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FACIL:50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389
AUTH.NAME AUTHOR AFFILIATION
TURNER,S.E. Florida Power & Light Co.
SAGER,D.A. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 93-003-00:on 930201,discharge occurred from safety injection tanks to RCS.Caused by personnel error.Operators closed SIT discharge isolation valves,deenergized motor operators & personnel involved counselled.W/930302 ltr.

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RIDS/ADDS

P.O. Box 128, Ft. Pierce, FL 34954-0128

FPL

March 2, 1993

L-93-063
10 CFR 50.73

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

Re: St. Lucie Unit 2
Docket No. 50-389
Reportable Event: 93-003
Date of Event: February 1, 1993
Discharge from the Safety Injection Tanks
to the Reactor Coolant System
due to Personnel Error while Shutdown

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,

D. A. SAGER

By G. J. Boissy

D. A. Sager
Vice President
St. Lucie Plant

DAS/JWH/kw

Attachment

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

DAS/PSL #875-93

080020

IE22
1/1

FPL Facsimile of NRC Form 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
St. Lucie Unit 2	0 5 0 0 0 3 8 9	1 OF 0 3

TITLE (4) Discharge from the Safety Injection Tanks to the Reactor Coolant System due to Personnel Error while Shutdown.

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)
									N/A	0 5 0 0 0
0 2	0 1	9 3	9 3	0 0 3	0 0	0 3	0 3	9 3	N/A	0 5 0 0 0

OPERATING MODE (9)	5	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)		20.405(c)	X	50.73(a)(2)(iv)		73.71(b)		
			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)		
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text NRC Form 366A)		
			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)				
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)				
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
S. E. Turner, Shift Technical Advisor	AREA CODE 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	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On 1 February, 1993 St. Lucie Unit 2 was in Mode 5 and preparing for a normal plant cooldown and depressurization. Operations personnel were performing a stroke time test of the Safety Injection Tank (SIT) discharge valves. The SIT discharge valves were shut at the start of this test because the SITs are not required to be operable in Mode 5. After the stroke testing was complete the four SIT discharge valves were erroneously left open. When the Reactor Coolant System (RCS) was intentionally depressurized below the SIT pressure of 260 psia, approximately 2200 gallons of SIT inventory was transferred to the RCS. Operators noted the increase in pressurizer level and stopped the plant depressurization. The open SIT discharge valves were determined to be the cause, and they were shut and de-energized. The normal cooldown and depressurization was then completed.

The root cause of this event is personnel error. While cooling down and depressurizing the plant an operator erroneously placed the SIT discharge valves in a position contrary to that required by plant conditions. A contributing factor is that the cooldown and depressurization procedure was not specific on what was required for 'as left' valve position after the SIT valve test.

The corrective actions taken include: 1) to place the plant in the required condition by closing the SIT discharge valves, 2) update valve stroke data sheet to clarify which procedure is used for the valve position required after testing, 3) change the cooldown procedure to clarify the SIT discharge valves post test position, 4) Operations supervision counselled the personnel involved in this event on the importance of understanding plant conditions.

DESCRIPTION OF THE EVENT

On 1 February 1993, with Unit 2 in mode 5, the operating shift was performing a cooldown of the reactor coolant system as per OP 2-0030127, "Reactor Plant Cooldown - Hot Standby to Cold Shutdown." This procedure requires the Safety Injection Tank (EIIS:BP) (SIT) motor operated discharge isolation valves to be stroke time tested in the closed direction. These motor operated valves are normally open and their breakers racked out during power operations to prevent inadvertent closure. As per OP 2-0030127, the breakers were closed and all four SIT discharge valves were stroke timed in the closed direction. The operator recorded the data in another procedure and then deenergized the SIT discharge valves. The operator recorded the data on Data Sheet 10, "Non-check Valves Cycled During Cooldown, Cold and Heatup Conditions" of AP 2-0010125A, "Surveillance Data Sheets." This data sheet has a column that specifies post test valve position required after valve stroke. For the SIT discharge valves this column is blank. The operator performing the test opened the four SIT discharge valves then wrote 'open' in the blank for each of the SIT discharge valves post test position. The SIT discharge valves were independently verified to be in the open position by a second operator. The operator performing the test then returned to OP 2-0030127 and had the four SIT valves deenergized as required by the procedure. In this condition, both the open and closed valve position indicating lights are extinguished and the only indication of valve position is from a linear scale indicating meter.

On the next shift the cooldown and depressurization of the reactor coolant system (EIIS:AB) (RCS) was recommenced. During depressurization the operators noticed that pressurizer level was increasing. Depressurization was stopped and an investigation initiated to determine the cause of the unexpected pressurizer level increase. The operators noted that the SIT pressures had decreased during depressurization and that the linear valve position indicators indicated that the SIT discharge valves were open. The motor operators for the SIT discharge valves were reenergized and then the valves were closed, and deenergized. The normal depressurization and cooldown were recommenced and completed without futher incident.

CAUSE OF THE EVENT

The root cause of this event was cognitive personnel error by utility licensed operators. At the completion of SIT discharge isolation valve testing, a licensed operator reopened these valves and did not restore them to their originally closed position, as required by the plant conditions. A contributing factor was that the Reactor Plant Cooldown Procedure did not specify a post test valve position for the SIT isolation valves.

ANALYSIS OF THE EVENT

Plant personnel originally concluded that this event was not reportable because there was no valid Engineered Safety Feature Actuation Signal. This event was later reported under 10CFR50.72(b)(1)(iv), as an "Emergency Core Cooling System discharge to the reactor coolant system", after plant personnel received additional clarification from the NRC on 22 February 1993. This event is also being reported under 10CFR50.73(a)(2)(iv) as "Any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature."

The Safety Injection Tanks are not required to be in service in modes 5 and 6, and may be isolated when the Reactor Coolant System is below 276 psia. During this event, the four SITs had a small level drop from approximately 57% to 53% of tank volume. Approximately 2200 gallons of water was discharged from the SITs to the RCS causing a negligible drop in RCS temperature. Because the SITs were at a significantly higher boron concentration than the RCS, the overall reactivity addition was negative from the water added to the RCS from the SITs.

Therefore, the health and safety of the public was not affected by this event.

CORRECTIVE ACTIONS

1) Operations closed the SIT discharge isolation valves, and deenergized their motor operators.

2) The personnel involved in this event have been counselled by Operations supervision on the importance of awareness of plant conditions.

3) Unit One and Unit Two procedures for OP 1/2-0030127, "Reactor Plant Cooldown", have been clarified as to the required post test valve position after a SIT valve test.

4) The Data Sheets for Unit One and Unit Two procedures of AP 1/2-0010125A have been clarified for applicable valve position required after testing of the SIT isolation valves.

ADDITIONAL INFORMATION

Component Failures

There were no component failures involved in this event.

Previous similar events

There have been no previous Licensee Event Reports on Inadvertant discharge from the Safety Injection Tanks to the Reactor Coolant System.