

February 23, 2011

ORGANIZATION: GE Hitachi Nuclear Energy

PROJECT: Economic Simplified Boiling Water Reactor Design Certification

SUBJECT: SUMMARY OF OCTOBER 26, 2009, AUDIT OF ANSI7 COMPUTER CODE FOR FATIGUE ANALYSIS OF ECONOMIC SIMPLIFIED BOILING WATER REACTOR SAFETY-RELATED CLASS 1 PIPING

On October 26, 2009, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an audit of the ANSI7 computer code for fatigue analysis of Economic Simplified Boiling Water Reactor (ESBWR) safety-related Class 1 piping at the GE-Hitachi Nuclear Energy (GEH) facility in Wilmington, North Carolina. The purpose of the audit was to review the ANSI7, Revision 13, verification and validation benchmark documentation as GEH stated in the design control document (DCD) that the fatigue analysis, including the environmental effects, is performed in accordance with Regulatory Guide 1.207 and NUREG/CR-6909.

At the audit exit meeting staff indicated that ESBWR DCD Tier 2, Appendix 3D.4 should be revised to reflect that the program ANSI713D does not have the capability to calculate the environmental fatigue effects, and that the completion of the documentation and validation of ANSI714 is a follow up issue affecting the use of ANSI7 to perform the fatigue analysis and account for the environmental fatigue effects for the ESBWR design certification.

As a result of the October 26, 2009, audit, the staff issued the following requests for additional information (RAI): RAI 3.9-255A, RAI 3.9-255B, and RAI 3.9-255C.

Please direct any inquiries to Bruce Baval at 301-415-6715, or Bruce.Baval@nrc.gov.

/RA/

Bruce M. Baval, Project Manager
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Office of New Reactors

Docket No. 52-0010

Enclosures:
As stated

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PROJECT: Economic Simplified Boiling Water Reactor Design Certification

SUBJECT: SUMMARY OF OCTOBER 26, 2009, AUDIT OF ANSI7 COMPUTER
CODE FOR FATIGUE ANALYSIS OF ECONOMIC SIMPLIFIED BOILING
WATER REACTOR SAFETY-RELATED CLASS 1 PIPING

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