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HARRIS,K.N. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-011-00:on 900610,hi-hi SGWL turbine trip & subsequent reactor trip due to failure of switch in feedwater valve.
W/9 ltr.

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P.O. Box 14000, Juno Beach, FL 33408-0420

JUN 29 1990

L-90-222
10 CFR 50.73

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

Gentlemen:

Re: Turkey Point Unit 3
Docket No. 50-250
Reportable Event: 90-11
Date of Event: June 9, 1990
Hi-Hi Steam Generator Water Level Turbine Trip And Subsequent Reactor Trip Due to Failure of a Switch in a Feedwater Valve Controller Hand/Auto Station

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,

K. N. Harris
Vice President
Turkey Point Plant Nuclear

KNH/DPS/dps

attachment

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

TITLE (4): HI-HI Steam Generator Water Level Turbine Trip And Subsequent Reactor Trip Due To Failure Of A Switch In A Feedwater Valve Controller Hand/Auto Station

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	1 0	9 0	9 0	0 1 1	0 0	0 6	2 9	9 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)	0 2 6	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
	AREA CODE
D. R. Powell, Superintendent of Licensing	3 0 5 2 4 6 - 6 5 5 9

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	
X	S J	F C 0	X 9 9 9	Y							

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 June 9, 1990, at 0648 EDT, with Unit 3 in Mode 1 (Power Operation) at 26 percent power and Unit 4 in Mode 1 at 100 percent power, Unit 3 experienced a Hi-Hi steam generator water level turbine trip and subsequent reactor trip. All safety systems performed as designed. After the trip, the operators stabilized the unit in Mode 3 (Hot Standby) by using applicable procedures. The cause of this event was a malfunction of the 3C feedwater regulator hand/auto station open pushbutton switch for valve controller FC-3-498F. The switch is a momentary action switch designed to spring back to the no contact position upon release. The switch was found sprung back to the no contact position, but the switch contact was still made. This caused a full open demand condition causing the 3C feedwater regulating valve to fully open. The failed 3C feedwater regulating valve hand/auto station and the hand/auto station for the 3B feedwater regulating valve were replaced with hand/auto stations having new style switches. The hand/auto station for the 3A feedwater regulating valve had been replaced in June, 1989. On June 9, 1990, at 0716 EDT, the NRC was notified of this event in accordance with 10 CFR 50.72(b)(2)(ii).

I. EVENT DESCRIPTION

On June 9, 1990, at 0637 EDT, Unit 3 was paralleled to the Florida Power and Light grid. At 0646 EDT, while increasing power in accordance with procedure 3-GOP-301, "Hot Standby to Power Operation," with feedwater still in manual control, a reactor control operator noticed an increase in "C" steam generator (JB)(SG) water level, feedwater flow, and demand signal to main feedwater regulating valve FCV-498 (SJ)(FCV). The operator attempted, without success, to override the opening signal to the valve by depressing the close pushbutton switch.

On June 9, 1990, at 0648 EDT, with Unit 3 in Mode 1 (Power Operation) at 26 percent power and Unit 4 in Mode 1 at 100 percent power, a Unit 3 Hi-Hi steam generator turbine trip and subsequent reactor trip occurred due to the failure of feedwater valve hand/auto control station 3C in the valve full open demand position. After the trip, the operators stabilized the unit in Mode 3 (Hot Standby) by using applicable procedures.

On June 9, 1990, at 0716 EDT, the NRC was notified of this event in accordance with 10 CFR 50.72(b)(2)(ii).

II. EVENT CAUSE

The cause of this event was a malfunction in the 3C feedwater regulator hand/auto station open pushbutton switch (SJ)(FCO). The switch is a momentary action switch designed to spring back to the no contact position upon release. The switch was found sprung back to the no contact position, but the contact was still made. This forced the 3C feedwater regulating valve fully open. Since steam generator level was still in manual control, the failure apparently occurred when the operator increased feed flow to steam generator 3C. Testing showed the failure to be intermittent and internal to the switch. The failed switch is being examined to determine the specific cause of the failure.

III. EVENT SAFETY ANALYSIS

A reactor (AA)(RCT) trip due to a turbine (TA)(TRB) trip at power is a previously analyzed event. As a result of these analysis, plant procedures are developed to provide operator guidance in responding to these transient conditions and to assure that the plant is stabilized in a safe condition. The unit was stabilized in Mode 3 in accordance with these approved plant procedures. All safety related equipment operated per design.

The reactor engineering group examined the post trip cooldown to ensure the minimum shutdown margin was maintained. The reactor engineering group determined that the reactivity insertion due to the post trip cooldown did not cause a violation of the one (1) percent delta-K/K shutdown margin requirement.

IV. CORRECTIVE ACTIONS

On June 9, 1990, the failed hand/auto station was replaced with a hand/auto station having new style switches. The 3B feedwater regulator hand/auto station was also replaced with the new hand/auto station having the new style switches. The 3A feedwater regulator hand/auto station had already been replaced in June, 1989. In addition, the Unit 4 feedwater regulator hand/auto switches will be replaced during the upcoming dual unit outage currently scheduled to begin in November, 1990. The failed switch is being examined by the FPL Technical Staff to determine the cause of the failure.

V. ADDITIONAL INFORMATION

A. Similar Events

A similar sticking of the 3B feedwater regulator hand/auto station switch occurred on February 26, 1989. No corrective actions were taken at that time because the problem could not be duplicated when the switch was test operated.

B. Equipment Failures

Feedwater regulator hand/auto station open pushbutton switch

Manufacturer:	Jayel Products Inc.
Manufacturer Part Number:	C10520-1-0-Z
Vendor:	Westinghouse
Vendor Part Number:	181827-004
Manufacturer Date/Code Stamp:	08719 6947