HITACHI

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MFN 08-785

Docket No. 52-010

October 20, 2008

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

Subject: **Response to Portion of NRC RAI Letter No. 228 Related to ESBWR Design Certification Application - DCD Tier 2 Section 3.11 – Environmental Qualification of Safety-Related Mechanical and Electrical Equipment; RAI Number 3.11-37**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) letter number 228 sent by NRC letter dated August 6, 2008 (Reference 1). RAI Number 3.11-37 is addressed in Enclosure 1.

If you have any questions or require additional information, please contact me.

Sincerely,

Richard E. Kingston
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 08-623 Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, *Request For Additional Information Letter No. 228 Related To ESBWR Design Certification Application*, dated August 6, 2008

Enclosure:

1. Response to Portion of NRC RAI Letter No. 228 Related to ESBWR Design Certification Application - DCD Tier 2 Section 3.1 – Environmental Qualification of Safety-Related Mechanical and Electrical Equipment; RAI Number 3.11-37

cc:	AE Cubbage	USNRC (with enclosures)
	RE Brown	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	eDRF	0000-0091-1141 (RAI 3.11-37)

Enclosure 1

MFN 08-785

Response to Portion of NRC Request for

Additional Information Letter No. 228

Related to ESBWR Design Certification Application

Environmental Qualification of Safety-Related Mechanical and Electrical Equipment

RAI Numbers 3.11-37

NRC RAI 3.11-37

Question Summary:

Explain the difference between the Tables 3H-9 and 3H-13 for qualification of electronic equipment.

Full Text:

Table 3H-9, note 3 states that electronic equipment is qualified for 50 degrees C (122 °F). Table 3H-13 provides typical mild environment parameter limits. Per Table 3H-13, electronic equipment should be qualified for 63 degrees C (145 °F). Clarify the difference.

GEH Response

Table 3H-9 presents the maximum temperature limit for which the safety-related equipment is qualified based on the room/zone in which the equipment is located. Note 3 clarifies the temperature for which electrical equipment is qualified.

Table 3H-13 defines the environmental conditions for which a room/zone is considered to be a mild environment. If environmental conditions exceed the values presented in Table 3H-13, the room/zone is considered a harsh environment and is subject to harsh environment Equipment Qualification methods as shown in DCD Tier 2 Subsection 3.11.4.1.

For example electrical equipment may be located in a room/zone that experiences a line break with a peak temperature of 234°F. Since this exceeds the mild environment temperature limit of 145°F, the room/zone is considered a harsh environment and the equipment is qualified using harsh environment methods.

DCD Impact

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