GE Hitachi Nuclear Energy

Richard E. Kingston
Vice President, ESBWR Licensing

PO Box 780 M/C A-65
Wilmington, NC 28402-0780
USA

T 910 819 6192
F 910 362 6192
rick.kingston@ge.com

MFN 09-166 Docket No. 52-010

March 09, 2009

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. 275 Related to ESBWR Design Certification Application – RAI Numbers 14.3-445 and 14.3-446**

Enclosure 1 contains the GE Hitachi Nuclear Energy (GEH) response to the subject NRC RAI originally transmitted via the Reference 1 letter.

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

Sincerely,

Richard E. Kingston
Vice President, ESBWR Licensing

Reference:

1. MFN 08-967, Letter from the U.S. Nuclear Regulatory Commission to Robert E. Brown, Request for Additional Information Letter No. 275, Related To ESBWR Design Certification Application, dated December 11, 2008

Enclosure:

1. Response to Portion of NRC Request for Additional Information Letter No. 275, Related to ESBWR Design Certification Application – RAI Numbers 14.3-445 and 14.3-446

cc:	AE Cubbage	USNRC (with enclosure)
	RE Brown	GEH/Wilmington (with enclosure)
	DH Hinds	GEH/Wilmington (with enclosure)
	eDRF	0000-0095-5370

Enclosure 1

MFN 09-166

Response to Portion of NRC Request for

Additional Information Letter No. 275

Related to ESBWR Design Certification Application

RAI Numbers 14.3-445 and 14.3-446

NRC RAI 14.3-445:

Why aren't certain of the LLHS design features in ITAAC or Tier 1?

10 CFR 52.47(b)(1), which requires that a design certification application contain the proposed inspections, tests, analyses, and acceptance criteria (ITAAC) that are necessary and sufficient to provide reasonable assurance that, if the tests. and are and the criteria met, a plant that incorporates the design certification is built and will operate in accordance with the design certification, the provisions of the Atomic Energy Act, and the NRC regulations. Important to safety functions should be described in the DCD Tier 1.

Based on the review of DCD Tier 2 section 9.1, several apparent important to safety design features have been omitted from Tier 1. Explain why the applicant did not require that the following design features in the Light Load Handling System (LLHS) be added to ITAAC or specified as Tier 1 material:

- *The reactor pressure vessel head strongback is designed to meet NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants" and ANSI-14.6, "Standard for Special Lifting Devices", and is tested in accordance with American National Standard for Overhead Hoists ASME/ANSI B30.16, Paragraph 16-1.2.2.2. The reactor pressure vessel head strongback is designed so that no single component failure causes the load to drop or swing uncontrollably out of the safety-related horizontal attitude*.

GEH Response:

Per the telephone call between GEH and the NRC on February 19, 2009, both GEH and the NRC agreed this RAI did not require an ITAAC to be added or specified as Tier 1 material. DCD Tier 1 is not intended to govern the design details of the non-safety related strongback. Design details for the strongback can be found in DCD Tier 2, Subsection 9.1.4.8.

DCD Impact:

No DCD changes will be made in response to this RAI.

NRC RAI 14.3-446:

Add certain interlocks to ITAAC for FB handling machine

10 CFR 52.47(b)(1) which requires that a design certification application contain the proposed inspections, tests, analyses, and acceptance criteria (ITAAC) that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a plant that incorporates the design certification is built and will operate in accordance with the design certification, the provisions of the Atomic Energy Act, and the NRC regulations. Important to safety functions should be described in the DCD Tier 1.

Table 2.5.5-1, "ITAAC for Refueling Machine," lists a few interlocks that the FB fuel handling machine will have. Add interlocks to this list based on disposition of RAI 9.1-109 which addresses interlocks for fuel handling system that are specified in Table 1 of ANSI/ANS 57.1-1992.

GEH Response:

Per the telephone call between GEH and the NRC on February 19, 2009, both GEH and the NRC agreed that adding additional interlocks for the FB fuel handling machine in DCD Tier 1, Table 2.5.5-1, is not needed based on the previously agreed upon disposition between GEH and the NRC for RAI 9.1-107.

In RAI 9.1-107, GEH agreed to revise DCD Tier 2 Subsection 9.1.4 to state that the list of interlocks discussed throughout the subsection is a partial list of the interlocks described in Table 1 of ANSI/ANS 57.1. Because GEH currently commits in DCD Tier 2, Subsection 9.1.4.18 to meeting the criteria of GDC 61 and 62 of Appendix A to 10 CFR 50 for the fuel handling system by meeting the guidance of Regulatory Guides 1.13, 1.29, 1.117 and ANSI/ANS 57.1, it is not necessary to provide a markup in the DCD describing how each interlock specified in Table 1 of ANSI/ANS 57.1 is applied to the components listed in Table 1.

DCD Impact:

No DCD changes will be made in response to this RAI.