HITACHI

GE Hitachi Nuclear Energy

James C. Kinsey
Vice President, ESBWR Licensing

PO Box 780 M/C A-55
Wilmington, NC 28402-0780
USA

T 910 675 5057
F 910 362 5057
jim.kinsey@ge.com

MFN 08-103

Docket No. 52-010

February 8, 2008

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Subject: **Response to Portion of NRC Request for Additional Information Letter No. 117 Related to ESBWR Design Certification Application – Site Characteristics - RAI Numbers 2.5-8 and 2.5-9.**

Enclosure 1 contains GEH's response to the subject RAI transmitted via Reference 1.

Should you have any questions about the information provided here, please contact me.

Sincerely,

James C. Kinsey
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 07-656, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, *Request for Additional Information Letter No. 117 Related to the ESBWR Design Certification Application,* December 5, 2007.

Enclosure:

1. Response to Portion of NRC Request for Additional Information Letter No. 117 Related to ESBWR Design Certification Application – Site Characteristics - RAI Numbers 2.5-8 and 2.5-9.

cc:

AE Cubbage	USNRC (with enclosure)
RE Brown	GEH/Wilmington (with enclosure)
DH Hinds	GEH/San Jose (with enclosure)
GB Stramback	GEH/San Jose (with enclosure)
eDRF	0000-0078-552

Enclosure 1

MFN 08-103

Response to Portion of NRC Request for Additional Information Letter No. 117 Related to ESBWR Design Certification Application

Site Characteristics

RAI Numbers 2.5-8 and 2.5-9

NRC RAI 2.5-8

Table 2.0-1, Soil Properties, under "Minimum Dynamic Bearing Capacity" for the reactor/fuel building, shows the values for the soft/medium/hard conditions as 2700 kPa, 7300 kPa, and 5400 kPa. A previous RAI, RAI 3.8-94, questioned why the medium value of 7300 kPa was so high. A response, due on November 5, has not yet been received. Please explain how this value was derived.

GEH Response

As stated in the response to NRC RAI 3.8-94, Supplement 2 (reference GEH correspondence MFN 06-407, Supplement 3, dated November 28, 2007), the higher bearing stress at the medium site condition is due to the higher spectral acceleration of the input ground motion response spectra.

DCD Impact

No DCD change is required in response to this RAI.

NRC RAI 2.5-9

SRP 2.5.4 Acceptance criteria 8 (2.5.4.8) states "In meeting the requirements of 10 CFR Parts 50 and 100, if the foundation materials at the site adjacent to and under Category 1 structures and facilities are saturated soils and the water table is above bedrock, then an analysis of the liquefaction potential at the site is required." In Tier 2, Chapter 2, section 2.0 Introduction, first paragraph after (12) bullets, R4, the requirement that liquefaction not occur under Category II structures was deleted (see also #14 of the Notes for Table 2.0-1 and Table 2.0-2 COL Item 2.0-29-A). Please provide justification or further clarification for deletion of this requirement. The Radwaste building is not Category 1, and therefore soils under its foundation could be subject to liquefaction, and buried piping or other connections between Category I and other structures between buildings could potentially cross liquefiable soils thereby rendering connections nonfunctional.

GEH Response

The change was made in Revision 4 of DCD Tier 2, Section 2.0, Table 2.0-1 and Table 2.0-2 to be consistent with the wording in Revision 2 of DCD Tier 2, Subsection 3.7.5.1. This change resulted from NRC RAI 3.7-61, which required that the exact wording that was previously accepted by the staff and incorporated in Revision 2 of DCD Tier 2 be retained.
As stated in DCD Tier 2, Revision 4, Table 2.0-1, Note # 14 and Table 2.0-2, COL Item 2.0-29-A, liquefaction under structures other than Seismic Category I structures needs to be addressed by the COL applicant in the COL application.

DCD Impact

No DCD change is required in response to this RAI.