

**LICENSEE EVENT REPORT**

CONTROL BLOCK: 

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(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	N	J	S	G	S	2	2	0	0	-	0	0	0	0	0	-	0	0	3	4	1	1	1	1	4			5
7	8	9					14	15											25	26						30		57	58
LICENSEE CODE		LICENSE NUMBER														LICENSE TYPE					CAT								

CON'T

0 1 7 8

REPORT SOURCE 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

6 0 5 0 0 0 3 1 1 7 0 9 1 6 8 3 8 1 0 1 2 8 3 9

DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 On September 16, 1983, during a maintenance shutdown, pressure drop test surveillance  
0 3 of Containment Isolation Valves 2VC5 and 2VC6 revealed that the leakage past the  
0 4 valves was greater than the maximum range of the test equipment. Subsequent investi-  
0 5 gation revealed that the leakage was past Valve 2VC6, and that Valve 2VC5 leakage was  
0 6 acceptable. The valves had both been satisfactorily tested during the previous re-  
0 7 fueling in January to April 1983. The event constituted operation in a degraded mode  
0 8 in accordance with Technical Specification 6.9.1.9b.

09		SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE				COMP. SUBCODE		VALVE SUBCODE			
7	8	S	A	A		B		V	A	L	V	E	B	D			
		9	10	11		12		13				14		15	16		
17		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.							
LER RO REPORT NUMBER		8	3	050		03		L		0							
		21	22	23		24	25	26	27	28	29	30	31	32			
ACTION TAKEN		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER			
A	F	Z		Z		0	0	0	0	Y	Y	A		M	1	2	0
33	34	35		36		37	38	39	40	41	42	43		44	45	46	47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Investigation revealed that the elastomer lining of the valve was deformed. Excessive  
1 1 clearance between the boot on the lining and the inner vane shaft bushing apparently  
1 2 caused pressurization of the space between the lining and the valve body. A spacer  
1 3 was installed to reduce the clearance. Leaking vane shaft taper pins were also  
1 4 replaced. The valve was satisfactorily tested prior to entry of the unit into Mode 4.

FACILITY STATUS			% POWER			OTHER STATUS			(30)	METHOD OF DISCOVERY			DISCOVERY DESCRIPTION						(32)	
1	5	G	(28)	0	0	0	(29)	NA			C	(31)	Special Surveillance							
7	8	9		10	11	12	13				44	45	46							80

ACTIVITY CONTENT  
RELEASED OF RELEASE

1 6 Z 33 Z 34 NA

7 8 9 10 11

AMOUNT OF ACTIVITY (35)

LOCATION OF RELEASE (36)

PERSONNEL EXPOSURES		
NUMBER	TYPE	DESCRIPTION (39)
1 7	0 0 0 (37) 2 (38)	NA

7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60						
PERSONNEL INJURIES																																																											
NUMBER DESCRIPTION (41)																																																											

7 8 9 10 11 12 NA 8310250244 831012  
LOSS OF OR DAMAGE TO FACILITY (43) 8310250244 831012  
80

TYPE		DESCRIPTION		PDR ADDRESS		PDR	
1	9	Z	42 NA	S			

PUBLICITY (45)  
 ISSUED (44) DESCRIPTION (45) NA  
 2 0 N 44 NA

7 8 9 10 68 69 80  
NAME OF PREPARER R. Frahm PHONE: (609) 935-6000 Ext. 4309

IE 22

8310250244 831012  
PDR ADCK 05000311  
S PDR

NRC USE ONLY

(609) 935-6000 Ext. 4309



**PSEG**

Public Service Electric and Gas Company P.O. Box E, Hancock Bridge, New Jersey 08038

Salem Generating Station

October 12, 1983

Dr. Thomas E. Murley  
Regional Administrator  
USNRC  
Region 1  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Dear Dr. Murley:

LICENSE NO. DPR-75  
DOCKET NO. 50-311  
REPORTABLE OCCURRENCE 33-050/03L

Pursuant to the requirements of Salem Generating Station Unit No. 2, Technical Specifications, Section 6.9.1.9.b, we are submitting Licensee Event Report for Reportable Occurrence 83-050/03L. This report is required within thirty (30) days of the occurrence.

Sincerely yours,

J. M. Zupko, Jr.  
General Manager -  
Salem Operations

RF:k11 *ky*

CC: Distribution

*IE22*

Report Number: 83-050/03L  
Report Date: 10-12-83  
Occurrence Date: 09-16-83  
Facility: Salem Generating Station Unit 2  
Public Service Electric & Gas Company  
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Containment Systems - Containment Pressure/Vacuum Relief Isolation Valve 2VC6 - Degradation of Resilient Seal.

This report was initiated by Incident Report 83-171.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 5 - Rx Power 0 % - Unit Load 0 MWe.

DESCRIPTION OF OCCURRENCE:

On September 16, 1983, during a maintenance shutdown, pressure drop test surveillance of Containment Isolation Valves 2VC5 and 2VC6 revealed that the leakage past the valves was greater than the maximum range of the leak rate test equipment (20,000 sccm). Surveillance of the valves was increased to a 3 month frequency due to concern over an apparently high rate of Type B and C leak rate test failures of this type of valve. The testing is performed in accordance with Surveillance Requirement 4.6.3.6b. Excessive leakage past Valve 2VC5 had been previously noted at Salem Unit 2 (see LER 83-023/03L).

Investigation of the source of the leakage revealed that the leakage was past Valve 2VC6 (the valves are tested together since no isolation capability exists to allow separate testing), and that Valve 2VC5 leakage was acceptable. The testing was performed in Mode 5 when limiting conditions for operation for Type B and C leak rate and containment isolation valves are not applicable. Both valves had been satisfactorily tested during leak rate testing from January to April 1983. Valve 2VC6 was repaired and total leakage was demonstrated to be acceptable prior to return of the unit to Mode 4 operation.

APPARENT CAUSE OF OCCURRENCE:

Further investigation of the leakage from Valve 2VC6 showed that the valve elastomer liner was deformed, preventing a proper seal between the valve vane and the liner. Excessive clearance was discovered between the inner vane shaft bushing and the end of the boot on the elastomer lining which is inserted into the packing box. This could allow pressure in the penetration line to pressurize the space between the elastomer lining and the valve body itself, inflating the lining. Subsequent operation of the valve would then damage the elastomer lining. Leakage past the vane taper pins was also noted.

ANALYSIS OF OCCURRENCE:

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure of 47 psig.

Action Statement 3.6.1.2 requires:

With either the measured overall integrated containment leakage rate exceeding 0.75 La, or with the measured combined leakage rate for all penetrations and valves subject to Type B and C test exceeding 0.60 La, restore the leakage rate(s) to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

Leakage rate limits during the performance of periodic tests incorporate conservatism to account for possible degradation of the leakage barriers between testing. The combined leakage rate had previously been demonstrated within specification in leak rate testing during the first refueling (January to April 1983). As noted, Valve 2VC6 was repaired and total leakage was demonstrated within specification. Leakage past Valve 2VC5 was therefore acceptable, confirming that containment integrity was maintained. The incident thus involved no undue risk to the health and safety of the public. Due to the loss of redundancy in containment barriers, the event constituted operation in a degraded mode permitted by a limiting condition for operation and is reportable in accordance with Technical Specification 6.9.1.9b.

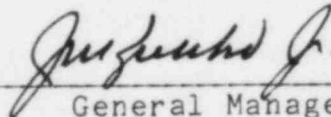
CORRECTIVE ACTION:

A spacer was added below the packing box gland to reduce the clearance between the boot and the bushing. The elastomer lining was replaced and new taper pins were installed with Loctite sealant. The valves were tested and leakage was reduced to an acceptable value. Salem Unit 2 entered Mode 4 on September 21, 1983. Due to concern over the recurrent failures with the valve, consideration is being given to replacing the present design with a new type of valve. Search for a suitable new design valve is presently underway.

FAILURE DATA:

Masoneilan International, Inc.  
10-inch Control Valve  
Type 69-32200

Prepared By R. Frahm



General Manager -  
Salem Operations

SORC Meeting No. 83-128