

October 30, 2009

Mr. Jerald G. Head
Senior Vice President, Regulatory Affairs
GE Hitachi Nuclear Energy
3901 Castle Hayne Road, MC A-18
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 389 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Head:

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 U.S. 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 is contained in the enclosure to this letter.

If you have any questions or comments concerning this matter, you may contact me at (301) 415-6590 or David.Misenhimer@nrc.gov or you may contact Amy Cubbage at (301) 415-2875 or Amy.Cubbage@nrc.gov.

Sincerely,

/RA/

David Misenhimer, 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 w/encl: See next page

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ADAMS ACCESSION NO.: **ML**093030540 NRO-002

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DATE	10/30/2009	10/30/09

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ESBWR DESIGN CERTIFICATION APPLICATION DATED OCTOBER 30, 2009

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Request for Additional Information (RAI)
ESBWR Design Control Document (DCD) Revision 6 and
NEDO-33201 Revision 4

RAI Number	Reviewer	Question Summary	Full Text
RAI 19.1-181	Kelly G	Clarify where insights and important sequences are addressed for high winds events at power	In DCD Revision 6, Section 19.2.3.2.3, Evaluations of External Event High Winds, (with the reactor at power), the applicant states there are no important sequences identified in the high wind risk analysis. The staff surmises that the applicant may intend to imply that there are no additional sequences or insights beyond those already identified for internal events LOPP. If this is so, please clarify this in the DCD, because the estimated CDF for high winds at power is on the order of those from all at power internal events. If the high winds at power risk assessment produced different core damage sequences or insights than the internal events at power LOPP initiator, please modify Section 19.2.3.2.3 in the DCD to describe the additional sequences and additional insights.
RAI 19.1-182	Kelly G	Clarify where insights and important sequences are addressed for high winds events at shutdown	In the DCD Revision 6, Section 19.2.4.1.4, Evaluations of External Event High Winds, (with the reactor shutdown), the write up on significant core damage sequences lists no important contributors, even though the CDF is comparable to internal events and the LRF is higher than internal events. The staff surmises that the applicant may intend to imply that there are no additional sequences or insights beyond those already identified for internal events shutdown LOPP initiator. If this is so, please clarify this in the DCD, because the estimated CDF and LRF for high winds during shutdown are greater than those from all other events (internal and external, at power and shutdown) combined. If the high winds at power risk assessment produced different core damage sequences, large release sequences, or insights than for the internal events shutdown LOPP initiator, please modify Section 19.2.4.1.4 in the DCD to describe the additional sequences and additional insights.
RAI 19.1-183	Kelly G	Fix contradiction in DCD text	In DCD Revision 6, Section 19.2.3.2.3, Evaluations of External Event High Winds, (with the reactor at power), the applicant states there is a high winds risk insight included in the shutdown risk discussion. However, Section 19.2.4.1.4 states there are no significant results or risk insights from shutdown external events. These statements are contradictory. Further, it is

			not clear the extent to which the high winds risk assessment is conservative. Please modify Sections 19.2.3.2.3 and 19.2.4.1.4 by including an appropriate discussion of risk insights, including equipment that is important in keeping CDF/LRF estimates low and equipment that has high Risk Achievement Worth values that if not properly designed, operated, or maintained could result in significant increases in the CDF/LRF.
RAI 19.1-184	Kelly G	Correct error in DCD text	Please correct Section 19.2.3.2.3 in the DCD Revision 6 where it states that large release frequencies are not analyzed for high wind-induced external events. Large release frequency estimates are reported in Table 14.6-1, "High wind-Induced CDF and LRF" in NEDO-33201 Revision 4.
RAI 19.1-185	Kelly G	More accurately portray extent to which high winds PRA is bounding for sites	Please modify the first sentence in Section 14.7, Insights, NEDO-33201, Revision 4, to state that "The estimated CDF and LRF for all analyzed scenarios, while using a bounding analysis for most sites, are similar to the internal events results." The inclusion of "for most sites" is needed because the hurricane analysis may not be bounding for particular sites on the Gulf of Mexico or southern Atlantic Ocean from North Carolina south since the frequency of hurricanes used in the PRA is an average of loss of offsite power for plants along the coast in that region.
RAI 22.5-49	Harbuck, C	Fix contradiction in ACM text	In order to be consistent with DCD Revision 6 requirements for LOGIC SYSTEM FUNCTIONAL TEST (LSFT) and CHANNEL FUNCTIONAL TEST (CFT) surveillance frequencies in the generic technical specifications, revise the Availability Controls Manual (ACM) by removing the STAGGERED TEST BASIS allowance from all LSFT surveillance frequencies, and change all CFT surveillance frequencies to 31 days. These changes are needed because the DCD provides no technical basis for performing a LSFT once every 24 months on a STAGGERED TEST BASIS and a CFT once every 92 days.

DC GE - ESBWR Mailing List

(Revised 10/01/2009)

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