

November 9, 2010

MEMORANDUM TO: Edwin M. Hackett, Executive Director
Advisory Committee on Reactor Safeguards

FROM: David B. Matthews, Director */RA/ FAKstulewicz for*
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: AP1000 ADVANCED FINAL SAFETY EVALUATION FOR SECTIONS
3.7 AND 3.8 TITLED, "SEISMIC DESIGN," AND "DESIGN OF
CATEGORY I STRUCTURES," RESPECTIVELY, OF NUREG-1793,
SUPPLEMENT 2

The United States Nuclear Regulatory Commission (NRC) staff has prepared the last remaining technical sections of the Advanced Final Safety Evaluation (AFSE) of Chapter 3 to address changes to the Westinghouse Electric Company (Westinghouse) AP1000 Design Control Document, proposed in the Application for Design Certification Amendment dated May 26, 2007.

The AFSE for Sections 3.7 - 3.8, with Open Items (OIs), and without the Shield Building review, were previously seen by the Subcommittee. Since that review, OIs have been closed in Sections 3.7 & 3.8. Section 3.8.4 for the Shield Building is being seen by the Advisory Committee on Reactor Safeguards (ACRS) for the first time. Section 3.8.4 does not have any OIs.

The Chapter 3 AFSE may contain proprietary information or other categories of information addressed in 10 CFR 2.390. The NRC will withhold the referenced AFSE from disclosure for 10 days to allow Westinghouse the opportunity to identify exempt information. The AFSE is currently non-public and is available in the Agencywide Documents Access and Management System (ADAMS) ML102870605.

The staff has reviewed the memorandum to the Executive Director for Operations dated February 17, 2010, and reviewed our submitted information against the categories that the ACRS requested be used to highlight information for review by the Committee. Our assessment is that the following issues would be of particular interest to the Subcommittee:

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- Reduction in building height
- Steel and concrete structural modules
- Connection of structural module to basemat reinforced concrete wall
- Use of self-consolidating concrete
- Construction inspection and associated Combined Operating License Item
- Changes to stability and uniformity of subsurface materials and foundations, which include excavation, bearing capacity, settlement, and liquefaction potential, and extension of seismic spectra to soil sites

In addition to the aforementioned AFSE, we draw your attention to the existence of a non-concurrence by the lead structural reviewer. This non-concurrence pertains to the shield building design as reviewed in the AFSE Section 3.8.4.1.1. This non-concurrence was completed per the draft Management Directive 10.158, issued by Yellow Announcement YA-06-0095 on November 29, 2006, and is provided as a reference as required by Nuclear Reactor Regulation (NRR) Office Instruction COM-103, "NRR Interfaces with the Advisory Committee on Reactor Safeguards." The package containing NRC Form 757, the non-concurrence, the Division of Engineering (DE) response to the non-concurrence and the rebuttal is currently available in ADAMS at ML103020207. NRO does not plan to discuss the non-concurrence at the November ACRS meeting on this topic. The non-concurrence package contains proprietary information or other categories of information addressed in 10 CFR 2.390.

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