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MFN 06-313, Supplement 9

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. 40 Related to ESBWR Design Certification Application, RAI Number 19.2-15S01.

The purpose of this letter is to supplement the GE-Hitachi Nuclear Energy Americas LLC (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) sent by NRC in Reference 1 and responded to in Reference 2. This letter provides further discussion as requested from the NRC Staff via email. The response to that question is addressed in Enclosure 1 as RAI Number 19.2-15S01.

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

Sincerely,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

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NRO

Reference:

1. MFN 06-222, Letter from U.S. Nuclear Regulatory Commission to David Hinds, Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application, July 5, 2006.

2. MFN 06-313. *Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application –ESBWR Probabilistic Risk Assessment – RAI Numbers 19.1-8 (b) (Revised Response), 19.1-9, 19.1-10, 19.1-16, 19.1-18, 19.2-4. 19.2-5,19.2-15, 19.2-16, 19.2-19, 19.2-20, 19.2-21, 19.2-23, 19.2-34, 19.2-58 through 19.2-62, and 19.2-64.* September 12, 2006.

Enclosure:

1. MFN 06-313 Supplement 9 Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application ESBWR Probabilistic Risk Assessment RAI Number 19.2-15S01.

cc:	AE Cubbage	USNRC (with enclosure)
	GB Stramback	GEH/San Jose (with enclosure)
	RE Brown	GEH/Wilmington (with enclosure)
	eDRF Section	0000-00073-3963

Enclosure 1 of
MFN 06-313, Supplement 9

Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application ESBWR Probabilistic Risk Assessment RAI Number 19.2-15S01

NRC RAI 19.2-15 S01

Received by e-mail from T. Kevern.

There were two parts of this RAI, and the response only addresses part (a). To repeat part (b): Provide a description of system design features, operating procedures, or administrative controls that reduce the likelihood of this operator action.

NRC RAI 19.2-15 (Original)

If the containment sprays are turned on while the PCCS is removing heat, the resulting drop in drywell pressure may interrupt the flow to the GDCS, and eventually the RPV. Although the scenario progression from this point is not clear, core damage appears possible. In view of the potential risk significance, please provide an assessment of the affect of spray system operation on core cooling. Include in your response (a) a supporting thermal-hydraulic analysis for this event, and (b) a description of system design features, operating procedures, or administrative controls that reduce the likelihood of this operator action.

GE Response (Original)

This is a temporary event, as vacuum breaker action will equalize pressures. If the GDCS flow to RPV is temporarily stopped long enough to cause RPV water level to drop to a sufficiently low level, the equalization lines will open to provide water to RPV from the suppression pool to keep the water level in the core above the top of the active fuel and provide core cooling. No analysis is warranted.

GEH Response - Supplemental

The ESBWR containment sprays will be actuated manually. The containment sprays are isolated using normally closed containment isolation valves. Included in the development of the system operating procedures and emergency operating procedures (EOPs) for the ESBWR will be the insight that the use of the containment sprays could affect core cooling via GDCS and should not be used unless an active means of core cooling is assured. The system operating procedures and EOPs for the ESBWR will be developed in the future and in accordance with the Human Factors Engineering (HFE) process. DCD Tier 2 Revision 3 includes the HFE process that will be used to develop the ESBWR specific EOPs.

DCD/NEDO-33201 Impact

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

No changes to NEDO 33201 will be made in response to this RAI.