



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 – 0001**

February 17, 2010

MEMORANDUM TO: R. W. Borchardt
Executive Director for Operations

FROM: Edwin M. Hackett, Executive Director */RA/*
Advisory Committee on Reactor Safeguards

SUBJECT: ACRS REVIEW OF AMENDMENTS TO PREVIOUSLY CERTIFIED
REACTOR DESIGNS

During the 567th meeting of the Advisory Committee on Reactor Safeguards (ACRS), November 5-7, 2009, the Committee discussed potential enhancements to its process for reviewing amendments to previously certified reactor designs. The purpose of this memorandum is to propose an alternative approach for the staff's interactions with the ACRS that would enhance the completeness, quality, and efficiency of the Committee's reviews of amendments, which involve a large number of independent changes, each of which may affect more than one section of the Design Control Document (DCD).

As you know, 10 CFR 52.53 requires that each application for a standard design certification be referred to the ACRS for a review and report on those portions of the application which concern safety.

The NRC certified Revision 15 of the AP1000 DCD in January 2006. In May 2007, Westinghouse submitted an application to amend the AP1000 Design Certification Rule (10 CFR Part 52, Appendix D) and Revision 16 of the AP1000 DCD. In September 2008, Westinghouse updated its application to amend the AP1000 DCD. The update, Revision 17, contains changes from those submitted in Revision 16. On May 7, 2009, the ACRS was briefed on the status of the revisions to the AP1000 DCD. The AP1000 Subcommittee met on July 23-24, 2009, to review the DCD revisions, and the Reference Combined License Application.

The ACRS is currently reviewing amendments to the AP1000 DCD on a chapter-by-chapter basis consistent with the staff's review. As chapters of the staff's Safety Evaluation Report (SER) are completed, they are submitted for review by the AP1000 Subcommittee. The 590 changes in the DCD were summarized in a 93-page change matrix. Since each change potentially affects multiple sections of the DCD, it is difficult to fully capture the significance and impact of these changes by reviewing chapter-by-chapter text revisions. In addition to the DCD revisions, over 100 Technical Reports have been submitted to support the AP1000 amendment. These documents must be reviewed when the specific changes they support in the DCD are being reviewed.

The ACRS discussed alternate review methods and concluded that an improved approach would be to organize its review based on the specific technical issues addressed by the amendments. This approach would streamline the reviews and reduce the possibility of missing the significance and impact of proposed changes. However, in order to perform such “topic-centered” reviews, the manner by which these changes are described and presented to ACRS would need to be modified. A “change package” would be needed in which each change is defined and identified with a unique number or designation. Organizing the changes according to the type of modification and identification of supporting technical reports would also be useful. These categories could include the following:

- Hardware and Material Changes
- Applicability Envelope Changes
- Changes to Analysis Methodologies
- Change to address Design Acceptance Criteria (DAC)
- Changes to address Combined License Items
- Changes involving combinations of those listed above

Another action that could assist the ACRS would be to have an individual present at each ACRS meeting that has the corporate memory for that design and has a high-level (lead system engineer) understanding of all the changes, their purpose, and their interactions.

We would appreciate your thoughts on this approach or alternatives that achieve the same end.

Regardless of the approach used by the ACRS (i.e., chapter-by-chapter, technical area, or technical issues), it is critical that all supporting documents (SER chapters as well as technical reports) be provided to the ACRS at least four weeks before the meeting to ensure that the Members have enough time to review the materials.

The ACRS appreciates your consideration of these matters and looks forward to future interactions with the staff to discuss lessons learned from the review of the amendments to the AP1000 and other Previously-Certified Designs.

cc: A. Vietti-Cook, SECY
N. Mamish, OEDO
A. Frazier OEDO
M. Johnson, NRO
G. Holahan, NRO
D. Matthews, NRO
F. Akstulewicz, NRO
A. Snyder, NRO

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