

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707160056 DOC. DATE: 87/07/08 NOTARIZED: NO DOCKET #  
 FACIL: 50-251 Turkey Point Plant, Unit 4, Florida Power and Light Co 05000251  
 AUTH. NAME AUTHQR AFFILIATION  
 HART, R. D. Florida Power & Light Co.  
 WOODY, C. O. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-011-02: on 870608, automatic actuation of 4C component cooling water pump occurred. Caused by low sys pressure due to leak in 4A CCW heat exchange. 4A heat exchange removed from operation & leak repaired. W/870708 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

## NOTES:

	RECIPIENT		COPIES			RECIPIENT		COPIES	
	ID CODE/NAME		LTTR	ENCL		ID CODE/NAME		LTTR	ENCL
	PD2-2 LA		1	1		PD2-2 PD		1	1
	McDONALD, D		1	1					
INTERNAL:	ACRS MICHELSON		1	1		ACRS MOELLER		2	2
	AEOD/DOA		1	1		AEOD/DSP/ROAB		2	2
	AEOD/DSP/TPAB		1	1		DEDRO		1	1
	NRR/DEST/ADE		1	0		NRR/DEST/ADS		1	0
	NRR/DEST/CEB		1	1		NRR/DEST/ELB		1	1
	NRR/DEST/ICSB		1	1		NRR/DEST/MEB		1	1
	NRR/DEST/MTB		1	1		NRR/DEST/PSB		1	1
	NRR/DEST/RSB		1	1		NRR/DEST/SGB		1	1
	NRR/DLPQ/HFB		1	1		NRR/DLPQ/QAB		1	1
	NRR/DOEA/EAB		1	1		NRR/DREP/RAB		1	1
	NRR/DREP/RPB		2	2		NRR/PMAS/ILRB		1	1
	NRR/PMAS/PTSB		1	1		REG FILE 02		1	1
	RES DEPY GI		1	1		RES TELFORD, J		1	1
	RES/DE/EIB		1	1		RGN2 FILE 01		1	1
EXTERNAL:	EG&G GROH, M		5	5		H ST LOBBY WARD		1	1
	LPDR		1	1		NRC PDR		1	1
	NSIC HARRIS, J		1	1		NSIC MAYS, G		1	1

TOTAL NUMBER OF COPIES REQUIRED: LTTR 44 ENCL 42

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Turkey Point Unit 4										DOCKET NUMBER (2) 0 5 0 0 0 2 5 1										PAGE (3) 1 OF 0 3																																
TITLE (4) Automatic Actuation of the 4C Component Cooling Water Pump Due to Low System Pressure																																																				
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 6			0 8			8 7			8 7			0 1			1 0			0 7			0 8			8 7			NA													0 5 0 0 0 0												
0 6			0 8			8 7			8 7			0 1			1 0			0 7			0 8			8 7			NA													0 5 0 0 0 0												
OPERATING MODE (9) 5										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																																										
POWER LEVEL (10)										20.402(b)										20.405(c)										<input checked="" type="checkbox"/> 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)										<input checked="" type="checkbox"/> 50.73(a)(2)(i)										50.73(a)(2)(viii)(A)																						
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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 Randall D. Hart, Licensing Engineer																				TELEPHONE NUMBER																																
																				AREA CODE 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 NRC						CAUSE			SYSTEM			COMPONENT			MANUFACTURER			REPORTABLE TO NRC																						
X			C C			H X			E 2 7 0			Yes																																								
SUPPLEMENTAL REPORT EXPECTED (14)																														EXPECTED SUBMISSION DATE (15)										MONTH DAY YEAR												
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)																				<input checked="" type="checkbox"/> NO																																

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

On June 8, 1987, with Unit 4 in cold shutdown (mode 5), the 4C component cooling water (CCW) pump automatically started due to low system pressure. A leak was discovered on the 4A CCW heat exchanger. This leak lowered the CCW surge tank level which resulted in a decrease in CCW system pressure. The pressure decreased to below the setpoint for the CCW header low pressure sensing switch (PC-611) which resulted in the automatic start of the 4C CCW pump. The 4A CCW heat exchanger was valved out of service to isolate the leak and affect repairs. At this time the 4B CCW heat exchanger was out of service for cleaning. This left only one CCW heat exchanger in service which exceeded the administrative definition for operability of the residual heat removal loops. This placed Unit 4 outside the requirements of Technical Specification 3.4.1.e, which requires two coolant loops to be operable when a unit is in mode 5. Maintenance efforts were directed to return the 4B CCW heat exchanger to service which was completed in the morning of June 9, 1987. The low CCW system pressure was due to a tube leak on the 4A CCW heat exchanger. The 4A CCW heat exchanger was repaired and returned to service late in the evening on June 9, 1987.

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PDR ADOCK 05000251  
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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Turkey Point Unit 4	DOCKET NUMBER (2)  0 5 0 0 0 2 5 1	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	0 1 1	0 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 368A's) (17)

EVENT:

At 1940 on June 8, 1987, with Unit 4 in cold shutdown (mode 5), the 4C component cooling water (CCW) pump automatically started due to low system pressure. A leak was discovered on the 4A CCW heat exchanger. This leak lowered the CCW surge tank level which resulted in a decrease in CCW system pressure. The pressure decreased to below the setpoint for the CCW header low pressure sensing switch (PC-611) which resulted in the automatic start of the 4C CCW pump. The 4A CCW heat exchanger was valved out of service to isolate the leak and affect repairs.

At this time the 4B CCW heat exchanger was out of service for cleaning. Administrative procedure (AP) 0103.32, Reactor Cold Shutdown Conditions, describes the requirements for operability of coolant loops to meet the requirements of Technical Specification (TS) 3.4.1.e. The definition for a residual heat removal (RHR) loop requires a CCW heat exchanger along with a CCW pump and intake cooling water (ICW) pump powered from the same electrical train. The leak on the 4A CCW heat exchanger resulted in two out of three CCW heat exchangers being out of service. With only one CCW heat exchanger in service, only one RHR loop could be called in service as per AP 0103.32. TS 3.4.1.e requires two coolant loops to be operable whenever the reactor coolant system temperature is less than 350 degrees Fahrenheit. At the time of the event the two RHR loops were operable to meet this TS requirement. The loss of the second CCW heat exchanger resulted in placing Unit 4 outside of the requirements of TS 3.4.1.e. At 2200 Operations directed the Maintenance Department to return the 4B CCW heat exchanger to service as soon as possible. The 4B CCW heat exchanger was returned to service at 1125 on June 9, 1987.

CAUSE OF EVENT:

A tube leak on the 4A CCW heat exchanger decreased CCW surge tank level. This lowered the CCW system pressure until it reached the low header pressure setpoint where the 4C CCW pump automatically started.

ANALYSIS OF EVENT:

At the time of this event, Unit 4 had been in cold shutdown for over two months. The CCW system is designed such that the CCW pumps discharge through a common tie header to the CCW heat exchangers. The CCW heat exchangers discharge to a common tie header which can supply either or both A & B loops. These supply loops flow in parallel until they reach the RHR heat exchangers. So even though only one CCW heat exchanger was in service, it was capable of providing cooling water to both RHR loops. However, this did not meet the definition of RHR loops as specified in AP 0103.32 and one RHR loop was administratively declared out of service. Even though one loop was declared out of service it would have been able to provide coolant flow to the reactor core if the need had arisen. In addition both emergency diesel generators were operable during this event. Based on the above, the health and safety of the public was not affected.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Turkey Point Unit 4	DOCKET NUMBER (2)  0   5   0   0   0   2   5   1	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8   7	—   0   1   1	—   0   0	0   3	OF	0   3

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

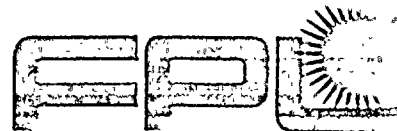
CORRECTIVE ACTIONS:

- 1) The 4A CCW heat exchanger was removed from service and the leak repaired.  
The 4A CCW heat exchanger was returned to service at 2300 on June 9, 1987.
- 2) Upon taking the 4A CCW heat exchanger out of service, Maintenance was directed to return the 4B CCW heat exchanger to service as soon as possible.  
The 4B CCW heat exchanger was returned to service at 1125 on June 9, 1987.

ADDITIONAL DETAILS:

The CCW heat exchangers are shell and straight tube type. The CCW circulates through the shell side. The manufacturer of the CCW heat exchangers is Engineers & Fabricators, Inc. The model is type AEL. CD-15141-2 and serial number S-14923-C.

Similar occurrences: LER 251-87-002



**JULY** 8 1987

L-87-285  
10 CFR 50.73

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: 87-11  
Date of Event: June 8, 1987  
Automatic Actuation of the 4C Component Cooling  
Water Pump Due to Low System Pressure

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,

*for* *D. M. Paduano*  
C. O. Woody  
Group Vice President  
Nuclear Energy

COW/SDF/pm

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant

*IE22*  
*1/1*