

February 20, 2008

Mr. Robert E. Brown
Senior Vice President, Regulatory Affairs
GE-Hitachi Nuclear Energy Americas, LLC
3901 Castle Hayne Road MC A-45
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 146 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Brown:

By letter dated August 24, 2005, GE-Hitachi Nuclear Energy Americas, LLC (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 301-415-5787 or rdf@nrc.gov, or you may contact Thomas Kevern at 301-415-0224 or tak@nrc.gov.

Sincerely,

/RA/

Rocky D. Foster, Project Manager
ESBWR/ABWR Projects Branch 2
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: ML080360014

NRO-002

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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 146 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

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**Requests for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Revision 4**

RAI Number	Reviewer	Question Summary	Full Text
19.1-123 S02	Pohida M	Lower Drywell Hatch Closure Consistent with NUMARC 91-06	<p>The NRC staff has reviewed GEH's response to RAI 19.1-123 S01. The staff noted in the RAI that ACSR (Availability Control Surveillance Requirement) 3.6.2.2 and 3.6.2.3, whose purpose is to verify--with a frequency of 30 days--that during an outage the lower drywell equipment hatch and personnel airlock can be secured, is inconsistent with NUMARC 91-06 guidance and operating experience. GEH responded that the intent of AC 3.6.2 is to allow the licensee to mitigate the effects of a pipe break in a line from the vessel below the top of the active fuel. AC 3.6.2 provides administrative controls that allow the licensee to establish a boundary to flood the lower drywell to above the level of the break, thus ensuring that the fuel in the core is covered with water. GEH stated that this guidance is not intended to satisfy NUMARC 91-06 recommendations for preventing fission product release from containment. The staff disagrees with this statement. The staff believes that this guidance <i>should</i> satisfy NUMARC 91-06 recommendations for the following reason. For this new design, to mitigate pipe breaks below TAF, which comprise over 90% of the shutdown CDF, containment closure is necessary to prevent core damage which would result in fission product release from containment if not performed. The ACSR frequency of 30 days is most likely <i>longer</i> than the outage itself. The NUMARC 91-06 guidelines states, "a procedure should be established to assure that closure can be accomplished in a time commensurate with plant conditions", recognizing that conditions change during the outage. Please provide justification if GEH does not plan to provide guidance for preventing fission product release from containment consistent with NUMARC 91-06. Alternatively, revise the GEH guidance to be consistent with NUMARC 91-06.</p>
19.1.149 S01	Pohida M	Closeout of NUREG-1449	<p>The staff has reviewed GEH's response to RAI 19.1.149. GEH responded that a systematic evaluation of shutdown operations for the ESBWR, which addresses many of the issues identified in NUREG-1449, is provided in Revision 2 to NEDO-33201 (the ESBWR PRA). The staff reviewed the PRA to see if each relevant issue discussed in NUREG 1449 was evaluated in the PRA. NUREG-1449 discusses the set of guidelines for utility self-assessment of shutdown operations (NUMARC 91-06). In addition, in</p>

RAI Number	Reviewer	Question Summary	Full Text
			<p>SECY 97-168, the staff concluded that the current level of shutdown safety was achieved by voluntary measures (GL 88-17 and NUMARC 91-06).</p> <p>Please include the following key risk assumption relating to this issue or explain why this assumption is missing from DCD Tier 2, Revision 4 Table 19.2-3, "Risk Insights and Assumptions": "Outage planning and control program is consistent with NUMARC 91-06".</p>
22.5-16 S01	Scarborough T	Discuss treatment for RTNSS systems and components	<p>In the response to RAI 22.5-16, GEH refers to the Availability Controls Manual or other DCD sections for the treatment of several RTNSS systems and components. The references for those systems discuss technical specification availability provisions (rather than treatment provisions). GEH is requested to describe the treatment provisions, such as controls for design, procurement, installation, testing, monitoring, maintenance, corrective action, and feedback, for RTNSS structures, systems, and components. If this information cannot be provided in the DCD, GEH is requested to specify in the DCD that the COL applicant will provide this information.</p>
22.5-19 S01	C. Li	RTNSS determination for the MWS	<p>Please confirm:</p> <ol style="list-style-type: none"> 1. The MWS is available, but not required, to support the RCCWS and CWS cooling functions from 72 hours to seven (7) days following an accident; and, 2. That the other on-site water source and fire protection system water are adequate during the above period without depending on the MWS.

DC GE - ESBWR Mailing List

(Revised 02/14/2008)

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