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)
Engineered Safety Feature Actuation - Reactor Trip

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	1 7	8 5	8 5	0 1 1	0 0	0 6	1 7	8 5	Turkey Point Unit 3	0 5 0 0 0 2 5 0
									N/A	0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 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
	AREA CODE
R. D. Hart, Licensing Engineer	3 0 5 2 4 5 - 2 9 1 1 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 May 17, 1985, while Unit 4 was at 100% power, a reactor trip occurred. This trip occurred when off-site power was lost due to multiple faults on the FPL high voltage power system. The loss of off-site power de-energized the Unit 3C transformer which feeds power to the Unit 4C 4160 volt bus, thus de-energizing the 4C bus also. The de-energizing of the 4C bus tripped the 4B steam generator (SG) feedwater pump, initiating a turbine governor runback. The reactor trip occurred when the reactor protection logic of SG low level coincident with steam flow greater than feed flow on the 4C SG was made up due to the reduction in feedwater flow.

Cause of Event:

The cause of the event was multiple intense brush fires located in Western Broward County in Southern Florida. Fire shorted out three 500 kilovolt (KV) transmission lines almost simultaneously. Protective relays in the FPL high voltage power system sensed these faults and tripped the three 500 KV lines feeding Southeast Florida. The loss of the 500 KV lines caused Southeast Florida to electrically isolate from the interconnected grid. The excessively overloaded and isolated Southeast Florida electric system voltage immediately collapsed and caused the loss of off-site power.

Corrective Actions:

The following corrective actions were taken:

1) Natural circulation cooling was established, verified and maintained in accordance with applicable off normal operating procedures.
2) Upon restoration of off-site power, forced circulation cooling was initiated on Unit 4 by starting the 4B reactor coolant pump and the unit was stabilized at hot shutdown conditions.
3) Following completion of the post-trip review and resolution of any discrepancies identified, the unit was returned to service at 10:58 p.m. on May 17, 1985.

The health and safety of the public were not affected. Similar occurrences: LERs 250-84-005, 250-84-006, 250-84-007, 251-84-001, 251-84-017 and 251-85-004.

IE22
1/1

☆U.S.GPO:1984-0-454-481/18759

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Turkey Point Unit 4	0 5 0 0 0 2 5 1	8 5	— 0 1 1	— 0 0	0 2 OF 0 3

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

Event:

On May 17, 1985, at 11:47 a.m., while Unit 4 was at 100% power, a reactor trip occurred. The trip occurred when off-site electrical power was lost due to multiple simultaneous faults on the FPL electrical power high voltage system. The loss of off-site power de-energized the Unit 3C transformer, which feeds power to the Unit 4C 4160 volt bus thus de-energizing the 4C bus also. This tripped the 4B steam generator (SG) feedwater pump, initiating a turbine governor runback. The reactor trip occurred when the reactor protection logic of low level on channels 1 and 2 coincident with steam flow greater than feedwater flow on channel 3 for the 4C SG was made up due to the reduced feedwater flow.

An Unusual Event was declared for both Units 3 and 4 at 12:00 p.m. due to the sustained loss of off-site power. The required notifications were made.

Upon loss of off-site power, the emergency diesel generators (EDGs) started and sequenced onto the 4A and 4B safety-related buses as designed. The auxiliary feedwater (AFW) pumps started automatically upon loss of voltage on one 4160 volt bus and began to recover the 4A, 4B and 4C SG levels. Natural circulation was established, verified and maintained in accordance with Off-Normal Operating Procedure (ONOP), 1008.7, "Reactor Coolant System Natural Circulation."

Although offsite power was available approximately one hour earlier, electrical system considerations required that offsite power not be restored until 1:43 p.m. to the 4A 4160 volt bus and at 1:52 p.m. to the 4B volt bus via the Unit 4 startup transformer. After stabilizing voltages on the 4A and 4B buses, the 4B reactor coolant pump (RCP) was started at 2:01 p.m. thus restoring forced circulation cooling to the reactor. The Unit was stabilized at hot shutdown conditions. The 4C RCP was started at 2:21 p.m. and the 4A RCP was started at 2:58 p.m.

The Unusual Event for Unit 4 was terminated at 2:07 p.m. due to the restoration of offsite power and initiation of forced circulation for the reactor. The Unusual Event for Unit 3 was terminated at 2:23 p.m. due to the restoration of offsite power.

Cause of Event:

The cause of the event was multiple intense brush fires located in Western Broward County in Southern Florida. Fire shorted out three 500 kilovolt (KV) transmission lines almost simultaneously. Protective relays in the FPL high voltage power system sensed these faults and tripped the three 500 KV lines feeding Southeast Florida. The loss of the 500 KV lines caused Southeast Florida to electrically isolate from the interconnected grid. The excessively overloaded and isolated Southeast Florida electric system voltage immediately collapsed and caused the loss of off-site power.

Analysis of Event:

The plant response to the reactor trip was normal. The reactor coolant system (RCS) parameters stayed within expected values for a reactor trip of this type. The pressurizer relief and safety valves did not actuate. The safety relief on the 6B feedwater heater lifted and reseated after the main steam stops were closed.

During the event, the indicated narrow range SG levels decreased to the bottom of the scale, but the indicated wide range SG levels remained on scale at approximately 45% - 55% level. The feedwater for the SGs was supplied by the AFW system until 3:38 p.m. when normal feedwater flow was established via the 4A SG feedwater pump.

During this event, Unit 3 was in a scheduled refueling outage with the core off loaded. Based on the above, the health and safety of the public were not affected.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Turkey Point Unit 4	0 5 0 0 0 2 5 1	8 5	— 0 1 1	— 0 0	0 3 OF 0 3

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

Corrective Actions:

The following corrective actions were taken:

1) Natural circulation cooling was established, verified and maintained in accordance with ONOP 1008.7.

2) Offsite power was restored to the Unit 4 startup transformer at 1:52 p.m. and to the Unit 3 startup transformer at 2:23 p.m. Upon restoration of offsite power, forced circulation cooling was initiated on Unit 4 by starting the 4B RCP and the Unit was stabilized at hot standby by 3:30 p.m.

3) Following completion and review of the post-trip review, the unit was returned to service at 10:58 p.m. on May 17, 1985 and achieved 100% full power by 7:30 a.m. on May 18, 1985.

FPL

FLORIDA POWER & LIGHT COMPANY

JUN 1 8 1985

L-85-240

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

Gentlemen:

Re: Reportable Event 85-011
Turkey Point Unit 4
Date of Event: May 17, 1985
Engineered Safety Feature
Actuation - Reactor Trip

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,

J. W. Williams, Jr.
Vice President
Nuclear Energy Department

JWW/JA/awt/T14:5

Attachment

cc: Dr. J. Nelson Grace
Harold F. Reis, Esquire

IE22
1/1

PEOPLE . . . SERVING PEOPLE