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ACCESSION NBR: 8803090335 DOC. DATE: 88/03/01 NOTARIZED: NO DOCKET #
 FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389
 AUTH. NAME AUTHOR AFFILIATION
 POWELL, J.M. Florida Power & Light Co.
 CONWAY, W.F. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-001-00: on 880201, safety injection tanks out of svc due to unrelated valve reseating problems.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5 ltr.
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	PD2-2 LA	1 1	PD2-2 PD	1 1	
	TOURIGNY, E	1 1			
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2	
	AEOD/DOA	1 1	AEOD/DSP/NAS	1 1	
	AEOD/DSP/ROAB	2 2	AEOD/DSP/TPAB	1 1	
	ARM/DCTS/DAB	1 1	DEDRO	1 1	
	NRR/DEST/ADS7E4	1 0	NRR/DEST/CEB8H7	1 1	
	NRR/DEST/ESB 8D	1 1	NRR/DEST/ICSB7A	1 1	
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	NRR/DRIS/SIB9A1	1 1	NRR/PMAS/ILRB12	1 1	
	REG FILE 02	1 1	RES TELFORD, J	1 1	
	RES/DE/EIB	1 1	RES/DRPS DIR	1 1	
	RGN2 FILE 01	1 1			
EXTERNAL:	EG&G GROH, M	5 5	FORD BLDG HOY, A	1 1	
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) St. Lucie Unit 2						DOCKET NUMBER (2) 0 5 0 0 0 3 8 9			PAGE (3) 1 OF 0 4		
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TITLE (4) 2A2 AND 2B2 SAFETY INJECTION TANKS SIMULTANEOUSLY OUT OF SERVICE DUE TO UNRELATED VALVE RESEATING PROBLEMS

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	2	01	8	8	0 0 1	0	3	01	8	8	0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										
POWER LEVEL (10) 1.00	20.402(b)	20.406(e)	50.73(a)(2)(iv)	73.71(b)							
	20.406(a)(1)(i)	50.38(e)(1)	50.73(a)(2)(v)	73.71(c)							
	20.406(a)(1)(ii)	50.38(e)(2)	50.73(a)(2)(vii)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)								
	20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)								
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)

NAME J. M. Powell, Shift Technical Advisor	TELEPHONE NUMBER AREA CODE 3 0 5 4 6 5 - 3 5 5 0
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS
X	B P R V		T 0 2 0	Yes					
X	B P V T V		C 7 1 0	Yes					

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)			<input checked="" type="checkbox"/> NO			

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

On February 1 at 1008, while operating at 100% power, the St. Lucie Unit 2 2B2 Safety Injection Tank (SIT) was declared out of service due to the failure of a nitrogen vent valve to reseat. The valve had been opened to relieve excess nitrogen pressure while the tank was being filled. While waiting for nitrogen gas to be directed to the 2B2 tank, licensed control room operators began filling the 2A2 SIT. A relief valve on the fill and drain line to the 2A2 SIT lifted and failed to reseat. Although the relief valve was immediately isolated, the level in the tank dropped sufficiently (1.5%) to allow nitrogen pressure to drop below the limits of Technical Specification 3.5.1.d. The 2A2 SIT was declared out of service at 1017 hours, and the plant entered action statement 3.0.3.

The 2A2 SIT was returned to service 8 minutes later at 1020 hours, and the unit exited the 3.0.3 action statement. At 1028 hours, the 2B2 SIT was returned to service, and all action statements were exited.

A plant work order has been issued for the nitrogen vent valve on the 2B2 SIT; until the work can be performed, a tag has been placed on the valve handswitch on the Control Room control board. A plant work order has also been issued on the 2A2 SIT fill and drain line relief valve. Until the work can be performed, the valve will remain isolated.

This report is being submitted for informational purposes only.

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PDR ADOCK 05000389
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF EVENT

On February 1, 1988, St. Lucie Unit Two was in Mode One (steady state operations, 100% power). Operations personnel were preparing to fill the 2B2 and 2A2 Safety Injection Tanks (SIT) (EIIS:BP).

At 1003 hours, the licensed reactor control operator began to fill the 2B2 SIT. In accordance with procedural guidelines, as nitrogen pressure within the tank increased due to the increasing water level in the tank, a nitrogen vent valve was cycled to relieve pressure. After cycling the valve, it was noticed that the pressure in the SIT was still decreasing, even though the vent valve was indicating closed. Several attempts to close the valve were made using the hand switch in the Control Room before the gas pressure in the SIT stabilized, indicating the vent valve had closed. At that time, nitrogen pressure in the 2B2 SIT was approximately 465 psig, which was below the limits defined by St. Lucie Unit Two Technical Specification 3.5.1., and the 2B2 SIT was declared out of service at 1008 hours.

Operations personnel decided to continue filling the 2B2 SIT to the normal operating level of 85%, and then go on to repressurize the filled tank. When the 2B2 SIT was filled, non-licensed utility operators were told to begin lining up the nitrogen supply to the tank.

While the nitrogen system line up was in progress, the licensed Control Room operators began filling the 2A2 SIT to the normal operating level of 85%. When the 2A High Pressure Safety Injection (HPSI) (EIIS:BQ) pump was started, level in the 2A2 SIT began to drop. A relief valve on the fill and drain line to the SIT had lifted and failed to reseal. The Assistant Nuclear Plant Supervisor supervising the operation immediately ordered that the relief valve be isolated by closing an upstream test return valve. This was done, but not before the level in the 2A2 SIT had dropped approximately 1.5%. The corresponding nitrogen cover-pressure had also dropped to 562 psig, which was below the 570 psig limit required by Unit Two Technical Specification 3.5.1.d. The 2A2 SIT was declared out of service at 1017 hours, and the plant entered Limiting Condition for Operation 3.0.3.

Operations personnel continued filling the 2A2 SIT, and at 1020 hours, the 2A2 level and pressure were restored to the limits specified in T.S. 3.5.1. At 1028 hours, when nitrogen pressure was restored to the normal operating pressure of 615 psig, all action statements were exited.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

ROOT CAUSE

The root cause of the 2B2 SIT depressurization was the failure of the nitrogen vent valve to reseal after opening.

The root cause of the 2A2 depressurization was the failure of a relief valve to reseal after opening. It could not be determined after the event whether the relief valve lifted at the correct pressure.

SAFETY ASSESSMENT

This event is not 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; however, this report is being submitted for informational purposes only.

A review of the St. Lucie Unit Two FUSAR, Sections 15.6.6.2, Large Break LOCA, 15.6.6.3, Small Break LOCA and 6.6.3.2.2, Safety Injection System Assumptions, shows that a minimum of three Safety Injection Tanks are assumed to be operable. However, these analyses also assume the existence of other limiting parameters, including the loss of offsite power and, in the most limiting case, 75% flow from a single HPSI, 50% flow from one LPSI and 40% flow from a single charging pump. During the eight minutes that St. Lucie Unit Two was operating outside the bounds of Technical Specification 3.5.1.d, both trains of the safety injection systems were operable, all three charging pumps were operable, and off-site power was available. Therefore, it can be concluded that the health and safety of the public were not affected at any time during this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

CORRECTIVE ACTIONS

A plant work order has been issued for the repair of the malfunctioning vent valve on the 2B2 Safety Injection Tank. As this work cannot be performed while the unit is at power, a caution tag has been placed on the valve hand switch on the control board in the Unit Two Control Room. The redundant nitrogen vent valve on the 2B2 SIT was subsequently tested and found to be operable.

A plant work order has been issued on the relief valve on the 2A2 SIT fill and drain line. As this valve cannot be repaired while the unit is at power, it has been isolated. The fill and drain line provide a path for the filling of the 2A2 SIT and for the draining of the SIT to the Reactor Drain Tank; the line serves no safety-related function.

ADDITIONAL INFORMATION

The specific failure modes of both of the valves will be investigated.

Component Information

The vent valve on the 2B2 SIT is a 1" solenoid-operated glove valve, manufactured by Target Rock Valves.

The relief valve on the 2A2 SIT is a 1.5" relief valve, manufactured by Crosby Manufacturing.

For related events involving the depressurization of a SIT, see Licensee Event Reports 389-83-20, 389-83-25 and 389-83-35.

FPL

MARCH 1 1988

L-88-105
10 CFR 50.73

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: 88-01
Date of Event: February 1, 1988
2A2 and 2B2 Safety Injection Tanks Simultaneously
Out of Service Due to Unrelated Valve Reseating Problems

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
W. F. Conway
Senior Vice President - Nuclear

WFC/GRM/gp

Attachment

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

GRM2/029.LER

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