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FACIL:50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-003-01:on 890505,reactor trip while performing SG GP Set III channel test due to inadequate admin controls.
W/8 ltr.

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L-89-349
10 CFR 50.73

OCT 19 1989

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

Gentlemen:

RE: Turkey Point Unit 4
Docket No. 50-251
Reportable Event: 89-03 - Revision 1
Date of Event: May 5, 1989
Reactor Trip While Performing Steam Generator Protection Set III Channel Test Due to Inadequate Administrative Controls

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

Very truly yours,

K. N. Harris
Vice President
Turkey Point Nuclear Plant

KNH/STD/rat

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

IE22
1/1

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 4	0 5 0 0 0 2 5 1	1 OF 0 3

TITLE (4) Reactor Trip While Performing Steam Generator Protection Set III Channel Test Due to Inadequate Administrative Controls

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 5	8 9	8 9	— 0 0 3	— 0 1	1 0	1 9	8 9	N/A	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	3	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
Ed Lyons - Regulation and Compliance Engineer	AREA CODE 3 0 5 — 2 4 6 - 6 5 9 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 May 5, 1989, at 0152, with Unit 4 in Hot Standby, and during rod drop testing, a Reactor Protection System (RPS) actuation occurred while performing procedure 4-SMI-071.4. The reactor tripped when Instrumentation and Control personnel (non-licensed utility personnel) placed bistable BS-4-446-1 in the Test position in accordance with procedure 4-SMI-071.4. This simulated a reactor power greater than 10%, enabling the low power permissive's reactor trips. An investigation determined that the reactor trip logic was completed by a turbine trip signal generated by an indication of closed turbine stop valves. Although the turbine stop valves (TSV) were physically verified to be in an open position, the RPS indicated they were closed due to the presence of lifted leads in the TSVs' position sensing circuitry. The Event Response Team has identified the physical root cause of this event as the presence of lifted leads in the turbine stop valves' position sensing circuitry due to inadequate administrative controls. A contributing factor was determined to be that the Sequence of Events General Alarm Summary did not identify the TSVs in the "Alarm Condition." The subject leads were landed. A new Administrative Site Procedure was developed to improve control of Process Sheets and Installation Lists. The General Alarm Summary software has been modified to prevent the loss of alarm status.

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Turkey Point Unit 4	0 5 0 0 0 2 5 1	8 9	— 0 0 3	— 0 1	0 2 OF 0 3

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

EVENT

On May 5, 1989, at 0152, with Unit 4 in Mode 3 (Hot Standby), a Reactor Protection System (RPS) (EIIS:JC) actuation occurred while performing procedure 4-SMI-071.4, "Steam Generator Protection Set III Analog Channel Test." At the time of occurrence, control banks C and D were withdrawn for rod drop testing in accordance with procedure 4-PMI-028.3, "RPI Hot Calibration, CRDM Stepping Test, and Rod Drop Test." The reactor tripped when Instrumentation and Control personnel (non-licensed utility personnel) placed bistable BS-4-446-1 in the Test position in accordance with step 6.2.3.1 of procedure 4-SMI-071.4. Placing BS-4-446-1 in the Test position simulated a reactor power greater than 10%. This enabled the RPS low power permissive's (P-7) reactor trips, providing one-half of the reactor trip logic. A subsequent investigation determined that the coincident half of the reactor trip logic was provided by a turbine trip signal due to the presence of lifted leads in the turbine stop valve position sensing circuitry. The lifted leads prevented the RPS from receiving a signal indicating the turbine stop valves (EIIS:TA) were open. The turbine stop valves were physically verified to be in an open position.

All systems functioned as designed, and Unit 4 remained stable in Mode 3 throughout the event. An Event Response Team was formed to determine the root cause(s) of the incident and establish the corrective actions to prevent recurrence.

CAUSE OF EVENT

The Event Response Team's investigation into the event has established the physical root cause of the event as the presence of lifted leads in the turbine stop valves' position sensing circuitry due to inadequate administrative controls. Through personnel interviews, FPL believes that work activities on the turbine stop valve limit switch terminal boxes was performed in the November, 1988, time frame. The procedure governing the work being performed on the turbine stop valve limit switches at the time the limit switch leads were lifted was Administrative Site Procedure ASP-2, "Preparation of Site Procedures/Process Sheets." This procedure did not require the lifting of these leads to be documented.

A contributing factor to the trip was that the Sequence of Events (SOE) General Alarm Summary did not identify the turbine stop valves in the "Alarm Condition." During a review of the Sequence of Events (SOE) General Alarm Summary, it was found that several SOE channels did not appear on the report. An analysis showed the deficiency existed in the General Alarm Summary software.

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

ANALYSIS OF EVENT

A post-trip review was conducted to assess the proper operation of safety-related equipment. The review established that no thermodynamic response to the trip occurred and that plant parameters responded as expected. Other than the automatic initiation of the reactor trip, there were no manual or automatic reactor protection system or engineered safety features actuations. Although the lifted leads prevented the RPS from receiving a true indication of the turbine stop valves position, the RPS was in the fail safe position indicating the turbine stop valves were closed. Based on the above, the health and safety of the public were not affected.

CORRECTIVE ACTIONS

1) The lifted leads for the turbine stop valves' position sensing circuitry were landed on May 5, 1989.

2) Although the lifted lead condition was identified in May 1989, a new Administrative Site Procedure was developed to improve control of Process Sheets and Installation Lists. This new procedure, ASP-34, "Preparation of Process Sheets and Installation Lists," was issued on January 23, 1989, and superceded that part of ASP-2 addressing Process Sheets. This procedure describes the requirements for the control and documentation of Backfit Construction work activities and is applicable to all Safety Classifications of work performed by Backfit Construction at Turkey Point Units 3 and 4.

   Subsequent to the issuance of ASP-34, an enhancement was made to specify that Process Sheets or Installation Lists are required for maintenance work that is not directly implemented on a Plant Work Order (PWO) or in accordance with an approved ASP.

3) The General Alarm Summary software has been modified to prevent the loss of alarm status information.

ADDITIONAL INFORMATION

Similar occurrences: LER 250-89-004 describes a reactor trip due to a defective procedure during performance of OP 14004.1 (the old procedure including the Steam Generator Protection Set III Analog Channel Test), LER 251-88-010 delineates a reactor trip due to personnel error during the performance of OP 14004.1, and LER 250-86-030 describes a reactor trip and safety injection due to inadequate planning of post-maintenance testing associated with OP 14004.1.