CP&L

Carolina Power & Light Company

P. O. Box 101, New Hill, N. C. 27562
April 8, 1983

Mr. James P. O'Reilly
United States Nuclear Regulatory Commission
Region II
101 Marietta Street, Northwest (Suite 3100)
Atlanta, Georgia 30303

NRC-54

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CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986-90 - 900,000 KW - UNITS 1 & 2
WESTINGHOUSE EMD MANUFACTURED GATE VALVES,
ITEM 53

Dear Mr. O'Reilly:

Attached is our third interim report on the subject item which was deemed reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21, on December 4, 1980. As stated in the attached report, it is currently projected that corrective action and submission of the final report will be accomplished by January 1, 1984.

Thank you for your consideration in this matter.

Yours very truly,

R. M. Parsons
Project General Manager
Shearon Harris Nuclear Power Plant

RMP/sh

Attachment

cc: Mr. G. Maxwell (NRC-SHNPP)
Mr. V. Stello (NRC)

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CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT

UNITS 1 & 2

INTERIM REPORT
April 8, 1983
ITEM 53

WESTINGHOUSE EMD MANUFACTURED GATE VALVES

Reportable Under 10CFR50.55(e) and 10CFR, Part 21

SUBJECT: 10CFR50.55(e) and 10CFR, Part 21 Reportable Item
SHNPP
Westinghouse EMD Manufactured Gate Valves

ITEMS: See attachment

SUPPLIED BY: Westinghouse Electro-Mechanical Division

NATURE OF DEFICIENCY: Potential for valves not to fully close/open under design conditions.

DATE PROBLEM WAS CONFIRMED TO EXIST: Westinghouse Letter CQL-6135 dated November 19, 1980, received November 26, 1980.

PROBLEM REPORTED: November 28, 1980 - N. J. Chiangi informed the NRC (Mr. J. K. Rausch) that this item was potentially reportable under 10CFR50.55(e).

December 4, 1980 - N. J. Chiangi informed the NRC (Mr. J. K. Rausch) that the problem was reportable under 10CFR21 and 10CFR50.55(e).

December 29, 1980 - N. J. Chiangi issued an interim report to James P. O'Reilly.

July 9, 1981 - CP&L's response to I. E. Bulletin No. 81-02 (M. A. McDuffie to J. P. O'Reilly).

November 13, 1982 - CP&L's response to I. E. Bulletin No. 81-02 supplement (M. A. McDuffie to J. P. O'Reilly).

December 22, 1981 - N. J. Chiangi issued a second interim report to James P. O'Reilly.

SCOPE OF PROBLEM: The attached list of valves failed to completely close/open under their design differential pressure.

REASON PROBLEM IS REPORTABLE: Failure of these valves to properly function could create or lead to a significant safety deficiency. The potential safety significance of each valve is listed in the attached table.

CORRECTIVE ACTION: The proposed corrective action plan in the second interim report, December 22, 1981, has been revised. The revised corrective action plan by Westinghouse also reduces the scope of valves affected from those reported earlier. The revised corrective action plan is attached and all hardware changes have been completed. The rest of the corrective actions (valve restamping, drawing rev., etc.) will be completed by January 1, 1984.

TABLE 1

VALVE I.D.	VALVE LOCATION	VALVE FUNCTION AND SYSTEM	MAXIMUM ΔP (PSID) AS FLOW APPROACHES ZERO		ΔP (PSID) BELOW WHICH VALVE WILL CLOSE (AS SHIPPED)	(d) POTENTIAL SAFETY CONSEQUENCES	(e) ACTUAL MODIFICATION	DATE OF MODIFICATION
			Equip. Spec.	Funct. Reqmt.				
3GM78FN	8106	Chg. Pump Miniflow Iso. - CVCS	2750	2750	700	2, 4	A	9/82 del.
3GM78FN	8107[c)]	Chg. Line Iso. CVCS	2750	2750	700	2, 4	A	9/82 del.
3GM78FN	8108[c)]	Chg. Line Iso. CVCS	2750	2750	700	2, 4	A	9/82 del.
3GM78FN	8801A	Boron Inj. Tank Iso. - SIS	2750	2750 (open function)	2450 (open)	2, 3	B	2/22/82
3GM78FN	8801B	Boron Inj. Tank Iso. - SIS	2750	2750 (open function)	700	2, 3	B	2/22/82
3GM78FN	8803A	Boron Inj. Tank Iso. - SIS	2750	2750 (open function)	2450 (open)	2, 3	B	2/22/82
3GM78FN	8803B	Boron Inj. Tank Iso. - SIS	2750	2750 (open function)	2450 (open)	2, 3	B	2/22/82
3GM78FN	8884	HL Recirc. Iso. SIS	2750	0	700	13	D	-------
3GM78FN	8885	CL Recirc. Iso. SIS	2750	2750 (open function)	2450 (open)	2, 3	B	2/22/82
3GM78FN	8886	HL Recirc. Iso. SIS	2750	0	700	13	D	--------

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			Equip. Spec.	Funct. Reqmt.				
3GM88FNH	8000A[a)]	PZR. PORV Block RCS	2750	2500	700	1, 5	A	9/82 del.
3GM88FNH	8000B[b)]	PZR. PORV Block RCS	2750	2500	700	1, 5	A	9/82 del.
3GM88FNH	8000C	PZR. PORV Block RCS	2750	2500	700	1, 5	A	9/82 del.
4GM72FB	LCV115C	VCT Outlet CVCS	200	100	--	6	C	2/22/82
4GM72FB	LCV115E	VCT Outlet CVCS	200	100	---	6	C	2/22/82
4GM78FN	8132A	Chg. Pump Disch. XO Iso. - CVCS	2750	500	850	13	D	-------
4GM78FN	8132B	Chg. Pump Disch. XO Iso. - CVCS	2750	500	850	13	D	-------
4GM78FN	8133A	Chg. Pump Disch. XO Iso. - CVCS	2750	500	850	13	D	-------
4GM78FN	8133B	Chg. Pump Disch. XO Iso. - CVCS	2750	500	850	13	D	-------
8GM72FB	LCV115B	RWST to Suction of CCPs - CVCS	200	200	120	7	B	2/22/82
8GM72FB	LCV115D	RWST to Suction of CCPs - CVCS	200	200	120	7	B	2/22/82
8GM72FB	8130A	CCP Suction-CVCS	200	200	120	6	B	2/22/82

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			Equip. Spec.	Funct. Reqmt.				
8GM72FB	8130B	CCP Suction-CVCS	200	200	120	6	B	2/22/82
8GM72FB	8131A	CCP Suction-CVCS	200	200	120	6	B	2/22/82
8GM72FB	8131B	CCP Suction-CVCS	200	200	120	6	B	2/22/82
8GM74FE	8706A	RHR HX Disch. to CCP Suction - RHR	700	300	250	8	C	2/22/82
8GM74FE	8706B	RHR HX Disch. to CCP Suction - RHR	700	300	250	8	C	2/22/82
10GM74FE	8887A	RHR Disch. Cross Connect - SIS	700	300	250	9	C	2/22/82
10GM74FE	8887B	RHR Disch. Cross Connect - SIS	700	300	250	9	C	2/22/82
10GM78FN	8888A	RHR Pump CL Inj. SIS	2750	200	1180	13	D	-------
10GM78FN	8888B	RHR Pump CL Inj. SIS	2750	200	1180	13	D	-------
10GM78FN	8889	RHR HX Disch. to HL - SIS	2750	200	1180	13	D	-------
12GM88FNH	8808A	Accumulator Disch. SIS	2750	1750 (open function)	2200 (open)	13	D	-------
12GM88FNH	8808B	Accumulator Disch. SIS	2750	1750 (open function)	2200 (open)	13	D	-------

TABLE 1

VALVE I.D.	VALVE LOCATION	VALVE FUNCTION AND SYSTEM	MAXIMUM ΔP (PSID) AS FLOW APPROACHES ZERO		ΔP (PSID) BELOW WHICH VALVE WILL CLOSE (AS SHIPPED)	(d) POTENTIAL SAFETY CONSEQUENCES	(e) ACTUAL MODIFICATION	DATE OF MODIFICATION
			Equip. Spec.	Funct. Reqmt.				
12GM88FNH	8808C	Accumulator Disch. SIS	2750	1750 (open function)	2200 (open)	13	D	--------
12GM88SEH	8701A	RHR Suction Iso., Outer - RHR	700	700	490	10	B	2/22/82
12GM88SEH	8701B	RHR Suction Iso., Outer - RHR	700	700	490	10	B	2/22/82
12GM88SEH	8702A	RHR Suction Iso., Inner - RHR	700	700	490	11	B	2/22/82
12GM88SEH	8702B	RHR Suction Iso., Inner - RHR	700	700	490	11	B	2/22/82
14GM74FE	8809A	RWST to RHR Pump Suction - SIS	700	100	300	13	D	-------
14GM74FE	8809B	RWST to RHR Pump Suction - SIS	700	100	300	13	D	-------
14GM74FE	8811A	Sump Suction - SIS	700	100	300	13	D	-------
14GM74FE	8811B	Sump Suction - SIS	700	100	300	13	D	-------
14GM74FE	8812A	Sump Suction - SIS	700	700	300	12	B	2/22/82
14GM74FE	8812B	Sump Suction - SIS	700	700	300	12	B	2/22/82

NOTES: Each valve contracted for both Shearon Harris units.

a) Unit 2 valve sent to Marshall Test Loop for EPRI Test Program
b) Unit 2 valve sent to Pilgram
c) Unit 2 valve sent to Farley via Westinghouse
d) See Enclosure 1 for key to potential safety consequences
e) See Enclosure 2 for key to actual modifications.

KEY TO POTENTIAL SAFETY CONSEQUENCES

I.D. NO.	CONSEQUENCE
1	(PORV Block Valves) Potential incomplete isolation of pressurizer PORV.
2	Potential cavitation of a centrifugal charging pump or safety injection pump due to operation beyond maximum runout flow.
3	Potential inability to perform post-accident containment isolation.
4	Potential degradation of safety injection flow below values in SAR.
5	Potential inability to isolate RCS pressure boundary.
6	Two valves in series; failure of either valve to close reduces redundancy of providing isolation. Alternate valve will provide isolation.
7	One MOV in each of two parallel paths from the RWST to suction of the CCPs; failure reduces redundancy of providing isolation of RWST during the recirculation phase following a LOCA. Isolation will be provided by a check valve in series with the two paths.
8	Valve is opened for recirculation phase following a LOCA. Failure of valve to close precludes realignment of RHRS for normal operation.
9	Failure of valve to close reduces redundancy of providing low lead train separation during CL recirculation phase following a LOCA. Train separation can be achieved by closing other valve.
10	Two valves in series; failure of outer isolation valve to close reduces redundancy of providing isolation. Isolation is provided by closing the inner valve.
11	Same as No. 10 above except for closing the outer valve.
12	Valve is opened for recirculation following a LOCA. Valve would be closed for containment isolation. Valve is encapsulated within a protective housing which acts as the redundant containment isolation. Failure of either valve to close reduces redundancy. Alternate valve will provide isolation.
13	None yet identified - valve meets functional requirement.

KEY TO ACTUAL MODIFICATIONS

I.D.	MODIFICATION
A	Valves will be replaced-original valves utilized elsewhere.
B	Gear change - modification performed on site with valve installed.
C	Adjust torque switch - modification performed on site with valve installed.
D	No modification indicated - valve meets functional requirement.