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Subject: **Response to NRC RAI Letter No. 402 Related to ESBWR Design Certification Application – PRA – RAI Number 19.1-186**

Enclosure 1 contains the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) Number 19.1-186 (Reference 1).

ESBWR Design Control Document (DCD) and Licensing Topical Report (LTR) markups are provided in Enclosure 2.

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

Sincerely,

Richard E. Kingston

Richard E. Kingston
Vice President, ESBWR Licensing

References:

1. MFN 09-781, Letter from the U.S. Nuclear Regulatory Commission to Jerald G. Head, Request for Additional Information Letter No. 402, Related to ESBWR Design Certification Application, dated December 10, 2009.

Enclosures:

1. Response to NRC Request for Additional Information Letter No. 402 Related to ESBWR Design Certification Application – PRA – RAI Number 19.1-186.
2. Response to NRC Request for Additional Information Letter No. 402 Related to ESBWR Design Certification Application – PRA – RAI Number 19.1-186 – ESBWR DCD and LTR Markups.

cc:	AE Cubbage	USNRC (with enclosures)
	JG Head	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	CW Bagnal	GEH/Wilmington (with enclosures)
	eDRF Section	0000-0110-9625 (RAI 19.1-186)

Enclosure 1

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Response to NRC Request for

Additional Information Letter No. 402

Related to ESBWR Design Certification Application

Probabilistic Risk Assessment

RAI Number 19.1-186

NRC RAI 19.1-186

In DCD Revision 6, there are no PRA insights that address the important implicit assumptions in the high winds risk assessment that (1) the plant will go to Mode 4 and will not de-inert in Mode 4 when the plant shuts down in anticipation of a hurricane strike, and (2) when a hurricane is approaching the site, the plant will not voluntarily take any equipment out of service that is credited in the high winds PRA. Please add these to the list of insights in Table 18-1 of NEDO-33201 and Table 19.2-3, Risk Insights and Assumptions of the DCD.

GEH Response

Insights on hurricane strikes will be added to NEDO-33201 Table 18-1 and DCD Tier 2 Table 19.2-3.

DCD Impact
DCD Tier 2 Table 19.2-3 will be revised as shown in the attached mark-up.

NEDO-33201 Table 18-1 will be revised as shown in the attached mark-up.

Enclosure 2

MFN 09-784

Response to NRC Request for Additional Information Letter No. 402 Related to ESBWR Design Certification Application – Probabilistic Risk Assessment

RAI Number 19.1-186

ESBWR DCD and LTR Markups

Table 19.2-3
Risk Insights and Assumptions

Insight or Assumption	Disposition
A fire in the lower drywell that damages all equipment in the area can significantly impact the CDF. These fires have been screened from the Fire PRA analysis. The area is inert during power operations. During shutdown, the screening is based on engineering judgment. The components that lead to the high risk significance are RWCU/SDC equipment and containment isolation valves. The judgment to screen this from analysis is based on the physical separation of the components, the limited number of ignition sources in the area, and the limited combustible material in the area.	Operational Program – Site Baseline PRA
There are implicit assumptions in the high winds risk assessment that (1) the plant will go to Mode 4 and will not de-inert in Mode 4 when the plant shuts down in anticipation of a hurricane strike, and (2) in anticipation of a hurricane strike, the plant will ensure that equipment credited in the high winds PRA is available.	Operational Program – Procedure Development

Table 18-1

Risk Insights and Assumptions

	Insight or Assumption	NEDO-33201 Section	Disposition
49	There are implicit assumptions in the high winds risk assessment that (1) the plant will go to Mode 4 and will not de-inert in Mode 4 when the plant shuts down in anticipation of a hurricane strike, and (2) in anticipation of a hurricane strike, the plant will ensure that equipment credited in the high winds PRA is available.	16	Operational Program – Procedure Development