined that this proposed rule meets the requirements of the backfit rule, 10 CFR 50.109, and the requirements governing changes to DCRs in 10 CFR 52.63(a)(1).

The proposed rule does not constitute backfitting as defined in the backfit rule (10 CFR 50.109) with respect to operating licenses under 10 CFR Part 50 because there are no operating licenses referencing this DCR.

Westinghouse requested many changes to the AP1000 DCD to correct spelling, punctuation, or similar errors, <sup>which</sup> and results in text that has the same essential meaning. The NRC concludes that these Westinghouse-requested changes, which are editorial in nature, neither

constitute backfitting as defined in 10 CFR 50.109(a)(1), nor are these changes inconsistent with the issue finality provisions of 10 CFR 52.63 or 10 CFR 52.83. The backfitting and issue finality provisions were not meant to apply to such editorial changes in as much as such changes would have insubstantial impact on licensees with respect to their design and operation, and are not the kind of changes falling within the policy considerations that underlie the backfit rule and the issue finality provisions of 10 CFR 52.63 and 52.83.

Westinghouse also requested changes to the AP1000 DCD, which the NRC understands were the result of requests to Westinghouse from COL applicants referencing the AP1000 design, in order to achieve consistency in description and approach in different portions of the DCD. In the absence of a generic change to the AP1000, the referencing COL applicants stated to Westinghouse and the NRC that each would likely take plant-specific departures to address the inconsistency. While this could result in more consistency within any given COL application, it would result in inconsistencies among the different referencing COLs, which is inconsistent with the overall standardization goal of 10 CFR Part 52. Accordingly, the NRC concludes that the Westinghouse-requested changes to the AP1000 to address consistency do not constitute backfitting under the backfit rule (in as much as they are voluntary) and are not otherwise inconsistent with the issue finality provisions of 10 CFR 52.63 and 52.83.

Westinghouse also proposed numerous substantive changes to the AP1000 design, including, but not limited to, minor component design details, replacement of a design feature with another having similar performance (e.g., turbine manufacturer, power for the auxiliary boiler), and changes allowing additional capability for operational flexibility (e.g., liquid waste holdup tanks, unit reserve transformer). Westinghouse included within its application a detailed list of each DCD content change and the basis under 10 CFR 52.63(a)(1) that supports including that change in this amendment.

I. **10 CFR 52.63 Criterion (a)(1)(iv): Provides the Detailed Design Information to be Verified under those ITAAC, which are Directed at Certification Information (i.e., DAC).**

**Title: Removal of Human Factors Engineering Design Acceptance Criteria from the Design Control Document**

**Item: 1 of 15**

**Significant Change:** The ITAAC Design Commitments for Human Factor Engineering (HFE) is in Tier 1, Table 3.2-1. In Revision 17 of the AP1000 DCD, Westinghouse proposed deletion of the Human Factors DAC (Design Commitments 1 through 4) and provided sufficient supporting documentation to meet the requirements of these ITAAC. Design Commitment 1 pertains to the integration of human reliability analysis with HFE design. Design Commitment 2 pertains to the HFE task analysis. Design Commitment 3 pertains to the human-system interface. Design Commitment 4 pertains to the HFE program verification and validation implementation. The information developed by Westinghouse to satisfy these ITAAC is included in Chapter 18 of the DCD.

**Location within the Safety Evaluation (SER) where the changes are principally described:**

The details of the NRC's evaluation of Westinghouse's design features associated with the HFE DAC are in Sections 18.7.6 (design commitment 1), 18.5.9 (design commitment 2), 18.2.8 (design commitment 3), and 18.11 (design commitment 4) of the SER (ADAMS Accession No. ML103260072). *with*  
X

**Evaluation of the Criteria in 10 CFR 52.63(a)(1):**

The additional information included in Tier 2 provides detailed design information on human factors design that would otherwise have to be addressed through verification of

minimize the generation of radioactive waste. The DCD changes are documented in Westinghouse Technical Report 98, "Compliance with 10 CFR 20.1406" (APP-GW-GLN-098), Revision 0 (ADAMS Accession No. ML071010536). Westinghouse evaluated contaminated piping, the spent fuel pool (SFP), air handling systems, and the radioactive waste drain system to show that piping and components utilize design features that will prevent or mitigate the spread of contamination within the facility or the environment. Westinghouse has incorporated modifications and features such as SFP, *design changes related to seismic and criticality analyses,* elimination of underground radioactive tanks, RCPs without mechanical seals, fewer embedded pipes, less radioactive piping in *the* auxiliary building and containment vessel, and monitoring the radwaste discharge pipeline to demonstrate that the AP1000 design certification, as amended, will be in compliance with the subject regulation and Regulatory Guidance (RG) 4.21, "Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning," (June 2008). R  
X

**Location within the SER where the changes are principally described:**

The details of the NRC's evaluation of Westinghouse's design features are in Section 12.2 of the SER (ADAMS Accession No. ML103260072).

**Evaluation of the Criteria in 10 CFR 52.63(a)(1)(vii):**

Inclusion in the DCD of the more detailed information about the features for minimization of contamination provides additional information to be included in the DCD for the AP1000 that increases standardization of the AP1000 design. Thus, the changes meet the finality criterion for changes in 10 CFR 52.63(a)(1)(vii).

**Title: Extension of Seismic Spectra to Soil Sites and Changes to Stability and Uniformity of Subsurface Materials and Foundations**

**Item: 4 of 15**

**Significant Change:** In AP1000 DCD Tier 2, Sections 2.5.2 and 3.7, Westinghouse extended the AP1000 design to five soil profiles, including firmrock through soft soil sites, for

range of soil conditions is a change that provides additional information leading to increased standardization of this aspect of the design. In addition, the change reduces the need for COL applicants to seek departures from the current AP1000 design in as much as most sites do not conform to the currently-approved hard rock sites. Therefore, the change increases standardization and meets the finality criterion for changes in 10 CFR 52.63(a)(1)(vii).

**Title: Long-Term Cooling**

**Item: 5 of 15**

**Significant Change:** DCD Tier 2, ~~DCD~~ Section 6.3.8 describes the changes to COL information items related to containment cleanliness and verification of water sources for long-term recirculation cooling following a loss-of-coolant accident (LOCA). The COL information item related to verification of water sources for long-term recirculation cooling following a LOCA was closed based on Westinghouse TR-26, "AP1000 Verification of Water Sources for Long-Term Recirculation Cooling Following a LOCA," APP-GW-GLR-079 (ADAMS Accession No. ML102170123) and other information contained in DCD Chapter 6. Section 6.3.2.2.7 describes the evaluation of the water sources for long-term recirculation cooling following a LOCA, including the design and operation of the AP1000 PCCS debris screens. DCD Tier 1, Section 2.2.3, includes the associated design descriptions and ITAAC. The COL information item requires a cleanliness program to limit the amount of latent debris in containment consistent with the analysis and testing assumptions.

**Location within the SE where the changes are principally described:**

The details of the NRC's evaluation of Westinghouse's design features associated with long-term cooling in the presence of LOCA-generated and latent debris and General Design Criteria 35 and 38 <sup>are</sup> in Subsection 6.2.1.8 of the SE (ADAMS Accession No. ML103260072).

**Evaluation of the Criteria in 10 CFR 52.63(a)(1):**

Inclusion in the DCD of the design and analysis information that demonstrates adequacy of long-term core cooling provides additional information leading to increased standardization of this aspect of the design. Therefore, the change meets the finality criterion for changes in 10 CFR 52.63(a)(1)(vii).

**Title: Control Room Emergency Habitability System**

**Item: 6 of 15**

**Significant Change:** DCD Tier 2, Section 6.4 has undergone significant revision.

Westinghouse re-designed its main control room emergency habitability system to meet control room radiation dose requirements using the standard assumed in-leakage of 5 cubic feet per minute in the event of a release of radiation. The changes include the addition of a single-failure proof passive filter train. The flow through the filter train is provided by an eductor downstream of a bottled air supply. These changes were prompted by Westinghouse's proposal to revise the ~~containment~~ atmospheric dispersion factors from those certified in Revision 15 to larger values to better accommodate COL sites. As a result, other design changes were needed to maintain doses in the control room within acceptable limits.

**Location within the SER where the changes are principally described:**

The details of the NRC's evaluation of Westinghouse's design features associated with radiation dose to personnel under accident conditions are in Section 6.4 of the SER (ADAMS Accession No. ML103260072).

**Evaluation of the Criteria in 10 CFR 52.63(a)(1):**

Incorporation of design changes to the main control room ventilation systems would contribute to increased standardization of this aspect of the design. Therefore, the change meets the finality criterion for changes in 10 CFR 52.63(a)(1)(vii).

**Evaluation of the Criteria in 10 CFR 52.63(a)(1):**

Inclusion in the DCD of the changes to the spent fuel rack design and criticality analysis would contribute to the increased standardization of this aspect of the design. Therefore, the change meets the finality criterion for changes in 10 CFR 52.63(a)(1)(vii).

**Title:** Vacuum Relief System

**Item:** 15 of 15

**Significant Change:** In Revision 18 to AP1000 DCD Tier 2, Chapters 3, 6, 7, 9, and 16, Westinghouse proposed changes to the design of the containment which add a vacuum relief system to the existing containment air filtration system vent line penetration. The proposed vacuum relief system consists of redundant vacuum relief devices inside and outside containment sized to prevent differential pressure between containment and the shield building from exceeding the design value of 1.7 psig, which could occur under extreme temperature conditions.

Each relief flow path consists of a check valve inside containment and motor operated butterfly valve outside of containment. The redundant relief devices outside containment share a common inlet line with redundant outside air flow entry points. The outlet lines downstream of the outside containment relief devices are routed to a common header connected to the vent line penetration. The redundant relief devices inside containment share a common inlet line from the vent line penetration and have independent discharge lines into containment.

**Location within the SER where the changes are principally described:**

The details of the NRC's evaluation of Westinghouse's design features associated with the addition of the vacuum relief system are in Chapter 23, Section W, of the SER (ADAMS Accession No. ML103260072).

**Evaluation of the Criteria in 10 CFR 52.63(a)(1):**

Inclusion in the DCD of the introduction of a containment vacuum relief system would contribute to the increased standardization of this aspect of the design. Therefore, the change meets the finality criterion for changes in 10 CFR 52.63(a)(1)(vii).

**Changes Addressing Compliance with Aircraft Impact Assessment Rule (10 CFR 50.150)**

The proposed rule would amend the existing AP1000 DCR, in part, to address the requirements of the AIA rule. The AIA rule itself mandated that a DCR be revised, <sup>e</sup> if not during the DCR's current term, then no later than its renewal <sup>a</sup> to address the requirements of the AIA rule. In addition, the AIA rule provided that any COL issued after the effective date of the final AIA rule must reference a DCR complying with the AIA rule, or itself demonstrate compliance with the AIA rule. The AIA rule may therefore be regarded as inconsistent with the finality provisions in 10 CFR 52.63(a) and Section VI of the AP1000 DCR. However, the NRC provided an administrative exemption from these finality requirements when the final AIA rule was issued. See *Federal Register* notice, 74 FR 28112; June 12, 2009, at 28143-28145. Accordingly, the NRC has already addressed the backfitting implications of applying the AIA rule to the AP1000 with respect to the AP1000 and referencing COL applicants. X X

2. In Appendix D to 10 CFR Part 52, Section IV, revise paragraph A.3 and add paragraph A.4 to read as follows:

**Appendix A to Part 52--Design Certification Rule for the U.S. Advanced Boiling Water Reactor**

\* \* \* \* \*

**IV. Additional Requirements and Restrictions**

A. \*\*\*

3. Include, in the plant-specific DCD, the SUNSI (including PI) and SGI referenced in the AP1000 DCD.

4. Include, as part of its application, a demonstration that an entity other than Westinghouse is qualified to supply the AP1000 design unless Westinghouse supplies the design for the applicant's use.

\* \* \* \* \*

3. In Appendix D to 10 CFR Part 52:

a. In Section III, revise paragraphs A and D. *(remove underline)*

b. In section V, redesignate paragraph A as paragraph A.1 and add a new paragraph

A.2;

c. In Section VI, revise paragraphs B.1, B.2, B.7, and E;

d. In Section VIII, revise the introductory text of paragraph B.5.b, redesignate paragraphs B.5.d, B.5.e, and B.5.f as paragraphs B.5.e, B.5.f, and B.5.g, respectively, and add a new paragraph B.5.d, and revise paragraphs B.6.b and B.6.c; and

e. In Section X, revise paragraph A.1 and add a new paragraph A.4 to read as follows:

**Appendix D to Part 52—Design Certification Rule for the AP1000 Design**

\* \* \* \* \*

**NOTATION VOTE**

**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary

**FROM:** Commissioner Apostolakis

**SUBJECT:** SECY-11-0002 – PROPOSED RULE: AP1000 DESIGN  
CERTIFICATION AMENDMENT (RIN 3150-AI81)

Approved XX Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

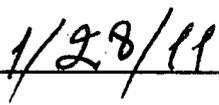
Not Participating \_\_\_\_\_

**COMMENTS:** Below XX Attached \_\_\_ None \_\_\_

I approve issuance of the draft rule for public comment and the recommendations contained in SECY-11-0002, "Proposed Rule: AP1000 Design Certification Amendment."



\_\_\_\_\_  
SIGNATURE



\_\_\_\_\_  
DATE

Entered on "STARS" Yes X No \_\_\_

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary  
FROM: COMMISSIONER MAGWOOD  
SUBJECT: SECY-11-0002 – PROPOSED RULE: AP1000 DESIGN  
CERTIFICATION AMENDMENT (RIN 3150-AI81)

Approved  Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_\_\_ Attached  None \_\_\_\_\_

  
\_\_\_\_\_  
SIGNATURE

28 January 2011  
\_\_\_\_\_  
DATE

Entered on "STARS" Yes  No \_\_\_\_\_

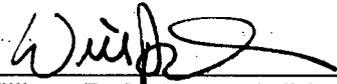
**Commissioner Magwood's Comments on SECY-11-0002**

**Proposed Rule: AP1000 DESIGN CERTIFICATION AMENDMENT**

I approve the publication of the proposed amendment to 10 CFR Part 52 with minor editorial edits attached.

I commend the staff for their diligence and tenacity in the performance of the safety review of this amendment. As the agency faces ever emerging challenges and new responsibilities, our priority remains, as always, the adequate protection of public health and safety. This rigorous safety review is an example of the agency's resolute work ethic that perpetuates NRC's worldwide reputation as a strong, stable, predictable regulator.

It was edifying to see the NRC's Non-Concurrence Process in action. This process, which allows employees to document their concerns early in the decision-making process and have them addressed as the issue moves through the management chain, is a healthy practice and contributes to more robust end products.

  
William D. Magwood, IV      1/28/11  
date

change packages and changes already accepted by the NRC in the review process of Revision 17 to the AP1000 DCD. In the course of the review of both design change packages, the NRC determined that DCD changes were needed. In response to NRC questions, Westinghouse proposed such changes. Once the NRC was satisfied with these DCD markups, they were documented in the safety evaluation report (SER) as <sup>spell out</sup> CIs. The CIs were first identified during the NRC's review of Revision 17 of the AP1000 DCD. With the review of Revision 18, the NRC will confirm that Westinghouse has made those changes to the DCD accepted by the NRC that were not addressed in Revision 17 to the AP1000 DCD. The use of CIs is restricted to cases where the NRC has reviewed and approved specific design control document proposals. For the final rule, the NRC will complete the review of the CIs and prepare a FSER reflecting that action. The CIs are closed based upon an acceptable comparison between the revised DCD text and the text required by the CI. No technical review of Revision 18 by the NRC is necessary, because only CIs and design changes pursuant to DC/COL-ISG-011 previously accepted by the NRC are contained in Revision 18 to the DCD.

In order to simplify the NRC's review of the design change documentation, and to simplify subsequent review by the NRC's Advisory Committee on Reactor Safeguards (ACRS), the design changes pursuant to DC/COL-ISG-011 are reviewed in a separate chapter (Chapter 23) of the FSER. This chapter indicates which areas of the DCD are affected by each design change and the letters from Westinghouse that submitted them. In some cases, NRC's review of the design changes reviewed in Chapter 23 may be incorporated into the chapters of the FSER where this material would normally be addressed because of the relationship between individual design changes and the review of prior DCD changes from Revisions 16 and 17 of the DCD.

The Westinghouse Revision 18 letter includes an enclosure providing a cross-reference to the DCD changes and the applicable 10 CFR 52.63(a)(1) criteria. Revision 17 provides a

DCRs. Accordingly, the specific requirements governing access to SUNSI and SGI contained in paragraph E of the four currently approved DCRs should not be included in the DCR for the AP1000. Instead, the NRC should specify the procedures to be used for obtaining access at an appropriate time in the COL proceeding referencing the AP1000 DCR. The NRC intends to include the new rule language in any future amendments or renewals of the currently existing DCRs, as well as in new <sup>initial</sup> (initial) DCRs. However, the NRC is not planning to initiate rulemaking to change paragraph E of the existing DCRs, to minimize unnecessary resource expenditures by both the original DCR applicant and the NRC.

#### 5. 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 B.

Departures from Tier 2 that a licensee may make without prior NRC approval are addressed under paragraph B.5 (similar to the process in 10 CFR 50.59). The NRC is proposing 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 proposing to revise paragraph 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 proposing to redesignate paragraphs B.5.d, B.5.e, and B.5.f as paragraphs B.5.e, B.5.f, and B.5.g, respectively, and to add a new paragraph B.5.d. Proposed paragraph B.5.d would require an

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER OSTENDORFF

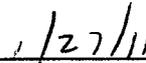
SUBJECT: SECY-11-0002 – PROPOSED RULE: AP1000 DESIGN  
CERTIFICATION AMENDMENT (RIN 3150-AI81)

Approved  Disapproved  Abstain

Not Participating

COMMENTS: Below  Attached  None

  
\_\_\_\_\_  
SIGNATURE

  
\_\_\_\_\_  
DATE

Entered on "STARS" Yes  No

## Commissioner Ostendorff's Comments on SECY 11-0002

"Proposed Rule: AP1000 Design Certification Amendment (RIN 3150-A181)"

I approve the staff's proposed AP1000 rulemaking for publication in the *Federal Register*. The NRC staff and ACRS's review of the AP1000 design for compliance with aircraft impact requirements and evaluation of numerous updates to the original AP1000 design represents exceptional service and contribution to the NRC's safety mission. Of particular exemplary effort was the staff's identification of AP1000 shield building vulnerabilities that had existed in an earlier proposed design. In reviewing this first-of-a-kind design, the staff appropriately demonstrated a questioning, safety-focused attitude to identify and resolve critical-safety issues. These issues were handled with high technical and managerial competence. Ultimately, the applicant made significant modifications to the shield building design which the staff and ACRS independently determined to be acceptable. I also commend the staff for embodying an open collaborative work environment that allows diverse or dissenting views to be raised and appropriately assessed using the NRC's established processes. I considered this particular AP1000 review prototypical of an NRC strength to vet issues openly and foster constructive resolution. The Commission is ultimately best served when safety issues are addressed in this manner. I look forward to reviewing the final rule and the staff's evaluation of comments on the proposed rule.