

September 26, 2006

APPLICANT: General Electric Company

PROJECT: Economic Simplified Boiling Water Reactor (ESBWR) Design Certification

SUBJECT: SUMMARY OF JULY 14, 2006, MEETING WITH GENERAL ELECTRIC,
REGARDING AUDIT OF ESBWR STRUCTURAL DESIGN AND ANALYSIS

On July 14, 2006, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of General Electric Company (GE) at GE Nuclear Energy, 1989 Little Orchard Street, San Jose, California. The purpose of the meeting was to discuss the results of an audit of the ESBWR structural design and analysis conducted July 11 through 14, 2006, at the GE Nuclear Energy facilities in San Jose, California. A list of attendees at the July 14, 2006, public meeting is provided as Enclosure 1.

An audit plan (Enclosure 2), describes the areas to be audited, the audit schedule and the information needed for a confirmatory analysis by NRC. The audit plan was given to GE. During the audit, GE's responses and background information for GE's responses to 30 NRC requests for additional information (RAIs) in the structural area were discussed. NRC's RAIs in the structural area, as well as GE's responses to 30 of these RAIs, are available in the Agencywide Documents Access and Management System (ADAMS) under Accession Numbers ML061740210 and ML061940087, respectively.

The audit results for the RAI responses reviewed during the audit are summarized in Enclosure 3. The responses to RAIs 3.8-27, 3.8-47, 3.8-56, 3.8-83, and 3.8-105 were determined to be acceptable. The responses to RAIs 3.8-14, 19, 20, and 49 were still under NRC staff review and no additional information was requested from GE. Responses to the remaining RAIs remain open pending receipt of acceptable responses from GE.

Information was requested from GE to support confirmatory analyses being done by NRC. The information requested was summarized during the audit; this summary is available at ADAMS Accession Number ML062260331. GE agreed to provide this information on August 7, 2006.

One member of the public was in attendance. No public meeting feedback forms or comments were received.

Please direct any inquiries to James Gaslevic at 301-415-2776, or jeg1@nrc.gov or to me at 301-415-2863, or lwr@nrc.gov.

/RA/

Lawrence Rossbach, Project Manager
ESBWR/ABWR Projects Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 52-010

Enclosures:

1. List of Attendees
2. NRC Audit Plan
3. Audit Results Summary

cc w/encls: See next page

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MEETING ATTENDEES

Subject: ESBWR Structural Design and Analysis

Date: July 14, 2006

Name	Title	Organization
Hansraj Ashar	Senior Structural Engineer	NRC
Goutam Bagchi	Senior-Level Advisor	NRC
Rahsean Jackson	Structural Engineer	NRC
Larry Rossbach	Project Manager	NRC
Jim Gaslevic	Project Manager	NRC
Charles Hofmayer	Group Lead, Engineering Consultant	BNL (Brookhaven National Laboratory, NRC consultant)
Joseph Braverman	Senior Research Engineer	BNL
David Hinds (by phone)	ESBWR Engineering Mgr.	GE Nuclear Energy (GENE)
Bob E. Brown (by phone)	Gen. Mgr. Regulatory Affairs	GENE
John Leatherman	Principal Engineer	GE Reg Services
Ai-Shen Liu	Principal Engineer	GENE
Hugh Upton	Lead Plant Layout/Design	GENE
Bob Gou	Civil Engineer	GENE
Wayne Massie	Licensing Engineer	GENE
Henry Solorzano	Civil/Structural Engineer	GENE
Tetsushi Nagahama	Design Team Lead	Shimizu Corp (GENE)
Yoshihiro Orito	Mgr, Engineering	Shimizu Corp.
Teresa Dominguez	Project Manager	EA (Empresarios Agrupados, GENE contractor)
Antonio Gonzalez	Civil Project Mgr	EA
Luis Chiva	Civil Engineer	EA
Randy James	Principle Engineer	Anatech Corp (GENE)
Hidejasu Furokawa	Assistant Mgr	Hitachi, LTD (GENE)
Tetsuya Nagata	Chief Engineer	Hitachi, LTD
Bob Kassawara	Sr. Project Mgr	EPRI

ESBWR STRUCTURAL AUDIT
July 11 through 14, 2006

Audit Plan for
ESBWR Seismic Category 1 Structures
(DCD Sections 3.8.1 through 3.8.5)
July 11-14, 2006

NRC Audit Team

Hans Ashar (NRC Team Leader), Goutam Bagchi (NRC Reviewer), Larry Rossbach (NRC Project Manager), Rasheen Jackson (NRC Trainee), Charles Hofmayer (Consultant), and Joseph Braverman (Consultant)

Areas to be Audited and/or Discussed

- Discuss GE's response to RAIs, and audit analysis reports and design calculations.
- Identify additional RAIs (if any) from the audit of analysis reports and design calculations.
- Discuss the NASTRAN structural model of the RB/Containment; the method of selecting and applying the seismic loads (obtained from dynamic seismic analysis of the stick model) to the NASTRAN static model; the method of developing and applying the soil springs used in the NASTRAN model; and the modeling methods used to account for structural details/attachments that have not yet been designed (e.g., major piping and hatch penetrations, attached distribution systems). It is the intent of the staff to utilize GE's structural model/load set input data to the maximum extent possible for the staff's confirmatory analyses.
- Discuss and obtain additional information from GE.

Agenda

July 11, 2006 (Tuesday), 8:30 a.m. - 5:00 p.m.*

1. Conduct an informal "Entrance Meeting" at 8:30 a.m.
2. Initiate Task 1: Discuss GE's response to RAIs and review related analysis reports and design calculations.
3. Initiate Task 2: Review additional (sample) analysis reports and design calculations, as needed.
4. Discuss the staff's findings (from the review of analysis reports and design calculations) with GE, at end of day.

July 12, 2006 (Wednesday), 8:00 a.m. - 5:00 p.m.*

1. Continue Tasks 1 and 2 **from** Tuesday.
2. **Initiate Task 3: Conduct** a review of GE's NASTRAN structural model of the RB/Containment and method of modeling the soil. Define GE data needed for the staff's confirmatory analyses. Confirm availability of information in desired format. Arrange for the data transfer with GE.
3. **Discuss the staff's findings (from the review of analysis reports and design calculations) with GE, at end of day.**

July 13, 2006 (Thursday), 8:00 a.m. - 5:00 p.m.*

1. Continue Tasks 1 and 2 **from** Tuesday.
2. Continue Task 3 **from** Wednesday.
3. **Discuss the staff's findings (from the review of analysis reports and design calculations) with GE, at end of day.**

July 14, 2006 (Friday), 8:00 a.m. - 5:00 p.m.

1. Continue Tasks 1 and 2 **from** Tuesday.
2. Conduct "Exit Meeting" at 2:00 p.m.
3. Complete Tasks 1 and 2, as needed, following the exit meeting.

Audit Report

The audit report will be in the form of a table, summarizing: (1) status update/resolution of RAIs, (2) review results of GE's NASTRAN structural model and method of modeling the soil, (3) new issues identified and resolution of these new issues, if possible, and (4) additional information to be obtained from GE.

*Review schedule may be extended beyond 5:00 p.m., if needed.

ESBWR

cc:

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