

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8904190111 DOC.DATE: 89/04/10 NOTARIZED: NO DOCKET #  
 FACIL:50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389  
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 SNYDER,M.J. Florida Power & Light Co.  
 CONWAY,W.F. Florida Power & Light Co.  
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-002-00:on 890309,containment isolation valve fails leak test because post maint testing not performed.

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 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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	AEOD/DSP/TPAB	1 1	AEOD/ROAB/DSP	2 2
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	NRR/DEST/ADE 8H	1 1	NRR/DEST/ADS 7E	1 0
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	NRR/DEST/MTB 9H	1 1	NRR/DEST/PSB 8D	1 1
	NRR/DEST/RSB 8E	1 1	NRR/DEST/SGB 8D	1 1
	NRR/DLPQ/HFB 10	1 1	NRR/DLPQ/QAB 10	1 1
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	NRR/DRIS/SIB 9A	1 1	NUDOCS-ABSTRACT	1 1
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>St. Lucie Plant, Unit 2</b>						DOCKET NUMBER (2) <b>0 5 0 0 0 3 8 9</b>			PAGE (3) <b>1 OF 04</b>		
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TITLE (4)  
**CONTAINMENT ISOLATION VALVE FAILS LEAK TEST BECAUSE POST MAINTENANCE TESTING NOT PERFORMED DUE TO PROCEDURAL DEFICIENCY**

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		
0	3	0	9	8	9	8	9	8			
0	3	0	9	8	9	8	9	8			
0	3	0	9	8	9	8	9	8			
0	3	0	9	8	9	8	9	8			

OPERATING MODE (9) **6**

POWER LEVEL (10) **0 0 0**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 356A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME **Michael J. Snyder, Shift Technical Advisor**

TELEPHONE NUMBER **4 0 7 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

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 9, 1989, St. Lucie Unit 2 was in mode 6 for refueling. A local leak rate surveillance test (LLRT) on Containment Penetration 7 was performed and revealed that an isolation valve for primary water, HCV-15-1, had a leak rate in excess of the allowable leakage rate as per Technical Specification 3.6.1.2.

The root cause of the high measured leakage was determined to be a failure to perform post maintenance leak rate testing because of a procedural deficiency. A contributing factor was that the isolation valve was overpacked. Corrective actions were repacking the valve, revising the mechanical test control procedure, and successfully retesting the valve. The redundant containment isolation valve for Penetration 7 was tested and passed its LLRT. Thus, the integrity of this penetration was always maintained. This condition did not endanger the health and safety of the public.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8   9	-   0   0   2	-   0   0	0   2	OF 0   4

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

**DESCRIPTION OF EVENT:**

On March 9, 1989, Unit Two was in mode 6 and defueled. The unit had been recently shut down for refueling after continuous near 100 % power operation from December 5, 1987 to January 31, 1989. A routine local leak rate test (LLRT) on containment Penetration 7 revealed that valve HCV-15-1 (EEIS:BD) exceeded the total allowable leak rate of 0.60 La for all Type B and C penetrations. The as found leak rate was in excess of test equipment capacity and greater than the 565,028 standard cubic centimeters (sccm) (0.6 La) limit set forth in Technical Specification 3.6.1.2.b. There were no other inoperable components which contributed to this condition. The redundant containment isolation valve for Penetration 7 is a check valve that was satisfactorily tested prior to HCV-15-1, so the integrity of the penetration was always assured. The integrity of this penetration is required in modes 1 through 4, and during fuel movement in mode 6.

Penetration 7 supplies primary makeup water to the containment building for fire fighting (EIIS:KP), decontamination washdowns, and Quench tank water makeup. This penetration requires a type B LLRT. The last satisfactory LLRT surveillance for this containment penetration and HCV-15-1 was performed on October 4, 1987. Subsequently, the valve was identified in a walkdown as requiring repacking. On November 11, 1987, the valve was repacked by contractor maintenance personnel. The valve was overpacked to the extent that clearance between the lowest valve stem coupling and the stuffing box made contact and prevented full closure of the valve. A post-maintenance LLRT was not performed by utility technical staff personnel. It is assumed that the valve was in a degraded condition from November 11, 1987 to March 9, 1989.

Due to Unit Two's shutdown mode, no immediate actions were required upon discovery of this condition. After repacking of HCV-15-1, it was tested satisfactorily and returned to service on March 25, 1989.

**CAUSE OF THE EVENT**

The root cause of the high measured leakage across the valve was determined to be failure to perform a post maintenance LLRT because of a procedural deficiency for tracking mechanical test requirements. A contributing factor to this event was that contractor maintenance personnel overpacked the valve to the extent that it could not seat properly.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

ANALYSIS OF THE EVENT

This event has been deemed reportable as per the requirements of 10 CFR 50.73 (a) (2) (i) (B), as any operation or condition prohibited by the plant's Technical Specifications. Unit Two Technical Specification 3.6.1.2.b requires containment leakage rates during modes 1 through 4 to be limited to less than 0.6 La for a combined leakage for type B and C valves. The previous LLRT on penetration 7 was performed on October 4, 1987 during the last Unit Two refueling outage. Technical Specifications Surveillance Requirement 4.6.1.2.d requires testing of this valve at intervals no greater than twenty-four months. Therefore, according to the requirements of type B testing, the LLRTs were done within the bounds of the specified surveillance interval. -

The limits for containment leakage rates in the Technical Specifications are from the requirements of 10 CFR 50 Appendix J. The leakage rate calculated from testing is higher than that which could actually occur under hypothetical accident conditions due to conservative evaluation of the test results. 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 check valve in series with HCV-15-1, VI5328, would have automatically performed its safety function if needed. The satisfactory test result (leakage rate 30 sccm) of VI5328 was an assurance that containment integrity for penetration 7 was maintained at all times during the degraded condition of HCV-15-1. Additionally, this penetration is normally pressurized to a value above accident pressure. This alone would prevent backflow through this penetration from the containment during a postulated accident.

Therefore, at no time was the health and safety of the public endangered.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8   9	0   0   2	0   0	0   4	OF 0   4

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

**CORRECTIVE ACTIONS**

- 1) The procedure which governs mechanical test control was changed such that the appendix that is attached to work orders now has a signoff for both pre and post maintenance testing. This procedure change was implemented after the occurrence, but prior to discovery of this event.
- 2) The series redundant valve for penetration 7, VI5328 was verified to have a leakage rate well within the acceptance criteria for Technical Specifications.
- 3) HCV-15-1 was overhauled. The valve's packing assembly, valve plug, seat ring, seat gasket and body gasket were replaced. The valve's actuator spring was retensioned to assure maximum valve seating and integrity.
- 4) HCV-15-1 was tested with a LLRT after its overhaul and passed the acceptance criteria.

**ADDITIONAL INFORMATION**

**Component Identification:**

Manufacturer: ACF Industries / W K M Controls  
 Valve Model: 70-28-1 DRT  
 Valve Size/Type: 2" Stainless Steel / Globe  
 Actuator Type: Reverse Air Actuator  
 Actuator Model: 70-13

**Previous Similar Events:**

For similar events involving local leak rates exceeding Technical Specification limits, see Licensee Event Reports 335-88-002, 335-87-005, 389-86-009, and 335-83-018.



APRIL 10 1989

L-89-134


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

Gentlemen:

Re: St. Lucie Unit 2  
Docket No. 50-389  
Reportable Event: 89-02  
Date of Event: March 9, 1989  
Containment Isolation Valve Fails Leak Test Because Post  
Maintenance Testing Not Performed Due to Procedural Deficiency

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

Very truly yours,

  
W. F. Conway  
Senior Vice President - Nuclear

WFC/JRH/gp

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant

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