

# RULEMAKING ISSUE AFFIRMATION

October 18, 2011

SECY-11-0145

FOR: The Commissioners

FROM: R. W. Borchardt  
Executive Director for Operations

SUBJECT: FINAL RULE: AP1000 DESIGN CERTIFICATION AMENDMENT

PURPOSE:

To obtain the Commission's approval to publish in the *Federal Register* the enclosed final rule that amends Title 10 of the *Code of Federal Regulations* (10 CFR), Part 52, Appendix D, "Design Certification Rule for the AP1000 Design."

SUMMARY:

Westinghouse Electric Company, LLC (Westinghouse) requested changes to the AP1000 certified design, which the U.S. Nuclear Regulatory Commission (NRC or Commission) approved in the AP1000 design certification rule (DCR), 10 CFR Part 52, Appendix D. Westinghouse is seeking to replace combined license (COL) information items and design acceptance criteria with specific design information, address compliance with 10 CFR 50.150 "Aircraft impact assessment" (AIA rule), and incorporate design improvements and correction of errors resulting from detailed design efforts.

The NRC staff reviewed the requested changes in Revision 19 of the design control document (DCD) and documented its safety review in the final safety evaluation report (FSER) related to certification of the AP1000 standard design on August 5, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112061231). The NRC staff believes that the AP1000 DCR, as amended, will continue to meet all applicable requirements in 10 CFR 52.54, "Issuance of standard design certification," and meets the requirements of the AIA rule. Therefore, the staff seeks Commission approval to publish in the *Federal Register* (FR) a final rule amending the AP1000 DCR.

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**BACKGROUND:**

The AP1000 standard design was initially certified in Appendix D to 10 CFR Part 52, on January 27, 2006 (71 FR 4464). The currently approved AP1000 standard design is described in Revision 15 to the DCD (ADAMS Accession No. ML053460400), which is incorporated by reference in Appendix D.

Westinghouse submitted Revision 16 to the DCD in its application to amend the AP1000 design certification on May 26, 2007 (ADAMS Accession No. ML071580939 (public version)). This application was supplemented by letters dated October 26 (ADAMS Accession No. ML073120415), November 2 (ADAMS Accession No. ML073090471), and December 12, 2007 (ADAMS Accession No. ML073460428), and January 11 (ADAMS Accession No. ML080150513) and January 14, 2008 (ADAMS Accession No. ML080220389). On January 18, 2008, the NRC notified Westinghouse that it accepted the May 26, 2007, application, as supplemented, for docketing (Docket No. 52-006) (73 FR 4926; January 28, 2008) (ADAMS Accession No. ML073600743). On September 22, 2008, Westinghouse submitted Revision 17 to the AP1000 DCD (ADAMS Accession Nos. ML083220482 and ML083230868).

On December 1, 2010, Westinghouse submitted Revision 18 of the DCD (ADAMS Accession Nos. ML103480059 and ML103480572). Revision 18 includes all the DCD changes resulting from staff review of Revision 17, as well as additional design changes submitted during 2010, which have also been reviewed by the staff and documented in the advanced final safety evaluation report (AFSER) (ADAMS Accession No. ML103260072).

The staff completed its review of the AP1000 standard design amendment request and issued the publicly available AFSER related to certification of the AP1000 standard design Revision 18, on December 28, 2010 (ADAMS Accession No. ML103260072).

On June 13, 2011, Westinghouse submitted Revision 19 of the DCD. Revision 19 incorporated editorial (correction of typographic, grammatical, and cross-referencing errors) and conforming changes and some technical corrections (discussed below) (ADAMS Accession Nos. ML11171A315 and ML11171A500).

As of October 2011, the standard design application has been referenced in the following COL applications:

COL Name	Docket Date	Docketing FR Citation
Vogtle 3 and 4	May 30, 2008	73 FR 33118
Bellefonte 3 and 4	January 18, 2008	73 FR 4923
Levy County 1 and 2	October 6, 2008	73 FR 60726
Shearon Harris 2 and 3	April 17, 2008	73 FR 21995
Turkey Point 6 and 7	September 4, 2009	74 FR 51621
Virgil C. Summer 2 and 3	August 1, 2008	73 FR 45793
William States Lee III 1 and 2	February 25, 2008	73 FR 11156

DISCUSSION:*Scope and NRC Review of Westinghouse AP1000 Amendment Application*

In the proposed rule published in the *Federal Register* on February 24, 2011 (76 FR 10269), the NRC proposed to certify Revision 18 of the AP1000 DCD in Appendix D to 10 CFR Part 52, and used the AFSER as its technical basis. As discussed in the proposed rule, the AFSER contained confirmatory items, such as commitments in letter responses that the staff needed to verify were appropriately reflected in Revision 18. As a result of its review of Revision 18, the staff identified several areas where the DCD wording should be revised for clarity, to resolve internal inconsistencies, or to provide updated versions of referenced technical reports. Thus, the NRC's review of the confirmatory items in Revision 18 resulted in a need for DCD Revision 19.

In addition, two matters arising from the staff's interactions with the Advisory Committee on Reactor Safeguards (ACRS) are included in DCD Revision 19. These are containment internal cleanliness limits on latent debris, and correction of an error which the ACRS previously identified from Revision 15 concerning the steady-state film coverage in the containment cooling analysis. Finally, in the course of reviewing Revision 18, the NRC identified three matters that required corrections to be included in Revision 19: a load combination for the shield building, the method used to evaluate tank sloshing, and containment peak pressure analysis.

As a result of these activities, Westinghouse submitted Revision 19 of the DCD on June 13, 2011; Revision 19 is the version of the DCD that would be certified. The NRC's bases for accepting Revision 19 are set forth in Supplement 2 to the FSER, NUREG-1793. The staff has determined, in its review of Revision 19, that three matters should be identified as Tier 2\* matters in Section VIII of the final rule. The staff has evaluated the changes from DCD Revision 18 both individually and considered together, and has concluded that an additional opportunity for the public to provide comments on Revision 19 of the DCD and the three new Tier 2\* designations in Section VIII is not necessary. The bases for the staff's conclusion are set forth in Enclosure 4.

*Aircraft Impact Assessment Rule Inspection*

The staff has performed additional inspection of AIA information concerning the shield building, as documented in an October 3, 2011, follow-up inspection report (ADAMS Accession No. ML112650748) to the initial inspection report issued on October 28, 2010 (ADAMS Accession No. ML102980583). No findings were identified that required changes to the staff FSER related to aircraft impact compliance, the DCD information, or the rule language.

*Public Comments*

On February 24, 2011 (76 FR 10269), the NRC published in the *Federal Register* a proposed DCR for the AP1000 standard plant design amendment. The *Federal Register* notice provided the public an opportunity to comment on the proposed amended DCR, the DCD (Revision 18), and the draft environmental assessment (EA). The public comment period for the proposed rule closed on May 10, 2011 (ADAMS Accession No. ML103000394).

On September 9, 2011, the Commission issued a *Memorandum and Order*, CLI-11-05, on a series of petitions (ADAMS Accession No. ML11252B074) seeking suspension of adjudicatory, licensing, and rulemaking activities, including the AP1000 design certification amendment rulemaking (ADAMS Accession No. ML112521039). Among other things, the Commission denied the requests to suspend or postpone the AP1000 rulemaking, and referred the petitions and associated filings to the NRC staff “for consideration” as comments on the AP1000 design certification rulemaking amendment. *Id.* at 38. In accordance with the Commission’s direction, these filings are treated as comments in the AP1000 rulemaking in a manner consistent with other comment submissions filed in the AP1000 rulemaking.

The NRC received more than 13,500 similar comment submissions; 66 unique comment submissions including one (1) allegation, which was subsequently treated as a comment submission; one (1) congressional correspondence, which the NRC decided to treat as a comment submission; and four (4) “petitions” to suspend or terminate this rulemaking pending consideration of Fukushima implications on the proposed rule. This tabulation includes those documents that the Commission referred to the NRC staff for treatment as AP1000 amendment rulemaking comments, as set forth in CLI-11-05. A comment submission means a communication or document submitted to the NRC by an individual or entity, with one or more distinct comments addressing a subject or an issue. A comment, on the other hand, refers to statements made in the submission addressing a subject or issue.

Several comment submissions expressed support for the proposed amendment to the AP1000, while other comment submissions opposed the proposed amendment unconditionally. The vast majority of comment submissions opposed the rulemaking until the NRC undertook additional procedural actions, performed additional technical review of the design, or made substantive changes to the design. The NRC identified over 200 comments in these submissions. Due to the large number of comments received and the length of the NRC responses, the enclosed *Federal Register* notice provides a summary of the categories of these comments with a general description of the resolution of these comments. The NRC staff placed similar comments and responses under common categories within the *Federal Register* notice and a brief description was provided for each category. The detailed comments and response document is available under ADAMS Accession No. ML112212319. None of the public comments resulted in changes to the final rule, the DCD (the FSER), or the AP1000 Environmental Assessment (EA).

#### *Access to Safeguards Information (SGI) and Sensitive Unclassified Non-Safeguards Information (SUNSI)*

Consistent with the draft final rule for amending the advanced boiling water reactor design certification (ADAMS Accession No. ML111040636), the staff is including in this rule Paragraph E of Section VI, “Issue Resolution,” which describes the procedure that an interested member of the public must follow to obtain access to SGI and SUNSI for the AP1000 design to request and participate in proceedings that involve licenses and applications that reference the AP1000 design.

#### *Rulemaking Procedure*

The review of the standard design certification amendment is being conducted under the applicable requirements of Subpart B of 10 CFR Part 52, “Standard Design Certifications,” and

10 CFR Parts 2 and 51, "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders" and "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions." The rulemaking package includes the *Federal Register* notice of issuance of the final rulemaking (Enclosure 1), AP1000 EA (Enclosure 2), the Comment Response Document (Enclosure 3), and the staff's explanation why DCD changes after Revision 18 do not require renoticing (AP1000 DCD Changes Since Revision 18, Enclosure 4).

On March 7, 2011, Dianne Curran, on behalf of the Union of Concerned Scientists (UCS) requested for herself and Dr. Edward Lyman, access to certain SGI and SUNSI information on the AP1000 (ADAMS Accession No. ML110680075). On April 5, 2011, the NRC denied the UCS request (ADAMS Accession No. ML110880203). The UCS did not file an appeal of this denial under the procedure described in the statements of consideration for the proposed rule (76 FR 10269; February 24, 2011).

*Near-Term Task Force (NTTF) Evaluation of Fukushima-Daiichi Nuclear Power Plant Event*

The proposed changes to the AP1000 certified design and the NRC's review of those changes were nearly completed before the events at Fukushima. The Commission created an NTTF to conduct an analysis of the lessons that can be learned from the event. The NTTF issued a report (ADAMS Accession No. ML111861807) evaluating currently available technical and operational information from the events, and presented a set of recommendations to the Commission. The NTTF supports completing the AP1000 design certification rulemaking activity without delay (see pages 71-72 of the report).

In an August 19, 2011, Staff Requirements Memoranda (SRM) (ADAMS Accession No. ML112310021), the Commission set forth actions related to the NTTF report together with a schedule for the conduct of those actions. Two of those actions have been completed and are documented in the following reports: "Recommended Actions to Be Taken Without Delay from the Near-Term Task Force Report," September 9, 2011 (SECY-11-0124) (ADAMS Accession No. ML11245A127) and "Prioritization of Recommended Actions to be Taken In Response to Fukushima Lessons Learned," October 3, 2011 (SECY-11-0137) (ADAMS Accession No. ML11269A204). Neither the SRM nor the reports cited above set forth specific direction to the staff concerning the NTTF recommendation on the AP1000, or the regulatory approach to be taken on the AP1000 amendment rulemaking in light of the NTTF recommendations. Therefore, the staff is providing its views on those subjects in this Commission paper.

Inasmuch as the NTTF recommendations relevant to the AP1000 design certification are limited to: seismic and flooding protection (Recommendation 2); mitigation of prolonged station blackout (Recommendation 4); and enhanced instrumentation and makeup capability for spent fuel pools (Recommendation 7) and the task force concluded that by the nature of its passive design and inherent 72-hour coping capability, AP1000 designs have many of the design features and attributes necessary to address the Task Force recommendations, the staff concludes that no changes to the AP1000 DCR are required at this time. In addition, because the 10 CFR 52.63(a)(1) criteria for imposing any additional Commission-approved NTTF recommendations do not vary depending on whether the Commission-directed changes are made as part of this AP1000 DCR amendment or in a separate rulemaking, the staff sees no safety or regulatory benefit in the Commission delaying its approval of the AP1000 DCR amendment.

Therefore, the staff believes that the Commission may proceed with the issuance of the AP1000 DCR amendment and does not need to wait until the Commission has acted on the NTTTF recommendations.

RESOURCES:

The Office of New Reactors (NRO) budgeted 0.6 full-time equivalent (FTE) in FY 2011 and requested 0.1 FTE in its FY 2012 budget to support this rulemaking. Resources for other offices in FY 2012, if necessary, will be requested through the planning, budget, and performance management process.

RECOMMENDATIONS:

That the Commission:

1. Approve the amendment to 10 CFR Part 52 for publication in the *Federal Register*.
2. Certify that this rule, if promulgated, will not have a negative economic impact on a substantial number of small entities in order to satisfy requirements of the Regulatory Flexibility Act (5 U.S.C. 605(b)).
3. Determine that:
  - a. Compliance with the issue finality provision of 10 CFR 52.63 with respect to changes necessary to comply with the AIA rule were addressed in the AIA rulemaking, when the Commission “administratively exempted” the AIA rule from the issue finality provisions in 10 CFR Part 52; and
  - b. The Westinghouse-initiated changes to the AP1000 design meet the issue finality provisions of 10 CFR 52.63.
4. Note:
  - a. The staff has performed an environmental assessment that resulted in a finding of no significant impact and evaluated severe accident mitigation design alternatives for the proposed amendment (Enclosure 2).
  - b. This rule contains AIA information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). The information collection requirements must be submitted to the Office of Management and Budget (OMB) for its review and approval before publication of the final rule in the *Federal Register*.
  - c. The staff will inform the Chief Counsel for Advocacy of the Small Business Administration of the certification regarding the economic impact on small entities and the reasons for it as required by the Regulatory Flexibility Act (Section XI of Enclosure 1).
  - d. The appropriate congressional committees will be informed.

- e. The Office of Public Affairs will issue a press release.
- f. The staff will use a communications plan with frequently asked questions on the DCR process and the use of a DCR in referenced COL applications, as well as questions specifically prepared for the AP1000 standard design.
- g. The staff is preparing a letter to the Director, Office of the Federal Register (OFR), requesting approval of the AP1000 DCD for incorporation by reference. The letter will be sent to the OFR before requesting publication of the *Federal Register* notice and will address the criteria for approval of documents for incorporation by reference.
- h. The staff has determined that this is not a major rule and has received verification from the OMB.

COORDINATION:

The Office of the General Counsel (OGC) has no legal objection to the final AP1000 design certification rulemaking. The Chief Financial Officer has reviewed this paper for resource implications and has no objections. OIS has reviewed this paper for information technology and information management implications and concurs on it. The staff provided a draft copy of the AP1000 final rule to the ACRS on September 2, 2011 (ADAMS Accession No. ML112420188) and requested that the ACRS waive its review of the final rule. The ACRS issued a letter in response dated September 22, 2011 (ADAMS Accession No. ML11266A070) agreeing with the staff to waive its review of the final rule and stating that it has no objection to the staff's proposal to issue the final rule.

***/RA by Martin J. Virgilio for/***

R. W. Borchardt  
Executive Director  
for Operations

Enclosures:

- 1. *Federal Register* Notice
- 2. Environmental Assessment
- 3. AP1000 Comment Response Document
- 4. AP1000 Design Control Document Changes Since Revision 18

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1. *Federal Register* Notice
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**ADAMS Accession No.: ML112380816 (pkg) \*via e-mail SECY-012**

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