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MFN 08-151
Supplement 1

Docket No. 52-010

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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. 160 Related to ESBWR Design Certification Application – Design of Structures, Components, Equipment, and Systems - RAI Number 3.11-17 S01**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to a portion of the U.S. Nuclear Regulatory Commission Request for Additional Information (RAI) sent by NRC Letter 160, dated March 6, 2008 (Reference 1). The GEH response to RAI Number 3.11-17 S01 is addressed in Enclosure 1.

The GEH response to RAI 3.11-17 was submitted via Reference 3 in partial response to NRC Letter 124 (Reference 2).

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

Sincerely,

James C. Kinsey

James C. Kinsey
Vice President, ESBWR Licensing

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NRO

References:

1. MFN 08-221, Letter from the U.S. Nuclear Regulatory Commission to Robert E. Brown, Senior Vice President, Regulatory Affairs, GE-Hitachi, Request for Additional Information Letter No. 160, *Related To ESBWR Design Certification Application*, dated March 6, 2008
2. MFN 08-029, Letter from the U.S. Nuclear Regulatory Commission to Robert E. Brown, Senior Vice President, Regulatory Affairs, GE-Hitachi, *Request for Additional Information Letter No. 124, Related To ESBWR Design Certification Application*, dated January 14, 2008
3. MFN 08-151, Response to Portion of NRC Request for Additional Information Letter No. 124 R*elated to ESBWR Design Certification Application – Environmental Qualification of Mechanical and Electrical Equipment – RAI Numbers 3.11-15, 3.11-16, 3.11-17, 3.11-21, and 3.11-22*, dated February 22, 2008

Enclosure:

1. Response to Portion of NRC Request for Additional Information Letter No. 160 *Related to ESBWR Design Certification Application – Design of Structures, Components, Equipment, and Systems - RAI Number 3.11-17 S01*

cc:	AE Cubbage	USNRC (with enclosure)
	RE Brown	GEH/Wilmington (with enclosure)
	DH Hinds	GEH/Wilmington (with enclosure)
	GB Stramback	GEH/San Jose (with enclosure)
	eDRF	0000-0080-6444

Enclosure 1

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Response to Portion of NRC Request for

Additional Information Letter No. 160

Related to ESBWR Design Certification Application

Design of Structures, Components, Equipment, and Systems

RAI Number 3.11-17 S01

For historical purposes, the original text of RAI 3.11-17 and the GE response is included. RAI 3.11-17 response does not include attachments or DCD mark-up.

NRC RAI 3.11-17:

Confirm that Table 3.11-1 includes all three categories of 10 CFR 50.49(b)

NRC Full Text:

Please confirm that Table 3.11-1 includes all three categories of 10 CFR 50.49(b). (Table 3.11-1 did not include safety-related 480 Vac Isolation Power Center equipment, 250 V safety-related DC system, safety-related UPS system, both safety-related and non-safety related electrical penetrations.)

GEH Response

The ESBWR contains a limited amount of equipment in a harsh environment requiring EQ. The 480 VAC Isolation Power Center equipment, 250 VDC Safety-related System equipment, and Safety-related UPS system equipment are located in Mild Environment and this equipment should not be listed In Table 3.11-1. There are no nonsafety-related penetrations in regards to 10 CFR 50.49 since all containment penetrations form a containment pressure boundary, however, there are 10 CFR 50.49 penetrations that contain only nonsafety-related cables. Electrical penetrations will be added to Table 3.11-1, in DCD Tier 2, Revision 5.

DCD Impact

DCD Tier 2, Revision 4, Table 3.11-1 will be revised in Revision 5 as noted in the attached markup.

NRC RAI 3.11-17 S01

NRC Summary:

Modify Table 3.11-1 to indicate all electrical penetrations rather than multiple electrical penetrations as proposed or provide justification for not doing so.

NRC Full Text:

In response to RAI 3.11-17 dated February 22, 2008, GEH stated that Table 3.11-1 will be revised in Revision 5 to include electrical penetrations. The proposed modification indicates multiple electrical penetrations in Table 3.11-1. ESBWR design identified all electrical penetrations as safety related. There are no non-safety-related electrical penetrations. Modify Table 3.11-1 to indicate all electrical penetrations rather than multiple electrical penetrations as proposed or provide justification for not doing so.

GEH Response

Table 3.11-1 will be revised to indicate all electrical penetrations are included.

DCD Impact

DCD Tier 2, Table 3.11-1 will be revised as noted in the attached markup, in Revision 5.

Table 3.11-1

Electrical and Mechanical Equipment for Environmental Qualification

Components	Quantity	Location (note 1)	Function (note 2)	Required Operation Time (note 3)	Qualification Program (note 4)
H11 Main Control Room Panels					
Panels and Modules	Multiple	CB	ESF	72hr	E
H12 MCR Back Room Panels					
Panels and Modules	Multiple	CB	ESF	72hr	E
H21 Local Panels and Racks					
Panels and Modules	Multiple	ALL	ESF	72hr	EH
P10 Makeup Water System					
Isolation Valves	Multiple	CV, RB	ISOL	72hr	MH
P25 Chilled Water System					
Isolation Valves	8	CV, RB	ISOL	72hr	MH
P51 Service Air System					
Isolation Valves	4	CV, RB	ISOL	72hr	MH
P54 High Pressure Nitrogen Supply System					
Isolation Valves	4	CV, RB	ISOL	72hr	MH
R31 Raceway System					
Electrical Penetrations	All	CV	PB	72hr	EH
T10 Containment System					
Vacuum Breakers	3	CV	ESF	72hr	MH
T31 Containment Inerting System					
Isolation Valve	10	CV, RB	ISOL	72 hr	MH

Note 1: CV – Containment Vessel
ST – Steam Tunnel
RB – Reactor Building
FB – Fuel Building
CB – Control Building
TB – Turbine Building