

August 9, 2006

Mr. David Hinds, Manager, ESBWR  
General Electric Company  
P.O. Box 780, M/C L60  
Wilmington, NC 28402-0780

SUBJECT: ESBWR DESIGN CERTIFICATION STATUS AND SCHEDULE

Dear Mr. Hinds:

By letter dated August 24, 2005, General Electric Company (GE) submitted an application for final design approval and standard design certification of the economic simplified boiling water reactor (ESBWR) standard plant design. By letter dated December 1, 2005, the Nuclear Regulatory Commission (NRC) staff informed GE that the application, as revised and supplemented, was sufficiently complete to allow the staff to proceed with its detailed technical review, and established a schedule for issuance of the safety evaluation report (SER) with open items. This schedule was based on commitments made by GE regarding submission of supporting information, including topical reports and Revision 1 of the design control document (DCD), as documented in letters dated November 22 and 30, 2005, respectively. This schedule was also based on receipt of timely and complete responses to staff requests for additional information (RAIs).

By letters dated January 5 and June 13, 2006, you were informed that delays in GE submittals may affect the completion date for the SER with open items and may impact the number and scope of open items identified. On June 19, 2006, during an NRC/GE management meeting regarding the ESBWR design certification review, you were informed that the staff intends to issue the SER with open items on schedule in October 2007, and that the number and scope of open items may be impacted by GE's failure to submit topical reports and RAI responses in accordance with GE schedule commitments. During the June 19 meeting, you committed to submit remaining outstanding topical reports on the schedule shown in the enclosed table. Most of these revised commitments were not met. Further, the staff was recently informed of design changes related to the instrumentation and control system which will impact the staff's review of this area.

Accordingly, the schedule for issuance of RAIs in topical areas impacted by delayed submittals and/or design changes has been extended from October 11, 2006 to December 11, 2006<sup>1</sup>. The impacted topical areas include Probabilistic Risk Assessment (PRA), Instrumentation and Control (I&C), Human Factors Engineering (HFE), Fission Product Removal (Design Basis Accident Dose Evaluation), and Control Rod Design. To facilitate early identification and resolution of issues, the staff has already issued RAIs in these topical areas, and we will continue to issue RAIs as issues are identified.

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<sup>1</sup> Further delays to this schedule may result if the final topical report regarding fission product removal and all remaining sections of Revision 1 of the ESBWR PRA and Chapter 19 of the DCD are not submitted by 8/31/06.

In order for the staff to issue its SER with open items on schedule in October 2007, the responses to all RAIs issued by the staff by October 11, 2006, must be submitted by GE by November 22, 2006. For RAIs issued by December 11, 2006, GE must respond by January 22, 2007. Revisions to the DCD resulting from RAI responses must be incorporated into the DCD by February 22, 2007. Additional open items will be generated to address RAIs that have not been addressed in accordance with these milestones with sufficient information provided to resolve the issues identified. Information received after these milestones will be considered by the staff in supplemental SER(s).

The staff was recently informed that GE plans to submit additional topical reports in December 2006 regarding digital I&C platforms, and additional topical reports in the HFE area in December 2006, March 2007, and August 2007. The staff encourages GE to submit these topical reports and other additional information to reduce reliance on the design acceptance criteria (DAC) approach in the areas of I&C, HFE and piping design, and to increase the level of finality achieved during the design certification rulemaking. A schedule for the staff's review of such submittals will be established when they are received for review. This supplemental information will be addressed by the staff in supplemental SER(s).

If you have any questions or comments concerning this matter, please contact Amy Cubbage at (301) 415-2875 or [aec@nrc.gov](mailto:aec@nrc.gov).

Sincerely,

***/RA W. D. Beckner for:/***

Joseph Colaccino, Acting Branch Chief  
ESBWR/ABWR Projects Branch  
Division of New Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 52-010

Enclosure: As stated

cc: See next page

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GE ESBWR Design Certification Review Submittals<sup>2</sup>

Topical Report Number and Title	GE's Original Schedule Commitment	GE Revised Commitment (1/16/06 Ltr)	GE Revised Commitment (June 19 Management Meeting)	Actual Submittal Date	Status Relative to June 19 Commitment
PRA Report Revision 1					
NEDO-33201, ESBWR PRA Report, Revision 1, Sections 1, 11 and 19	01/06/06	3/3/06	7/17/06		OVERDUE
NEDO-33201, ESBWR PRA Report, Revision 1, Sections 17, 18, and 20	01/06/06	3/3/06	7/17/06	7/28/06 (Section 17) 7/25/06 (Section 18) 7/27/06 (Section 20)	SUBMITTED LATE
NEDO-33201, ESBWR PRA Report, Revision 1, Sections 15 and 16	01/06/06	3/3/06	7/17/06	7/6/06 (Section 15) 6/26/06 (Section 16)	SUBMITTED
ESBWR Design Control Document (DCD), Revision 1					
DCD Tier 2 Chapter 19 (PRA/Severe Accidents)	01/31/06	2/28/06	7/31/06		OVERDUE
Instrumentation and Control					
NEDO-33251, ESBWR I&C Defense-In-Depth and Diversity Report	05/12/06	N/A	07/17/06	07/24/06	SUBMITTED LATE

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<sup>2</sup>List contains only those submittals that had not been received prior to the June 19, 2006, management meeting. Some previous submittals were also received late.

Topical Report Number and Title	GE's Original Schedule Commitment	GE Revised Commitment (1/16/06 Ltr)	GE Revised Commitment (June 19 Management Meeting)	Actual Submittal Date	Status Relative to June 19 Commitment
Human Factors Engineering					
NEDO-33277, Revision 1, "ESBWR Human Factors Engineering Human Performance Monitoring Implementation Plan"	03/31/06	N/A	07/10/06	07/21/06	SUBMITTED LATE
Fission Product Removal					
NEDE-33XXXP, Fission Product Removal Evaluation Model	04/28/06	N/A	Draft by 7/19/06  Final by 8/31/06	Draft submitted on 7/12/06  Final TBD	DRAFT SUBMITTED  FINAL TBD
Control Rod Design					
NEDE-33244P, ESBWR Marathon Control Rod Mechanical Design Report	04/24/06	N/A	N/A	06/21/06	SUBMITTED