

Westinghouse Advanced Passive 1000 (AP1000) Shield Building

Explanation of the Issue

On May 26, 2007, Westinghouse submitted an application to amend the AP1000 Design Certification (DC) rule, with Revision 16 of the design control document (DCD).

On October 15, 2009, the NRC informed Westinghouse that the company has not demonstrated that certain structural components of the revised AP1000 shield building as provided in its application can withstand design basis loads, and that the shield building design is not acceptable as currently proposed. Westinghouse did not provide a fully integrated design, including design methodology, analysis, testing, and construction and inspection of major components of the shield building (i.e., roof, anchorage, compression/tension ring, air inlets, and primary containment cooling water tank).

Status

Subsequent interactions with Westinghouse resulted in a substantial design change in which Westinghouse submitted Revision 0 of an enhanced shield building design report, on March 22, 2010. Ultimately, Revision 3 was submitted on September 30, 2010. This document formed the basis for the NRC staff's safety evaluation of the shield building design.

The safety evaluation report was issued on November 8, 2010. The NRC staff also met with the Advisory Committee on Reactor Safeguards to discuss the shield building design and the staff's review. The proposed rule was sent to the Commission in SECY-2011-0002 on January 3, 2011. The Commission approved publication of the proposed rule for public comment. The notice was published in the *Federal Register* on February 24, 2011, with a comment period ending on May 10, 2011.

Relevant Additional Information

In early April 2011, the NRC staff determined that Westinghouse, as part of its structural analysis of the shield building, had not combined loads for external temperature conditions and safe shutdown earthquake appropriately. Therefore, NRC requested Westinghouse to perform additional analysis for this load condition. Westinghouse expects to submit its analysis results and its final update of the DCD (Revision 19) to the NRC by May 31, 2011.