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Supplement 4

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U.S. Nuclear Regulatory Commission
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Subject: **Response to Portion of NRC Request for Additional Information Letter No. 67 Related to ESBWR Design Certification Application – Design Of Structures, Components, Equipment, and Systems - RAI Number 3.9-152 S01**

Enclosure 1 contains GEH's response to the subject NRC RAI transmitted via e-mail on June 13, 2007. GE's original response was provided in the Reference 1 letter.

If you have any questions or require additional information regarding the information provided here, please contact me.

Sincerely,

Kathy Sedney for

James C. Kinsey
Vice President, ESBWR Licensing

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NRO

Reference:

1. MFN 06-489, Letter from David Hinds to U.S. Nuclear Regulatory Commission, *Response to Portion of NRC Request for Additional Information Letter No. 67 Related to ESBWR Design Certification Application – DCD Section 3.9 – RAI Numbers 3.9-30, 3.9-42, 3.9-82 through 3.9-86, 3.9-88, 3.9-90, 3.9-95, 3.9-120 through 3.9-122, 3.9-152, 3.9-154 through 3.9-156, 3.9-158 through 3.9-160 and 3.9-174*, dated November 29, 2006

Enclosure:

1. MFN 06-489. Supplement 4 - Response to Portion of NRC Request for Additional Information Letter No. 67 Related to ESBWR Design Certification Application – Design Of Structures, Components, Equipment, and Systems - RAI Number 3.9-152 S01

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Enclosure 1

MFN 06-489, Supplement 4

Response to Portion of NRC Request for

Additional Information Letter No. 67

Related to ESBWR Design Certification Application

Design Of Structures, Components, Equipment, and Systems

RAI Number 3.9-152 S01

NRC RAI 3.9-152

Identify the systems and associated pumps and valves that are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident (including long term residual heat removal following an accident), and revise DCD Tier 2, Table 3.9-8 on In-Service Testing (IST) for pumps and valves accordingly.

GE Response

The safety-related systems, identified in DCD Tier 2, Tables 3.6-1 and 3.6-2, to achieve a reactor safe shutdown condition do not have any pumps. Valves for these systems are already identified in DCD Tier 2, Table 3.9-8.

Post-accident long term decay heat removal is performed by non-safety related systems which is acceptable as per SECY 94-084 for passive plants such as ESBWR. Non-safety related equipment is not required to be subjected to the IST.

DCD Impact

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

NRC RAI 3.9-152 S01

Comment on response to RAI 3.9-152 (MFN 06-489):

The applicant is requested to specify the safe-shutdown conditions for the ESBWR and identify the associated safety-related systems that are used for shutting down the reactor and maintaining the reactor in a stable safe shutdown condition.

GEH Response

DCD Tier 1, Revision 4, Page 1.1-3 defines the conditions associated with *safe shutdown* and *safe shutdown for station blackout* for the ESBWR.

In Revision 4 of the DCD, the system descriptions (e.g., Section 2 in Tier 1 and Section 1 in Tier 2) discuss whether specific systems are required to achieve and/or maintain safe shutdown of the plant. DCD Tier 2, Revision 4, Sections 7.1.3.2.3 and 7.4 list and discuss the safe shutdown systems from an I&C standpoint. DCD Tier 2, Revision 4, Table 9A.2-2 lists the systems required to achieve safe shutdown in the event of a fire.

DCD Tier 2, Revision 4, Appendix 1B, Section 1B.3.3 states "The systems identified in Appendix 1B, Section 1B.5.1 are the systems used to maintain the plant in a safe shutdown condition." DCD Tier 2, Revision 4, Section 1B.5.1 identifies and discusses the systems required post-accident (i.e., to maintain safe shutdown).

DCD Impact

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