

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8704130251 DOC. DATE: 87/04/06 NOTARIZED: NO  
 FACIL: 50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co.  
 AUTH. NAME: POWELL, J. M. AUTHOR AFFILIATION: Florida Power & Light Co.  
 WOODY, C. D. Florida Power & Light Co.  
 RECIP. NAME: RECIPIENT AFFILIATION

DOCKET #  
05000335

SUBJECT: LER 87-005-00: on 870307, discovered leakage rate exceeding allowable leakage per Tech Specs. Cause by adjustment criteria on resilient valve seat on penetration inboard isolation valve. Valves repaired. W/870406 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD2-2 LA	1 1	PD2-2 PD	1 1
	TOURIGNY, E	1 1		
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	1 1
	ACRS WYLIE	1 1	AEOD/DOA	1 1
	AEOD/DSP/ROAB	2 2	AEOD/DSP/TAPR	1 1
	NRR/ADT	1 1	NRR/DEST/ADE	1 0
	NRR/DEST/ADS	1 0	NRR/DEST/CEB	1 1
	NRR/DEST/ELB	1 1	NRR/DEST/ICSB	1 1
	NRR/DEST/MEB	1 1	NRR/DEST/MTB	1 1
	NRR/DEST/PSB	1 1	NRR/DEST/RSB	1 1
	NRR/DEST/SGB	1 1	NRR/DLPQ/HFB	1 1
	NRR/DLPQ/QAB	1 1	NRR/DOEA/EAB	1 1
	NRR/DREP/EPB	1 1	NRR/DREP/RAB	1 1
	NRR/PMAS/ILRB	1 1	NRR/PMAS/PTSB	1 1
	<del>REG FILE</del> 02	1 1	RES SPEIS, T	1 1
	RGN2 FILE 01	1 1		
EXTERNAL:	EQ&G GROH, M	5 5	H ST LOBBY WARD	1 1
	LPDR	1 1	NRC PDR	1 1
	NSIC HARRIS, J	1 1	NSIC MAYS, G	1 1

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) St. Lucie, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 3 5	PAGE (3) 1 OF 0 3
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TITLE (4) CONTAINMENT LOCAL LEAK RATE EXCEEDS TECHNICAL SPECIFICATIONS DUE TO VALVE SEAT OUT OF ADJUSTMENT

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
0	3	0	7	8	7	0	0	5	N/A		0 5 0 0 0
0	3	0	7	8	7	0	0	4	0 6 8 7		0 5 0 0 0

OPERATING MODE (9) 6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											
POWER LEVEL (10) 0 0 0	20.402(b)			20.406(c)			50.73(a)(2)(iv)			73.71(b)		
	20.406(a)(1)(i)			50.38(e)(1)			50.73(a)(2)(v)			73.71(e)		
	20.406(a)(1)(ii)			50.38(e)(2)			50.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
	20.406(a)(1)(iii)			X 50.73(a)(2)(ii)			50.73(a)(2)(vii)(A)					
	20.406(a)(1)(iv)			50.73(a)(2)(iii)			50.73(a)(2)(vii)(B)					
	20.406(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(viii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME Jennifer M. Powell, Shift Technical Advisor	TELEPHONE NUMBER
	AREA CODE: 3 0 5 - 4 6 5 - 3 5 5 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	J M	V A L V	X 9 9 9	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

ABSTRACT

On March 7, 1987, with Unit One in cold shutdown, a routine local leak rate surveillance test on Containment Penetration 11 revealed an "as-found" leakage rate across the penetration of 1,624,067 standard cubic centimeters per minute (sccm), which was in excess of the allowable leakage of 0.60 L<sub>a</sub>, or 544,786 sccm, as per Technical Specification 3.6.1.2.b. Penetration 11 contains the supply line for the Containment Purge System, and is subject to type C local leak rate testing. Although the containment local leak rate specification was exceeded, the "as-found" containment integrated leakage was within the Technical Specification limit.

The root cause of the high measured leakage was determined to be the adjustment criteria on the resilient valve seat on the penetration inboard isolation valve.

Both the inboard and outboard valves in penetration 11 were repaired, and the "as-left" leakage rate was tested and found to be zero sccm. An outage preventive maintenance procedure will be implemented to inspect, replace, or adjust the 48 inch purge penetration isolation valve seats to tighter criteria.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8   7	-   0   0   5	-   0   0	0   2	OF	0   3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF EVENT

On March 7, 1987, with Unit One in cold shutdown, a routine local leak rate surveillance test on Penetration 11 revealed an "as-found" leakage rate across the penetration of 1,624,067 standard cubic centimeters per minute (sccm). Penetration 11 contains a 48 inch supply line for the Containment Purge System (EIIS:VA), with two butterfly valves (FCV-25-2 and FCV-25-3) which are subject to Type C testing, as per Unit 1 Technical Specification 3.6.1.2.b, Table 3.6-1. Local leak rate testing across the penetration is performed by pressurizing the piping between the inboard and outboard valves. Test instrumentation is connected to a test tap between the two valves, and the change in pressure over time is recorded and used to calculate the leakage rate. The as-found leakage on the penetration was in excess of the allowable leakage of 0.60 L<sub>a</sub>, or 544,786 sccm. In accordance with the applicable ACTION statement, action was undertaken to restore the leakage rate to within the specified limit prior to increasing Reactor Coolant System temperature above 200 degrees. Following repairs, the leakage rate across the penetration was reduced to zero. Although the containment local leak rate specification was exceeded, the "as-found" containment integrated leakage was within the Technical Specification limit.

CAUSE OF THE EVENT

The root cause of the high measured leakage across penetration 11 was determined to be the adjustment of the resilient valve seat on the inboard butterfly valve, FCV-25-3. Although the valve seat was replaced and properly adjusted during the previous refueling, new vendor recommendations indicate that tighter acceptance criteria on valve seat adjustment are required to ensure acceptable leak rates over the subsequent cycle.

The maximum pathway leakage across the penetration was determined both before and after the repair of each valve. The valves were independently repaired and tested in order to ascertain the leakage rate through each valve. The leakage rate through valve FCV-25-3 was determined to be 1,286,631 sccm before repair; a leakage of 337,436 sccm was attributed to the outboard valve, FCV-25-2, also due to the seat adjustment.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  St. Lucie, Unit 1	DOCKET NUMBER (2)  0   5   0   0   0   3   3   5	LER NUMBER (6)			PAGE (3)		
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		8   7	—   0   0   5	—   0   0	0   3	OF	0   3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

ANALYSIS OF EVENT

This event has been deemed reportable as per the requirements of 10 CFR 50.73 (a) (2) (i) (B), any operation or condition prohibited by the plant's Technical Specifications. The previous local leak rate testing on penetration 11 was performed with satisfactory results during the normally scheduled refueling outage which ran from mid-October through December of 1985. Unit One Technical Specification Surveillance Requirement 4.6.1.2.d requires type C testing to be conducted at intervals no greater than twenty-four months. Therefore, the containment leakage type C tests were completed within the bounds of the specified surveillance interval.

The limits for containment leakage rates in the Unit 1 Technical Specifications are derived from the requirements of Appendix J to 10 CFR 50. The leakage rate derived from testing is higher than that which could actually occur under hypothetical accident conditions. When calculating local leak rates, it is assumed that, for a given pair of isolation valves, the valve having the lower leakage rate fails fully open. Thus, the leakage across the penetration is governed by the valve having the higher leakage rate. In reality, the valves in question are both designed to fail closed, and are closed during normal reactor operations. Therefore, under actual operating conditions, the containment isolation barrier would have performed its safety function, and the health and safety of the public would not be threatened.

CORRECTIVE ACTIONS

1. The seats on both valves on Penetration 11 were adjusted, resulting in zero leakage across the penetration.
2. An outage preventive maintenance procedure will be instituted to inspect, replace, or adjust the 48 inch purge penetration isolation valve seats to tighter criteria to ensure minimum leakage.

ADDITIONAL INFORMATION

Failed Component Information

The valves in question are 48 inch nuclear purge butterfly valves manufactured by Henry Pratt, model NRLA.

Previous Similar Event

For further information, see Licensee Event Report 225-83-18, which pertains to a similar occurrence involving FCV-25-3.





APRIL 06 1987

L-87-157  
10 CFR 50.73

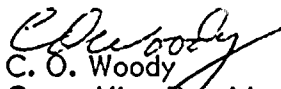
U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Re: St. Lucie Unit I  
Docket No. 50-335  
Reportable Event: 87-05  
Date of Event: March 7, 1987  
Containment Local Leak Rate Exceeds Technical  
Specifications Due to Valve Seat Out of Adjustment

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR 50.73.a. to provide notification on the subject event.

Very truly yours,

  
C. O. Woody  
Group Vice President  
Nuclear Energy

COW/GRM/gp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant

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