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MFN 06-461
Supplement 3

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. 79 Related to ESBWR Design Certification Application – Containment Isolation Function – RAI Number 6.2-117 S01**

Enclosure 1 contains GEH's response to the subject NRC RAI transmitted via e-mail on May 30, 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,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

D068
NRO

Reference:

1. MFN 06-461, Letter from David Hinds to U.S. Nuclear Regulatory Commission, *Response to Portion of NRC Request for Additional Information Letter No. 79 – Containment Isolation Function – RAI Numbers 6.2-104 through 6.2-117, 6.2-123, 6.2-124, 6.2-126, 6.2-128, and 6.2-129,* November 17, 2006

Enclosure:

1. MFN 06-461, Supplement 3 – Response to Portion of NRC Request for Additional Information Letter No. 79 Related to ESBWR Design Certification Application – Containment Isolation Function – RAI Number 6.2-117 S01

cc:	AE Cubbage	USNRC (with enclosures)
	DH Hinds	GEH (with enclosures)
	RE Brown	GEH (w/o enclosures)
	eDRF	0000-0072-8507

Enclosure 1

MFN 06-461

Supplement 3

Response to Portion of NRC Request for

Additional Information Letter No. 79

Related to ESBWR Design Certification Application

Containment Isolation Function – RAI Number 6.2-117 S01

For historical purposes, the original text of RAI 6.2-117 and the GE response is included.

NRC RAI 6.2-117

DCD Tier 2, Revision 1, Section 6.2.4.2.5, "Redundancy and Modes of Valve Actuations," states, in part:

> *Functions for administrative controls and/or locks ensure that the position of all nonpowered isolation valves is maintained and known.*

In the DCD, describe the administrative controls.

GEH Response

Comment is accepted. DCD Tier 2, Section 6.2.4.2.5, first sentence of the sixth paragraph will be revised explaining administrative controls.

DCD Impact

DCD Tier 2, Section 6.2.4.2.5, first sentence of the sixth paragraph will be revised as noted in the attached markup.

NRC RAI 6.2-117 S01

RAI 6.2-117 asked for more detailed information to be added to DCD, Tier 2, Revision 1, Section 6.2.4.2.5, "Redundancy and Modes of Valve Actuations," to describe the administrative controls mentioned in the following sentence:

Functions for administrative controls and/or locks ensure that the position of all nonpowered isolation valves is maintained and known.

In response, the applicant revised the sentence as follows:

Administrative controls will be applied by the plant operators by using established procedures and checklists for all non-powered containment isolation valves to ensure that their position is maintained and known.

Supplemental Request:

Provide descriptions of the administrative controls, to the extent that they are required by the regulations, per the following discussion.

"Non-powered" CIVs means manual valves, check valves, and perhaps certain safety or relief valves. By the nature of these valves, usually only the positions of manual valves can be administratively controlled. Further, GDC 55 through 57 require manual CIVs to be locked closed. National standard ANS-56.2/ANSI N271-1976 (endorsed by RG 1.141) and SRP 6.2.4, Rev. 2, define and use the term "sealed closed isolation valve" in place of "locked closed isolation valve." The national standard defines a sealed closed isolation valve as follows:

A valve that is in a closed position by administrative controls by any of the following methods:

(1) A mechanical device sealing or locking the valve in the closed position.

(2) A normally closed valve with a seal[4] or lock on any manual over-ride if present and a seal or lock on the power breaker or power source in a manner that prevents power from being supplied to the valve.

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[4] A seal is a physical restraint such as a lead seal.

Revise the DCD to reflect these requirements and guidelines.

GEH Response

DCD will be revised in line with the supplemental request.

DCD Impact

DCD Tier 2, Section 6.2.4.2.5 will be revised as noted in the attached markup.

DCD Tier 2 Section 6.2 Markups for RAI 6.2-117 S01

RAI 6.2-117_S01 – Subsection 6.2.4.2.5, 6th paragraph

The plant operators apply ~~Administrative~~ administrative controls ~~will be applied by the plant operators by~~ using established procedures and checklist for all non-powered containment isolation valves to ensure that their position is maintained and known. The position of all power-operated isolation valves is indicated in the control room. Discussion of instrumentation and controls for the isolation valves is included in Subsection 7.3.3. "Non-powered" CIVs are manual valves, check valves, and also may include certain safety or relief valves. In general, only manual valves are configured to permit administrative control. Further, compliance with GDCs 55 through 57 requires that the manual CIVs be locked closed. Powered or non-powered CIVs in the ESBWR design that are defined as passive valves (refer to Table 3.9-8) are designed to have their position administratively controlled or are prudently inhibited from being repositioned (For example, by inadvertent operator control action). For these valves, the **COL holder** may use any of the administrative methods that apply, including but not limited to, wire locks, tab locks, chain or bar and padlocks, secured or covered switches, deenergized and locked-out electrical breakers, removed fuses, or closed-and-locked fluidic power supply valves, in conjunction with alignment control procedures. These administrative controls meet the requirements of RG 1.141 and satisfy the standards of ANS-56.2/ANSI N271-1976. Where applicable, and using technically reliable design(s), check valves are equipped with a means for position indication. Excess flow check valves, typically used in instrument line isolation, are also equipped with position indication devices. If a safety or relief type valve is used as a CIV, a position indication device is included in the design to indicate that the valve is open, either by direct sensing of disk position (e.g., follower rod with inductive sensor) or indirect means (e.g., tailpipe thermal sensor).