

December 11, 2008

Mr. Robert E. Brown
Senior Vice President, Regulatory Affairs
GE Hitachi Nuclear Energy
3901 Castle Hayne Road MC A-50
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 284 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Brown:

By letter dated August 24, 2005, GE Hitachi Nuclear Energy (GEH) submitted an application for final design approval and standard design certification of the economic simplified boiling water reactor (ESBWR) standard plant design pursuant to 10 CFR Part 52. The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed design.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

If you have any questions or comments concerning this matter, you may contact me at 301-415-6715 or Bruce.Bavol@nrc.gov or you may contact Amy Cabbage at 301-415-2875 or Amy.Cabbage@nrc.gov.

Sincerely,

/RA/

Bruce M. Bavol, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:
Request for Additional Information

cc: See next page

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Distribution: See next page

ADAMS ACCESSION NO. **ML**083430799

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ESBWR DESIGN CERTIFICATION APPLICATION DATED DECEMBER 11,
2008

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**Requests for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Revision 5**

RAI Number	Reviewer	Question Summary	Full Text
RAI 21.6-69 S02 (MFN 08-631 dated August 14, 2008)	Haider S	Addition of the Evaluation of TRACG Nodalization for Feed Water Line Break (FWLB) in the DCD	<p>DCD, Tier 2, Revision 5, Appendix 6B documents the evaluation of TRACG nodalization for Main Steam Line Break (MSLB), but it does not document the corresponding Main Feed Water Line Break (FWLB) results. The staff requested GEH in Part C of RAI 21.6-69 S01 to include the evaluation of TRACG nodalization for FWLB in DCD or NEDE-32176P (TRACG Model Description), as background information for the short and long-term containment analyses. The staff considered the documentation to be necessary due to the design and modeling changes, such as the removal of the T-component in the lower drywell (DW) (see Figure 7-43, NEDE-32176P, Rev.3), and using the wider interconnecting pathways between the lower and upper dry well. In GEH's response to RAI 21.6-69 S01, it was implied that the required evaluation would not be needed because the containment responses for the MSLB and FWLB cases are very similar. However, the Staff found that the predicted distributions of non-condensables in dry well and GDCS are vastly different for the MSLB (Figure 6.2-14d1) and FWLB (Figure 6.2-13d1) cases. Non-condensables are significantly higher in DW and GDCS, for MSLB than for FWLB.</p> <p>In this backdrop, the staff expects GEH to include either the corresponding FWLB nodalization evaluation in DCD, say in Appendix 6B, or explain within the DCD why it is not included. GEH is expected to document that the different containment responses for non-condensables for MSLB and FWLB are not caused by any differences in nodalization. The reason behind different non-condensable responses and why they still lead to comparable overall containment pressures, should also be documented in the DCD.</p>

DC GE - ESBWR Mailing List

(Revised 12/03/2008)

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