

The Light company

Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

November 27, 1981
ST-HL-AE-756
SFN: V-0540

Mr. Karl Seyfrit
Director, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76012



Dear Mr. Seyfrit:

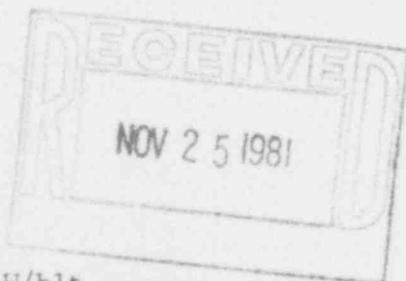
South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Response to NRC IE Bulletin No. 81-02, Supplement 1

Bulletin No. 81-02, Supplement 1, received August 21, 1981, has been reviewed by Houston Lighting & Power Company. Investigation has confirmed that a number of the Westinghouse EMD gate valves discussed in the Bulletin have been purchased for installation at the South Texas Project. The attached table lists the subject valves intended for use in safety-related systems, their planned service, the differential pressure against which they will be required to close, and the safety consequences of the valves failing to close.

The affected valves will be modified by Westinghouse so that they will be capable of closing against the maximum differential pressures that will be encountered. The exact method that will be used has not yet been firmly established. However, Westinghouse is currently working on a schedule under which the modifications to the affected valves will be completed by December 31, 1982.

The manpower expended in the review of this supplement to the Bulletin and the preparation of the report is estimated to be approximately 100 man-hours to date. This estimate only includes activities specific to STP and not generic work performed by W. Since corrective actions have not been completed, a breakdown of the man-hours expended is not available.

If there are any questions, please contact Mr. Michael E. Powell at (713) 676-8592.



Very truly yours,

A handwritten signature in cursive that reads "J. H. Goldberg".

J. H. Goldberg
Vice President
Nuclear Engineering & Construction

PLW/blt
Attachment

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PDR ADOCK 05000498
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Revision Date 10-29-81

ATTACHMENT
SOUTH TEXAS PROJECT
RESPONSE TO NRC IE BULLETIN 81-02, SUPPLEMENT 1

W-EMD VALVE ID	PLANNED SERVICE APPLICATION	HL&P VALVE # (W)	MAXIMUM ΔP (psi)	FAILURE ANALYSIS
3GM88FNB	Pressurizer PORV Block Valve	XRC 001 A, B (. 8000 A,B)	2500	The present design does not require the block valves to close under full flow conditions. These valves are used to isolate PORV's if they are leaking. The failure of one of these valves to close under full flow conditions would be the same as a Failed Open PORV (assuming PORV is already opened and fails to close). The consequences of this failure are covered by present accident analysis in the FSAR.
6GM72FBA	Volume Control Tank Discharge Isolation	XCV 112 B (LCV-112 B) XCV 113 A (LCV-113A)	100	These valves in series are located on the VCT Discharge line that provides suction to the CVCS charging pumps. These valves are closed upon opening of the valves that permit CVCS charging pump suction from the RWST and when either SI signal or VCT lo-lo level signal is present. Failure of one valve to close completely may reduce the differential pressure across the second valve sufficient to permit its closure. Failure of these valves to close would have no significant safety consequences.
6GM72FBA	CVCS Charging Pump Suction to RWST	XCV 112 C (LCV-112C) XCV 113 B (LCV-113B)	200	These valves are in parallel flow paths from the RWST to the CVCS charging pump suction header. These valves are normally closed and are used only in abnormal situations when the charging pumps are used to provide water from the RWST to the Reactor Coolant System. These valves are interlocked to prevent closure when an SI signal or VCT lo-lo level signal is present. Failure of these valves to close would have no significant safety consequences.
4GM88FND	CVCS Letdown Upstream of Regenerative Heat Exchanger	LCV 465 LCV 468	2500	These two valves in series provide isolation of the CVCS let-down from the RCS. These valves would be automatically closed on Pressurizer low level that might be caused by a break in the safety class 2 pipe of the regenerative heat exchanger downstream of the valves. The two valves in series provide redundancy. Failure of one valve to close completely may reduce the differential pressure across the second valve sufficiently to permit closure. If the blowdown is not

W-EMD VALVE ID	PLANNED SERVICE APPLICATION	HL&P VALVE # (W)	MAXIMUM ΔP (psi)	FAILURE ANALYSIS
4GM74FEB	CVCS Letdown Containment Isolation Valves	XCV023 (8133) XCV024 (8134)	700	<p>terminated, the consequences are covered by present accident analyses in the FSAR. Failure of the valves to close completely has no unreviewed safety consequences.</p> <p>These valves provide a Containment Isolation function. High differential pressure would occur on a Containment Isolation Signal. For a pipe break inside Containment, the differential pressure across the valves would be reduced immediately, permitting the valves to close.</p> <p>For failure of the two upstream isolation valves (Westinghouse EMD valves) in conjunction with a letdown pipe break outside Containment, there are motor-operated packless metal diaphragm valves used as Letdown Orifice isolation valves that could be manually operated to terminate flow. When the flow is reduced, the valves LCV 465, LCV 468, XCV 023 (8133) and XCV 024 (8134) would then be able to close. Also, partial closure of one valve may reduce the differential across the second valve sufficiently to permit the second valve to close. Failure of XCV 023 (8133) and XCV 024 (8134) to close would have no significant safety consequences.</p>
4GM78FPA	CVCS Charging Line Isolation	XCV 025 (8135)	3100	<p>The failure of this valve for a pipe break inside or outside Containment reduces the redundancy for Containment Isolation. For outside Containment, there are 3 check valves downstream that would prevent blowdown of the RCS. For inside Containment, the Charging Pumps can be stopped and the differential pressure across the valve would be reduced immediately, permitting the valve to close.</p>
4GM72FBA	Charging Pump Suction Valve from Boric Acid Transfer Pump	XCV 218 (8358)	0	<p>This valve is normally closed and provides a means to have CVCS Charging Pumps take suction from 4 weight percent boric acid solution. The valve is in series with a check valve; failure to close would permit flow from boric acid transfer pumps to the suction of the charging pumps. Flow may be stopped by turning off the BAT pumps. Backflow into BRS is precluded by check valve. The failure of this valve to close has no significant safety consequences.</p>

W-2MD VALVE ID	PLANNED SERVICE APPLICATION	HL&P VALVE # (W)	MAXIMUM ΔP (psi)	FAILURE ANALYSIS
16GM72FBA	Safety Injection Suction Valve from RWST	XSI 001 A, B, C (8801 A,B,C)	200	Valve is closed for recirculation phase following a LOCA. Failure of the valve to close would result in a loss of redundancy for preventing backflow to the RWST. Failure of the valve to close has no significant safety consequences.
6GM77FHA	High Head Safety Injection Pump Discharge Isolation Valve/ Containment Isolation	XSI 004 A, B, C (8804 A,B,C)	100	This valve provides pump isolation and also serves as the Containment Isolation Valve. The valve is normally open. Failure of the valve to close against backflow from the RCS has no significant safety consequences because there are 2 check valves which could prevent blowdown of the RCS.
6GM78FNB	HHSI to Accumulator Isolation Valve	XSI 006 A, B, C (8806 A,B,C)	0	This valve closes for switchover from Cold Leg injection to Hot Leg injection. Failure of valve to close during recirculation will degrade flow to Hot Legs. Pressure differential across valve can be reduced to permit closure by momentarily interrupting SI (by stopping pump or manual action). Failure of the valve to close reduces the redundancy for Hot Leg recirculation.
6GM78FNB	HHSI to Hot Leg Injection Iso- lation Valve	XSI 008 A, B, C (8808 A,B,C)	0	This valve is opened to provide SI switchover from Cold Leg injection to Hot Leg injection. If switchover back to Cold Leg is required, failure of the valve to close would degrade Cold Leg injection flow. However, SI could be momentarily interrupted to reduce differential pressure across valve permitting it to close.
16GM72FBD	Emergency Sump Recirculation Isolation Valve	XSI 016 A, B, C (8816 A,B,C)	100	This valve must open to permit SI recirculation. The valve is required for isolating a passive failure between the sump valve and the next motor-operated valve. High differential pressure should not be present when the valve is required to close.
8GM74FEA	Low Head Safety Injection Pump Discharge Isolation Valve/Con- tainment Isolation Valve	XSI 018, A, B, C (8818 A,B,C)	100	This valve serves as a pump isolation valve and as a Containment Isolation Valve. The valve is normally open. Reverse flow in the line is stopped by the inside Containment check valve. Failure of the valve to close reduces Containment Isolation redundancy.

W-EMD VALVE ID	PLANNED SERVICE		MAXIMUM ΔP (psi)	FAILURE ANALYSIS
	APPLICATION	HL&P VALVE # (W)		
8GM78FNB	LHSI to Hot Leg Injection Isolation valve	XRH 019 A, B, C (8819 A,B,C)	200	Same as for XSI 008 (8808)
8GM78FNB	LHSI to Accumulator Isolation Valve	XRH 031 A, B, C (8901 A,B,C)	200	Same as for XSI 006 (8806)
12GM78FND	Accumulator Tank Discharge Isolation	XSI 039 A, B, C (8949 A,B,C)	0	This valve is normally open during power operation and is closed only when required to prevent blowdown as RCS is depressurized in a normal shutdown. The accumulator may also be depressurized by venting the N ₂ to the Containment. The failure of the valve to close under high differential pressure has no significant safety consequences.
12GM88SEB	RHR Suction Isolation Valves from RCS	XRH 060 A, B, C (9000 A,B,C) XRH 061 A, B, C (9001 A,B,C)	700	These valves are normally closed valves and can only be opened when RCS pressure is less than approximately 425 psig. When the valves are open, they automatically close when RCS pressure is approximately 750 psig. If valves fail to close under high differential pressure, the operator can take steps to reduce RCS pressure until the valves are able to close. Also, with two valves in series, partial closure of the first valve may reduce differential pressure across the second valve permitting its closure. Failure of these valves to close would reduce redundancy.
8GM74FCA	CSS Pump Discharge Isolation Valve/Containment Isolation Valve	XCS 001 A, B, C (9100 A,B,C)	200	These valves are normally closed. They open to provide Containment spray and are used for Containment Isolation after Containment spray has been terminated. A check valve (IRC) would provide isolation capability. Failure of these valves to close reduces Containment isolation redundancy.