

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

PAGE (3)  
1 OF 0 2

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	9	20	8	4	8	4	-	0	2	1	-	0	0	1	0	2	2	8	4	N/A	0	5	0	0	0		
												N/A	0	5	0	0	0										

OPERATING MODE (9) **N**

POWER LEVEL (10) **1 0 0**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract Below and in Text, NRC Form 365A)
<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(vii)	
<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: **Randall D. Hart, Licensing Engineer**

TELEPHONE NUMBER: **3 0 5 2 4 5 - 2 9 1 0**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS
X	E	FFU	S 1 5 6	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15): **0 1 0 1 8 5**

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

On September 20, 1984, while Unit 4 was at 100% power, a turbine runback and subsequent reactor trip occurred. During an investigation for a ground in the 3A DC bus, 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 which caused nuclear instrumentation system (NIS) channel N-42 to generate an "NIS ROD DROP" signal causing a turbine runback to 70% power. Following the turbine runback, a reactor trip occurred when the reactor protection logic of steam flow greater than feed flow, coincident with steam generator low level for the "B" steam generator was made up. Immediate corrective actions included stabilizing the unit and re-energizing vital panel 4P07. Long term corrective action is to replace the inverters to ensure a more reliable power supply. All equipment functioned as designed on initiation of the engineered safety feature actuation signal (ESFAS) generated in the reactor protection system. The health and safety of the public were not affected. Similar occurrences: LER 251-84-011.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES 8/31/85

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

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

On September 20, 1984, at 5:45 p.m., while Unit 4 was at 100% power, a turbine runback to 70% power occurred, followed by a reactor trip. During an investigation for a ground in the 3A DC bus, 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 its feeds to the nuclear instrumentation system (NIS) channel N-42 power range nuclear instrumentation. A loss of NIS channel N-42 detector voltage resulted and initiated an "NIS ROD DROP" signal which generated the turbine runback. A reactor trip occurred when the reactor protection logic of steam flow greater than feed flow, coincident with steam generator low level for the "B" steam generator was made up.

When the 4A inverter failed, an attempt was made to transfer vital panel 4P07 to the "standby" (AS) static inverter (3Y04) but that inverter failed also. Electrical personnel investigated the failure of the inverters and found a blown fuse for both the 4A and AS inverters. The fuse for the AS inverter was replaced and an attempt was made to re-energize the AS inverter but the fuse blew again. A new fuse was placed in the AS inverter and the logic outputs were checked as per the Manufacturer's Maintenance Manual and found to be within specifications. The AS inverter was energized as per Operating Procedure (OP) 9700.1, Instrument AC Power Supply - Operation of Normal and Spare Inverters, and the inverter developed rated voltage.

The fuse for the 4A inverter was replaced and the logic outputs were checked as per the Manufacturer's Maintenance Manual and found to be within specifications. The 4A inverter was energized in accordance with OP 9700.1 and the 4A inverter developed rated voltage. The 4A inverter was then loaded by connecting it to vital panel 4P07. The 4A inverter picked up the load in normal fashion. After the AS inverter was placed back in service, the loads on the 4A inverter were transferred to the AS inverter and Unit 4 was returned to service on September 21, 1984, at 6:39 a.m., with the AS inverter in service and the 4A inverter in standby. This was done so further investigations into the cause of 4A inverter failure could be made. These investigations discovered a wiring error in the input filter circuit for the 4A inverter. The error has since been corrected. 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. Investigations into the cause of the blown fuse in the AS inverter are continuing. Should the results reveal any significant information, an LER update will be submitted.



October 22, 1984  
L-84-291

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

Gentlemen:

Re: Reportable Event 84-21  
Turkey Point Unit 4  
Date of Event: September 20, 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,

A handwritten signature in cursive script, appearing to read "J. Williams, Jr.", written in dark ink.

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

JWW/PLP/js

Attachment

cc: J. P. O'Reilly, Region II, USNRC  
Harold F. Reis, Esquire  
File 933.1 TP  
PNS-LI-84-375

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