

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8809190166 DOC. DATE: 88/09/15 NOTARIZED: NO DOCKET #
 FACIL: 50-251 Turkey Point Plant, Unit 4, Florida Power and Light Co 05000251
 AUTH. NAME AUTHOR AFFILIATION
 LYONS, E. Florida Power & Light Co.
 CONWAY, W. F. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-009-00: on 880816, steam generator feedwater pump trip
 due to failure of differential pressure switch.

W/8 ltr.

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

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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) Failure of Differential Pressure Switch on Condensate Polishing Vessel Results in Steam Generator Feedwater Pump Trip and Auxiliary Feedwater Automatic Initiation

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)
08	16	88	88	009	00	08	15	88	N/A		0 5 0 0 0 0
0 5 0 0 0 0											

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
3	20.402(b)		20.405(c)		X		50.73(a)(2)(iv)		73.71(b)	
POWER LEVEL (10)	0 0 0		20.405(a)(1)(i)				50.73(a)(2)(v)		73.71(c)	
			20.405(a)(1)(ii)				50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
			20.405(a)(1)(iii)				50.73(a)(2)(vii)(A)			
			20.405(a)(1)(iv)				50.73(a)(2)(vii)(B)			
			20.405(a)(1)(v)				50.73(a)(2)(ix)			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Edward Lyons, Compliance Engineer	AREA CODE 3 0 5 2 4 6 - 3 7 3 1

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
B	S	F	P	D	S	3	8	2	Y

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/>	<input type="checkbox"/>				

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

At 1917 on August 16, 1988 Unit 4 was in Mode 3 (Hot Standby) with a unit startup in progress. The 4A Condensate pump and the 4A Steam Generator Feedwater (SGFW) pump were running. The 4B Condensate Polisher vessel was being precoated with resin to prepare the vessel for use during the secondary system startup planned for later in the shift. As the vessel entered the final precoat step, the main inlet valve to the 4B polishing vessel opened prior to the vessel being pressurized. This caused a drop in the SGFW pump suction pressure and the pump tripped as designed. Following the trip of the SGFW pump, the Auxiliary Feedwater (AFW) pumps started automatically as designed to supply water to the Unit 4 Steam Generators. Steam Generator level was controlled in the normal band. The cause of the event was a failure of the differential pressure switch used in the automatic valve control circuit to indicate pressure equalization. The differential pressure switch was replaced on the 4B Condensate Polishing vessel. In addition, the similar differential pressure switches on the other Unit 3 and Unit 4 Condensate Polishing vessels were tested in order to verify proper operation. One additional switch required replacement.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 8	0 0 9	0 0	0 2	OF	0 3

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

Description of the Event

At 1917 on August 16, 1988, Unit 4 was in mode 3 (Hot Standby) with a unit startup in progress. The 4A Condensate pump and the 4A Steam Generator Feedwater (SGFW) pump were running. The 4B Condensate Polisher Vessel was being precoated with resin to prepare the vessel for use during the secondary system startup planned for later in the shift. The last step in the precoat cycle pressurizes the vessel with water from the Condensate system and then opens the vessel inlet valve. As the vessel entered the final precoat step, the main inlet valve to the 4B polishing vessel opened prior to the vessel being pressurized. This caused a drop in the SGFW suction pressure, which tripped the 4A SGFW pump as designed. The trip of the only running SGFW pump completed the logic for automatic start of the Auxiliary Feedwater (AFW) pumps to Unit 4. The AFW pumps started as designed to supply water to the Unit 4 Steam Generators. The Condensate Polishing System (EISS:SF) was bypassed and isolated to return condensate pressure to normal. The 4B SGFW pump was placed in service at 1933, and the AFW pumps were secured.

Cause of the Event

The drop in SGFW pump suction pressure was caused by opening of the 4B Condensate Polishing vessel inlet valve prior to the Condensate Polishing pressure being equalized with the Condensate System pressure. This was caused by failure of the differential pressure switch used in the automatic valve control circuit to indicate pressure equalization. It was also noted during the event that condensate water backflowed from the Condensate Polishing vessel to the precoat system. Difficulty had been experienced closing the 4B Condensate Polisher vessel inlet and outlet isolation valves in the previous step of the precoat cycle. Failure of one of these valves to seat caused the 4B Condensate vessel to fail to pressurize.

Analysis

The AFW pumps started as designed on Unit 4. Following isolation of the Unit 4 Condensate Polishing System, the 4B SGFW pump was placed in service and the AFW pumps secured. Unit startup proceeded without further incident. Since Steam Generator level was controlled in the normal band, and a supply of feedwater was available to the Unit 4 Steam Generators, the health and safety of the public were not affected.

Corrective Action

- 1) The Condensate Polishing System was isolated and the Feedwater System was returned to service using the 4B SGFW pump.
- 2) The failed differential pressure switch, PDS-4-6361B, was replaced for the 4B Condensate Polishing vessel.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 8	— 0 0 9	— 0 0	0 3	OF	0 3

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

- 3) The similar differential pressure switches on the other Unit 3 and Unit 4 Condensate Polishing vessels have been tested in order to verify proper operation. One of these switches required replacement.
- 4) A periodic inspection program will be developed for these differential pressure switches. This action will be completed by December 31, 1988.
- 5) The 4B Condensate Polishing vessel precoast inlet and outlet valves will be disassembled and inspected to verify proper operation and seating. This work will be performed during the 1988 Unit 4 refueling outage.

Additional Information

Component model number: Static O-Ring 14R3-K5-C2A-RR

Similar occurrences: None

FPL

SEPTEMBER 15 1988

L-88-412
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: 88-09
Date of Event: August 16, 1988
Failure of Differential Pressure Switch on Condensate
Polishing Vessel Results in Steam Generator Feedwater
Pump Trip and Auxiliary Feedwater Automatic Initiation

The attached Licensee Event Report (LER) is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

W. F. Conway
W. F. Conway
Senior Vice President - Nuclear

WFC/SDF/gp

Attachment

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