

October 5, 2006

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

SUBJECT: ESBWR DESIGN CERTIFICATION SCHEDULE

Dear Mr. Hinds:

On August 24, 2005, General Electric Company (GE) submitted an application for final design approval and standard design certification of the ESBWR standard plant design. By letter dated December 1, 2005, the 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 of October 2007 for issuance of the safety evaluation report (SER) with open items. The NRC staff also established a date of October 11, 2006, for issuing its requests for additional information (RAIs). As noted in my August 9, 2006, letter, as a result of delays in GE deliverables, the NRC staff established an additional RAI milestone of December 11, 2006.

Due to further delays in GE submittals and proposed changes to the design and the design control document, the staff has established the enclosed schedule, including a third milestone for issuance of RAIs on January 31, 2007. The staff plans to issue an SER with open items in October 2007. The staff anticipates that many of the issues identified in the third RAI milestone will not be resolved in time to be addressed in this SER. Further delays in achieving interim milestones could also increase the number of open items in this SER. GE's ability to close all open items will directly impact the staff's ability to complete a COL review in 30 months for those applications referencing the ESBWR.

We look forward to the opportunity to discuss these issues with you during our October 12, 2006, public meeting. 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/*

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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## ESBWR Design Certification Schedule

On August 24, 2005, General Electric Company (GE) submitted an application for final design approval and standard design certification of the ESBWR standard plant design. By letter dated December 1, 2005, the 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 of October 2007 for issuance of the safety evaluation report (SER) with open items. The NRC staff also established a date of October 11, 2006, for issuing its requests for additional information (RAI), with GE responses by November 22, 2006.

By letter dated August 9, 2006, the NRC staff established an additional milestone of December 11, 2006, for requests for additional information (RAIs) regarding 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. The December 11, 2006, RAI milestone was based on the expected submittal of ESBWR Design Control Document (DCD) Tier 2, Chapter 19, Revision 1, and NEDE-33279P, ESBWR Containment Fission Product Removal Evaluation Model by August 31, 2006. DCD Tier 2, Revision 1, Chapter 19 was not submitted until September 22, 2006. By letter dated September 22, 2006 (MFN-06-321), GE provided a revised commitment of October 16, 2006, for submittals of NEDE-33279P, ESBWR Containment Fission Product Removal Evaluation Model.

By letter dated September 22, 2006 (MFN-06-337), you informed the staff that GE would submit Revision 2 of the DCD by the end of October 2006 with the exception of Tier 1, and Chapters 1, 16 and 19 of Tier 2, and that GE currently plans to submit Revision 2 of these portions of the DCD, except for Chapter 19, by the end of November 2006. GE stated that Revision 2 of the DCD will describe design changes to the isolation condenser system (ICS) and the electrical system (referred to as the "N minus 2" design change). GE also stated that Revision 2 will include changes to the design information that will allow elimination of a number of items currently identified as COL information items. Lastly, GE stated that Revision 2 will include changes to Chapter 2 of Tier 2 to clarify which site specific aspects are the responsibility of the COL applicant and are not covered by the standard design. The changes discussed could impact all chapters of the DCD including Tier 1, Technical Specifications and the PRA.

In light of the actual submittal date for DCD Chapter 19, Revision 1, the planned submittal of the ESBWR Containment Fission Product Removal Evaluation Model on October 16, 2006, and the scope of the changes that will be submitted in DCD Revision 2, the staff has established a third milestone for RAI issuance. The portions of the review covered by each of the three RAI milestones are listed below:

### October 11, 2006 RAI Milestone

DCD Revision 1 (excluding Tier 2, Chapter 19 which was submitted later)

Topical Reports received prior June 1, 2006

Enclosure

December 11, 2006 RAI Milestone

Topical Reports received between June 1, 2006 and August 31, 2006:

- Human Factors Engineering
- Instrumentation and Control
- Control Rod Design

January 31, 2007 RAI Milestone<sup>1</sup>

DCD Tier 1, Revision 2

DCD Tier 2, Revision 2, excluding Chapter 19

- ICS design change (Impacts Chapters 6, 15, 21, TS and PRA)
- "N minus 2" design change (Impacts Chapters 7, 8, 16)
- COL information item resolution<sup>2</sup>
- Chapter 2 revisions

ESBWR PRA and DCD Chapter 19, Revision 1

NEDE-33279P, "ESBWR Containment Fission Product Removal Evaluation Model"

- Impacts Chapters 6, 15, and 16

In order for the staff to issue its SER with open items on schedule in October 2007, 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 these RAI responses must be incorporated into Revision 3 of the DCD by February 22, 2007. In addition, revisions of topical reports referenced in the DCD must also be submitted by February 22, 2007.

For RAIs issued by January 31, 2007, responses must be submitted by March 15, 2007, to be considered in the October 11, 2007, SER with open items. These items will be held open as "confirmatory items" until any necessary DCD and/or topical report revisions are submitted and verified by the NRC staff.

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<sup>1</sup>The January 31, 2007 milestone is based on GE's submittal of NEDE-33279P, ESBWR Containment Fission Product Removal Evaluation Model, by October 16, 2006, and GE's commitment to submit DCD Revision 2 in accordance with the schedule provided in MFN-06-337, dated September 22, 2006. Further adjustment to the schedule may be result if these milestones are delayed by GE.

<sup>2</sup>The staff will evaluate the number and scope changes to resolve COL information items submitted in DCD Revision 2 to determine if further schedule adjustments are necessary.

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. GE's ability to close all open items will directly impact the staff's ability to complete a COL review in 30 months for those applications referencing the ESBWR. Information received after these milestones will be considered by the staff in supplemental SER(s).