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MFN 06-489  
Supplement 5

Docket No. 52-010

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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 3.9-154 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,

James C. Kinsey  
Vice President, ESBWR Licensing

*DOB*  
*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 5 - 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 3.9-154 S01

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**Enclosure 1**

**MFN 06-489, Supplement 5**

**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 3.9-154 S01**

**NRC RAI 3.9-154 (from MFN 06-489)**

*The applicant stated in response to RAI 3.9-2 that during normal reactor operations the Gravity-Driven Cooling System (GDCS) bias-open check valve (CV) will be actuated remotely through the use of a non-intrusive magnetically coupled torque-motor. Describe the acceptance criteria and basis for the acceptance criteria to assess degradation and the performance characteristics of the CV. Discuss how the operation and accuracy of the diagnostic equipment and techniques will be verified during preoperational testing.*

**GE Response**

The GDCS check valve is capable of position indication. During preoperational testing verification of position will be verified by providing flow to fully close and open the valve through the use of test line connections. The valve shall be capable of being fully closed and opened. Test line connections will remain available for the COL applicant to perform routine testing as part of the IST program.

Acceptance criteria will be based on functional characteristics of the valve procured for the actual plant construction.

**DCD Impact**

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

**NRC RAI 3.9-154 S01**

*Comment on response to RAI 3.9-154 (MFN 06-489):*

*The applicant is requested to specify in the ESBWR DCD that the COL applicant shall include in its inservice testing (IST) program plan the acceptance criteria and the bases for assessing degradation and the performance characteristics of pumps, valves, and dynamic restraints in the IST program; and to describe the diagnostic equipment and techniques to be used in the IST program.*

**GE Response**

Requirements for the COL applicant to submit a full in-service testing program (IST) for valves and dynamic restraints (snubbers) were added as part of DCD Revision 4. These requirements can be found in DCD Tier 2 Rev. 4 Subsections 3.9.9-3-A and 3.9.9-4-A. Details related to the development of the IST program will be provided as part of the COL commitments identified in the above subsections.

IST programs are not required for pumps in the ESBWR design, as it does not contain any safety-related pumps.

**DCD Impact**

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