

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
Turkey Point Unit 4

DOCKET NUMBER (2)

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

TITLE (4)

Engineered Safety Features 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)								
									N/A		0 5 0 0 0								
1	0	0	8	4	8	4	0	2	2	0	0	1	1	0	8	8	4	N/A	0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																																							
N	<table border="1"><tr><td>20.402(b)</td><td>20.405(c)</td><td>X</td><td>50.73(a)(2)(iv)</td><td>73.71(b)</td></tr><tr><td>20.405(a)(1)(i)</td><td>50.36(c)(1)</td><td></td><td>50.73(a)(2)(v)</td><td>73.71(c)</td></tr><tr><td>20.405(a)(1)(ii)</td><td>50.36(c)(2)</td><td></td><td>50.73(a)(2)(vi)</td><td>OTHER (Specify in Abstract below and in Text, NRC Form 365A)</td></tr><tr><td>20.405(a)(1)(iii)</td><td>50.73(a)(2)(i)</td><td></td><td>50.73(a)(2)(vii)(A)</td><td></td></tr><tr><td>20.405(a)(1)(iv)</td><td>50.73(a)(2)(ii)</td><td></td><td>50.73(a)(2)(vii)(B)</td><td></td></tr><tr><td>20.405(a)(1)(v)</td><td>50.73(a)(2)(iii)</td><td></td><td>50.73(a)(2)(ix)</td><td></td></tr></table>										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)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)	20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(vii)(A)		20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)		20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(ix)	
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20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(ix)																																					

LICENSEE CONTACT FOR THIS LER (12)
NAME
Roger L. Teuteberg, Regulation and Compliance Engineer

TELEPHONE NUMBER

AREA CODE

3 0 5 2 4 5 - 2 9 1 9

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	
X	E	F	F	U						
			S	1	5	6	Y			

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

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

On October 9, 1984, while Unit 4 was heating up from cold shutdown to hot shutdown, a reactor trip occurred. The root cause of the reactor trip was a blown fuse in the normal 4A static inverter (4Y01) that was supplying 120 volt (a.c.) instrument power to vital panel 4P07, which caused the nuclear instrumentation (NIS) bistables for channels N-32 (source range) and N-36 (intermediate range) to de-energize, generating reactor trip signals. In addition, the loss of power to panel 4P07 initiated the closure of the letdown line pressure control valve (PCV-4-145), which was operating in the automatic mode. The loss of power to the Overpressure Mitigating System (OMS) on panel 4P07 opened the pressurizer power operated relief valve (PORV-4-455C) when the temperature inputs failed low resulting in the Reactor Coolant System (RCS) pressure dropping to 50 psig. Immediate corrective actions were to place valve PCV-4-145 in the manual mode to re-establish letdown pressure control, close the PORV, cooldown and stabilize the RCS and re-energize the vital panel 4P07 using the spare AS inverter. Continuing investigations by Electrical Maintenance personnel revealed a wiring error in the DC input filter section of the 4A inverter which allowed the circuit to be more susceptible to DC bus problems. Upon discovery, the inverter was rewired and satisfactorily tested in accordance with the manufacturer's procedures. Long term corrective actions will be to replace the inverters to ensure a more reliable power supply. All safety equipment functioned as designed upon initiation of the Engineered Safety Features Actuation System (ESFAS) signal. Significant event notification was made to NRCOC via the ENS pursuant to 10 CFR 50.72(b)(2)(ii). The health and safety of the public were not affected. Similar occurrences: LER 251-84-011, LER 251-84-021, LER 250-84-009, LER 250-84-013, LER 250-84-026

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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

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

On October 9, 1984, at 2:26 a.m., Unit 4 was heating up from cold shutdown to hot shutdown at 180°F, 375 psig with the Reactor Coolant System solid. While investigating for a ground on vital panel 4P07, the "normal" 4A static inverter (4Y01) tripped due to a blown fuse. The 4A inverter was in service supplying power to a vital 120 volt (a.c.) instrument bus (panel 4P07). The 4A inverter failure resulted in a loss of power to vital panel 4P07 and caused the feeds to the Nuclear Instrumentation System (NIS) bistables for NIS channels N-32 (source range) and N-36 (intermediate range) to de-energize, generating reactor trip signals. Reactor power was below the P6 permissive which unblocked the reactor protection logic for the resulting reactor trip. When the 4A inverter failed, an attempt was made to transfer vital panel 4P07 to the spare AS static inverter (3Y04) but that inverter also failed. Electrical personnel investigated the failure of the inverters and found a blown fuse in both the 4A and spare AS inverters. The fuse for the spare AS inverter was replaced and the inverter was energized and developed rated voltage. The spare AS inverter was returned to service and the panel 4P07 was re-energized.

Continuing investigations by Electrical Maintenance personnel revealed a wiring error in the DC input filter section of the 4A inverter. Upon discovery, the inverter was rewired and satisfactorily tested in accordance with the manufacturer's procedures. This error allowed the circuit to be more susceptible to DC bus problems. This condition is believed to be the cause of the blown fuse in the 4A inverter. Concerning the blown fuse on the spare AS inverter, the exact cause for this event has not been clearly established. To further evaluate potential causes, three temporary operating procedures have been established to allow study of simulated failures and loading responses of the normal 4A and spare AS inverters under various load combinations and load transfers. Should the results of this investigation reveal any significant corrective actions, a supplement to this LER will be submitted.

Long term corrective actions will be to replace the inverters to ensure more reliable power supplies.

Significant event notification was made to the NRCOC via the ENS pursuant to 10 CFR 50.72(b)(2)(ii).

November 8, 1984
L-84-321

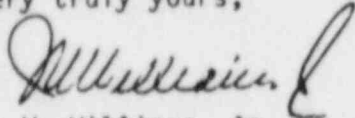
U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

Re: Reportable Event 84-022
Turkey Point Unit 4
Date of Event: October 9, 1984
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.
Group Vice President
Nuclear Energy

JWW/JEM/js

Attachment

cc: J. P. O'Reilly, Region II, USNRC
Harold F. Reis, Esquire
File 933.1 TP
PNS-LI-84-406-1

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