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MFN 06-433 Supplement 1

Docket No. 52-010

July 27, 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. 79 - Containment Systems - RAI Number 6.2-135 S01**

Enclosure 1 contains GEH's response to the subject NRC RAI originally transmitted via the Reference 1 letter and supplemented by an NRC request for clarification.

If you have any questions or require additional information, please contact me.

Sincerely,



James C. Kinsey
Project Manager, ESBWR Licensing

DO68

Reference:

1. MFN 06-393, Letter from U.S. Nuclear Regulatory Commission to David Hines, *Request for Additional Information Letter No. 79 Related to ESBWR Design Certification Application*, October 11, 2006

Enclosure:

1. MFN 06-433 Supplement 1 - Response to Portion of NRC Request for Additional Information Letter No. 79 - Related to ESBWR Design Certification Application - Containment Systems - RAI Number 6.2-135 S01

cc: AE Cubbage USNRC (with enclosures)
BE Brown GEH/Wilmington (with enclosures)
GB Stramback GEH/San Jose (with enclosures)
eDRF 0000-0070-2780

Enclosure 1

MFN 06-433 Supplement 1

Response to Portion of NRC Request for

Additional Information Letter No. 79

Related to ESBWR Design Certification Application

Containment Systems

RAI Number 6.2-135 S01

NRC RAI 6.2-135:

DCD Tier 2, Revision 1, Section 6.2.4.3.1.1, "Influent Lines," discusses the Standby Liquid Control System Line. It seems to say that the outboard CIVs are a check valve in series with two parallel squib valves. However, Table 6.2-32 indicates that the only outboard CIV is a simple check valve. GDC 55 specifically prohibits the use of a simple check valve outside containment as a CIV.

Provide justification for this design or bring the design into compliance with GDC 55.

GEH Response:

The description of the Standby Liquid Control system compliance with GDC 55 is contained in Tier 2, Revision 1, Subsection 6.2.4.3.1.1 and Table 6.2-13, and is correct as written.

Table 6.2-32 will be modified accordingly to add the two parallel squib valves in each influent line, as shown in the following markup.

NRC RAI 6.2-135 S01:

RAI 6.2-135 addressed a discrepancy between the DCD text and tables. In GE's response, MFN 06-433, GE stated, "Table 6.2-32 will be modified accordingly to add the two parallel squib valves in each influent line, as shown in the following markup." Specifically, they were to revise DCD, Tier 2, Table 6.2-32 to show that there was a check valve in series with two parallel squib valves, as the CIVs outside containment for the Standby Liquid Control System influent lines.

Staff reviewed DCD, Tier 2, Revision 3, Table 6.2-32, and it appears that this proposed revision was not incorporated. Revise Table 6.2-32 as proposed in the original response to RAI 6.2-135.

GEH Response:

DCD Tier 2, Table 6.2-13 and Table 6.2-32 will be revised to include the two parallel squib valves.

DCD Impact:

DCD Tier 2, Table 6.2-13 and Table 6.2-32 will be revised as shown in the attached markup.

ESBWR

26A6642AT Rev. 04

Design Control Document/Tier 2

Table 6.2-13

Reactor Coolant Pressure Boundary Influent Lines Penetrating Drywell

Influent Line		Inside Drywell	Outside Drywell
1	Feedwater	CV or equivalent	(1) CV/POV combination (1) POV
2	IC Condensate	(1) NMOV or equivalent (1) NOV or equivalent	None (closed loop outside containment)
3	Standby liquid control	CV or equivalent	(1) CV or equivalent (2) SQUIB (parallel)
4	IC Purge Line	(1) CV (1) NOV or equivalent	None (closed loop outside containment)
CV = Check valve or equivalent process flow isolated valve POV = Power-operated valve NOV = Nitrogen-operated valve SQUIB = Squib-activated valve, normally closed with solid metal isolation barrier NMOV = Nitrogen motor operated valve or equivalent with fail as-is actuator			

Table 6.2-32a

Containment Isolation Valve Information for the Standby Liquid Control System

Penetration Identification	C41-MPEN-0001			
Valve No.	F005A	F004A	F003A	F003C
Applicable Basis	GDC 55	GDC 55	GDC 55	GDC 55
Tier 2 Figure	9.3-1	9.3-1	9.3-1	9.3-1
ESF	Yes	Yes	Yes	Yes
Fluid	Boron/Water	Boron/Water	Boron/Water	Boron/Water
Line Size	80 mm	80 mm	80 mm	80 mm
Type C Leakage Test	Yes	Yes	Yes	Yes
Pipe Length from Cont. to Outboard Isolation Valve	COL holder to provide	COL holder to provide	COL holder to provide	COL holder to provide
Leakage Through Packing(a)	N/A	(a1)	(a1)	(a1)
Leakage Past Seat(b)	(b5)	(b5)	(b5)	(b5)
Location	Inboard	Outboard	Outboard	Outboard
Valve Type	CK, GB, AF	CK, GB, AF	GT*	GT*
Operator(c)	N/A	N/A	N/A**	N/A**
Normal Position	Closed	Closed	Closed	Closed
Shutdown Position	Closed	Closed	Closed	Closed
Post-Acc Position	Operable	Operable	Open	Open
Power Fail Position	N/A	N/A	As is	As is
Cont. Iso. Signal(d)	Q	Q	N/A**	N/A**
Primary Actuation	Flow	Flow	N/A**	N/A**
Secondary Actuation	N/A	N/A	N/A**	N/A**
Closure Time (sec)	N/A	N/A	N/A**	N/A**
Power Source	N/A	N/A	N/A**	N/A**

* The disk/inlet-fitting cap is hermetically sealed and when valve is actuated, the cap is sheared to permanently open the flow path.

**Not relevant to the valve isolation function.

Note: For explanation of codes, see legend on Table 6.2-15.

Table 6.2-32b
Containment Isolation Valve Information for the Standby Liquid Control System

Penetration Identification	C41-MPEN-0002			
Valve No.	F005B	F004B	F003B	F003D
Applicable Basis	GDC 55	GDC 55	GDC 55	GDC 55
Tier 2 Figure	9.3-1	9.3-1	9.3-1	9.3-1
ESF	Yes	Yes	Yes	Yes
Fluid	Boron/Water	Boron/Water	Boron/Water	Boron/Water
Line Size	80 mm	80 mm	80 mm	80 mm
Type C Leakage Test	Yes	Yes	Yes	Yes
Pipe Length from Cont. to Outboard Isolation Valve	COL holder to provide	COL holder to provide	COL holder to provide	COL holder to provide
Leakage Through Packing(a)	N/A	(a1)	(a1)	(a1)
Leakage Past Seat(b)	(b5)	(b5)	(b5)	(b5)
Location	Inboard	Outboard	Outboard	Outboard
Valve Type	CK, GB, AF	CK, GB, AF	GT*	GT*
Operator(c)	N/A	N/A	N/A**	N/A**
Normal Position	Closed	Closed	Closed	Closed
Shutdown Position	Closed	Closed	Closed	Closed
Post-Acc Position	Operable	Operable	Open	Open
Power Fail Position	N/A	N/A	As is	As is
Cont. Iso. Signal(d)	Q	Q	N/A**	N/A**
Primary Actuation	Flow	Flow	N/A**	N/A**
Secondary Actuation	N/A	N/A	N/A**	N/A**
Closure Time (sec)	N/A	N/A	N/A**	N/A**
Power Source	N/A	N/A	N/A**	N/A**

* The disk/inlet-fitting cap is hermetically sealed and when valve is actuated, the cap is sheared to permanently open the flow path.

**Not relevant to the valve isolation function.

Note: For explanation of codes, see legend on Table 6.2-15.