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MFN 10-158

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U.S. Nuclear Regulatory Commission
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Subject: Response to NRC RAI Letter No. 413 Related to ESBWR Design Certification Application – DCD Tier 2 Section 3.9 – Mechanical Systems and Components; RAI Number 3.9-255 S03

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 413 sent by NRC letter dated May 11, 2010 (Reference 1). RAI Number 3.9-255 S03 is addressed in Enclosure 1.

Enclosure 2 contains the DCD changes to Tier 2 as a result of GEH's response to this RAI. Verified DCD changes associated with this RAI response are identified in the enclosed DCD markups by enclosing the text within a black box.

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

Sincerely,

Richard E. Kingston
Vice President, ESBWR Licensing

*Doc
HRO*

Reference:

1. MFN 10-156 Letter from U.S. Nuclear Regulatory Commission to J. G. Head, GEH, *Request For Additional Information Letter No. 413 Related to ESBWR Design Certification* dated May 11, 2010

Enclosures:

1. Response to NRC RAI Letter No. 413 Related to ESBWR Design Certification Application - DCD Tier 2 Section 3.9 – Mechanical Systems and Components; RAI Number 3.9-255 S03
2. Response to NRC RAI Letter No. 413 Related to ESBWR Design Certification Application - DCD Markups for RAI Number 3.9-255 S03

cc:	AE Cabbage	USNRC (with enclosures)
	JG Head	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	HA Upton	GEH/San Jose (with enclosures)
	eDRF Section	0000-0117-8684 (RAI 3.9-255 S03)

Enclosure 1

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Response to NRC Request for

Additional Information Letter No. 413

Related to ESBWR Design Certification Application

**DCD Tier 2 Section 3.9 – Mechanical Systems and
Components**

RAI Number 3.9-255 S03

NRC RAI 3.9-255 S03

RAI Summary

Computer Codes Tier 2 designation*

RAI Details

The designation of Tier 2 information in the DCD is described in SRP Section 14.3, Appendix A, "Information on Prior Design Certification Reviews". Tier 2* information is generally considered for areas associated with detailed structural and equipment design. A number of computer programs that are used in the dynamic and static analyses of mechanical loads, stresses, and deformations, and in the hydraulic transient load analyses, of seismic Category I components and supports are listed in Table 3D.1-1, "Computer Program User Details". The COL applicant incorporates by reference these computer programs and is required to get NRC approval if, for instance, a piping analysis computer program other than those used for design certification (PISYS08, ANSI714, ANSYS) is used. Therefore, GEH is requested to designate the computer programs listed in Table 3D.1-1 to be the Tier 2* information for ESBWR.*

GEH Response

The Table 3D.1-1 columns labeled "Program" and "Version" will be designated Tier 2* information. In addition, Note (1) under Table 3D.1-1 will be revised to delete the reference to using later software versions. The rows in the table marked as "(Deleted)" will also be permanently deleted from the table.

DCD Impact

DCD Tier 2, Table 3D.1-1 will be revised as noted in the attached markup.

Enclosure 2

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**Response to NRC Request for
Additional Information Letter No. 413
Related to ESBWR Design Certification Application
DCD Markups for RAI Number 3.9-255 S03**

Table 3D.1-1

Computer Program User Details

Program	Company – Location	Version ⁽⁴⁾	Facility ⁽¹⁾
[ANSYS	Hitachi – Japan	[5.6	PC (WINDOWS 2000, XP)
ANSYS	GE – San Jose, Sunol	v8.1, v8.1A1, v9.0, v9.0A1, v10.0, and v10.0A1	SGI Server
ANSYS	GE – Wilmington	v8.1	LINUX server
ANSYS	ENSA – Spain	10	IBM Intellistation
ANSYS	EA	10	Workstation & PC
ASHSD2	Hitachi – Japan	0	Engineering Work Station 3050RX/230
EVAST	Hitachi – Japan	0	Engineering Work Station 3050RX/230
TACF	Hitachi – Japan	0	Engineering Work Station 3050RX/230
ABAQUS	Hitachi – Japan	6.5	PC (WINDOWS 2000, XP)
FEMFL	Hitachi – Japan	0	Engineering Work Station 3050RX/230
SEISM	GE – All locations	03V, October 1998	VAX Mainframe
PISYS	GE – All locations	08	PC
(Deleted)			
ANSI7	GE – All locations	14	PC
(Deleted)			
RVFOR	GE – All locations	06D, January 1998	DEC Alpha workstation
TSFOR	GE – All locations	01D, January 1998	DEC Alpha workstation
ERSIN	GE – All locations	03V, October 1998	VAX Mainframe
RINEX	GE – All locations	01V, October 1998	VAX Mainframe
PDA	GE – All locations	01	PC
LION	GE – All locations	401, March 1994	Workstation and PC
EZPYP	GE – All locations	07D, January 1998	DEC Alpha workstation
E/PD STRUDL	WGI - Princeton	0707	PC
SAP4G	GE – All locations	07V, December 1995	VAX Mainframe
ABAQUS	Toshiba – Japan	6.5-1	Mainframe via PC
PVElite	ENSA – Spain	2008	IBM Intellistation
ANSYS Workbench	GE – All locations	11.0	LINUX Server
ANSYS CFX	GE – All locations	11.0	PC (WINDOWS 2000, XP), Linux
RELAP5/MOD3.3]*	EA-Spain	3.3]*	PC (WINDOWS 2000, XP)

(1) ~~Later software versions and a~~Alternate facilities may be used as long as the software ~~and facility are~~is qualified for use on those facilities.

Text sections that are bracketed and italicized with an asterisk following the brackets are designated as Tier 2. Prior NRC approval is required to change.