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MFN 06-489
Supplement 3

Docket No. 52-010

August 29, 2007

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. 67 Related to ESBWR Design Certification Application –
In-Service Testing of Pumps and Valves – RAI Number 3.9-158 S01**

Enclosure 1 contains GEH's response to the subject NRC RAI transmitted via e-mail on June 13, 2007. GEH'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
Project Manager, 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*, November 29, 2006

Enclosure:

1. MFN 06-489, Supplement 3 – Response to Portion of NRC Request for Additional Information Letter No. 67 Related to ESBWR Design Certification Application – In-Service Testing of Pumps and Valves – RAI Number 3.9-158 S01

cc: AE Cabbage USNRC (with enclosures)
DH Hinds GEH (with enclosures)
RE Brown GEH (w/o enclosures)
eDRF 0000-0071-7621

Enclosure 1

MFN 06-489

Supplement 3

Response to Portion of NRC Request for

Additional Information Letter No. 67

Related to ESBWR Design Certification Application

In-Service Testing of Pumps and Valves – RAI Number 3.9-158 S01

For historical purposes, the original text and GE response to RAI 3.9-158 is included.

NRC RAI 3.9-158

A. Describe how the test results will identify the flow required to open the valve and maintain the disc in a stable full open position.

B. Describe the nonintrusive techniques and acceptance criteria (if different from that used for biased-open CV) used to periodically assess degradation and the performance of CVs.

GE Response

A. The GDCS check valve will be placed in a vertical orientation, thereby allowing the valve to remain fully open and provide a stable position where any flow will not be impeded and will be allowed to develop fully. Full-open indicated position confirms this.

B. General Design Criteria and NUREG guidelines as given by DCD Tier 2, Revision 2, Subsection 3.9.6 will be implemented by COL holder.

DCD Impact

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

NRC RAI 3.9-158 S01

Comment on response to RAI 3.9-158 (MFN 06-489):

The applicant is requested to describe how the test results will identify the flow required to open the valve and maintain the disc in a stable full open position; and the nonintrusive techniques and acceptance criteria (if different from that used for biased-open check valves) used to periodically assess degradation and the performance of check valves.

GEH Response

The check valve configuration in question was revised during RAI 3.9-158 (MFN 06-489) from its original horizontal orientation to a vertical orientation. This orientation allows for gravity to pull the disk of the valve open during a zero pressure differential (normal) across the valve. As such, it remains in a fully open and stable during normal conditions, and conditions where the GDCS pressure exceeds the squib valve/RPV pressure.

As per inservice testing (IST) techniques, DCD Tier 2, Rev. 3 states in subsection 3.9.9.3 *InService Testing Programs* that the IST program is the responsibility of the COL holder, and is not outlined in the DCD.

DCD Impact

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