NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Turkey Point Unit 3	0 5 0 0 0 2 5 0	1 OF 0 3

TITLE (4)
Engineered Safety Feature Actuation-Reactor Trip and Safety Injection

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 5 0 0 0
0 6	2 7	8 6	8 6	— 0 3 0	—	0 0	0 7	2 8	8 6	N/A	0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)					
		20.402(b)		20.405(c)	X	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	1 0 0	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)	X	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
	AREA CODE
G. Salamon, Compliance Engineer	3 0 5 2 4 6 - 1 3 0 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)		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)

Event:
On June 27, at 1200, while Unit 3 was at 100% power, a reactor trip, and subsequently Safety Injection (SI) actuation occurred, due to Instrumentation and Controls personnel performing sections of Operating Procedure (OP) 14004.1, "Steam Generator Protection Channels - Periodic Test", on Channel III, without verifying that Channel III was not the controlling channel. As the controlling channel for the 'A' and 'C' Steam Generators (S/G) was Channel III, a reactor trip and subsequent Safety Injection (SI) occurred. Although the SI pumps started, no resultant SI flow was delivered to the reactor coolant system. The 3B Emergency Containment Filter (ECF) failed to start. The unit was subsequently stabilized in hot standby.

Cause of Event:
The cause of the event was personnel error in the preparation of the work package. The work was being performed on a Plant Work Order, which directed the technicians to enter OP 14004.1 at Step 8.3.71. Entry at this point caused the technicians to not perform the steps of Section 8.3, which require verifying that Channel IV has been selected as the controlling channel. At the time of the test of Channel III, this channel was the controlling channel for 'A' and 'C' S/G's, and the system responded to the test generated signals as if they were the result of actual operating conditions. Trouble shooting revealed that the 3B ECF failed to start due to a failed control circuit fuse.

Corrective Action:
1) The unit was stabilized at hot standby conditions, and upon identification of the cause of the reactor trip and subsequent SI, the affected equipment was returned to normal status.
2) Affected procedures have been revised to help preclude recurrence of this event.
3) The control circuit fuse for the 3B Emergency Containment Filter was replaced.
4) A post-trip review was completed, which verified that the plant response to this event was as expected for a reactor trip of this nature. Following completion of the reviews of this event and performance of the necessary testing, the unit was returned to service at 1130, June 28, 1986.

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

Event:

On June 27, at 1200, while Unit 3 was at 100% power, a reactor trip, and subsequently Safety Injection (SI) actuation occurred. At the time of the trip, Instrumentation and Controls (I and C) personnel were performing sections of Operating Procedure (OP) 14004.1, "Steam Generator Protection Channels - Periodic Test". As part of the test, the I and C personnel placed various bistable switches in Channel III in the test position, without verifying that the channel under test was not the controlling channel. As part of the work the Channel III High Steam Line Flow bistables were tripped on all three steam generators thus making up one-half of the SI actuation due to Low T_{ave} coincident with High Steam Flow. The Steam Flow exceeding Feedwater Flow channel also tripped, for the same reason, thus making up one-half of the reactor trip due to Low S/G Water Level coincident with Steam/Feedwater Flow Mismatch. At this point, the test called for placing two switches in the test position. When this was done, the S/G flow signal to the feedwater flow control programmer was removed. The program responded to a sensed loss of steam flow by closing the Feedwater Flow Control Valves (FCV). This resulted in 'A' and 'C' S/G's water level dropping, and an increase in generated electric power. The operators noticed the increased power generation and responded by taking manual control of the FCV's for 'A' and 'C' S/G's. Sufficient water was added to S/G 'A' to avoid a Low S/G Water Level trip. However, when the water level of S/G 'C' fell below 15%, the Channel I Low S/G Water Level channel tripped. This trip completed the logic for the Low S/G Water Level coincident with Steam/Feedwater Flow Mismatch, and the reactor tripped. Following the reactor trip, the Low T_{ave} channel momentarily dropped below the trip set point. This completed the logic for the Low T_{ave} coincident with High Steam Flow SI Signal, and SI was actuated. Although the SI pumps started, no resultant SI flow was delivered to the reactor coolant system. The 3B Emergency Containment Filter (ECF) failed to start. The unit was subsequently stabilized in hot standby.

Cause of Event:

The cause of the event was personnel error in the preparation of the work package. The work was being performed on a Plant Work Order, which directed the technicians to enter OP 14004.1 at Step 8.3.71. Entry at this point caused the technicians to not perform the steps of Section 8.3, which require verifying that Channel IV has been selected as the controlling channel. At the time of the test of Channel III, this channel was the controlling channel for 'A' and 'C' S/G's, and the system responded to the test generated signals as if they were the result of actual operating conditions. Trouble shooting revealed that the 3B ECF failed to start due to a failed control circuit fuse.

Analysis of Event:

A post-trip review was performed to assess the proper operation of safety related equipment. The safeguards equipment of both trains automatically started and operated as expected with the exception of the 3B ECF, which failed to start. The post-trip review established that the transient behavior of pertinent plant parameters for the reactor coolant system (RCS) and SGs responded as expected for a reactor trip of this kind. Specifically, the RCS pressures and temperatures were determined to have followed an expected pattern based on the conditions leading up to the transient. The 3A and 3C ECFs started properly upon receiving the SI actuation signal. Based on the above, the health and safety of the public were not affected.

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

Corrective Action:

1) The unit was stabilized at hot standby conditions, and upon identification of the cause of the reactor trip and subsequent SI, the affected equipment was returned to normal status.

2) An event response team was activated on June 27, 1986, to review this event in order to assist in determining the root cause, equipment performance, and possible corrective action.

3) On the Spot Changes were made to certain procedures, which added administrative precautions and limitations to prohibit partial usage of protective system surveillance procedures without department head and maintenance superintendent permission.

4) Procedure upgrades will be expedited on the affected surveillance procedures. The upgrades will break the procedures up into separate procedures for each function and define specific requirements for partial procedure usage.

5) The Procedure Update Project, as part of its procedure revision effort, evaluates the Human Factors aspects of performing sections of procedures.

6) The control circuit fuse for the 3B Emergency Containment Filter was replaced. Upon replacement, the failed fuse was found to be oversized. An engineering evaulation determined that the cause for fuse failure was indeterminate. An evaluation of other safety related fuses was initiated.

7) A post-trip review was completed, which verified that the plant response to this event was as expected for a reactor trip of this nature. Following completion of the reviews of this event and performance of the necessary testing, the unit was returned to service at 1130, June 28, 1986.

P.O. BOX 029100 MIAMI, FL 33102

FLORIDA POWER & LIGHT COMPANY

JUL 2 8 1986

L-86-313

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

Gentlemen:

Re: Reportable Event 86-30
Turkey Point Unit 3
Date of Event: June 27, 1986
Engineered Safety Feature Actuation Reactor Trip and Safety Injection

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

Very truly yours,

C. O. Woody
Group Vice President
Nuclear Energy

Attachment

cc: Dr. J. Nelson Grace, Region II, USNRC
Harold F. Reis, Esquire
File 933.1
PNE-LI-86-228

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