

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9206250017 DOC. DATE: 92/06/17 NOTARIZED: NO DOCKET #  
 FACIL: 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251  
 AUTH. NAME AUTHOR AFFILIATION  
 WEINKAM, E.J. Florida Power & Light Co.  
 PLUNKETT, T.F. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-006-01: on 911029, AFW pumps autostarted following trip of only operating MFW pump for Unit 4. Caused by trip of 4A MFW pump upon loss of suction pressure. Condensate polishing sys bypassed. W/920618 ltr.

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NOTES: NRR RAGHAVAN, L

05000251

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NOTES:	1 1		

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P.O. Box 029100, Miami, FL, 33102-9100

JUN 18 1992  
L-92-058  
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: 91-006-01  
Date of Event: October 29, 1991  
Autostart of Auxiliary Feedwater Pumps Following Low Suction  
Pressure Trip of Main Feedwater Pump Due to Malfunction of the  
Condensate Polishing Vessel Inlet Valve (CV-4-6351D) Close  
Limit Switch

The attached Licensee Event Report 251-91-006-01 is being provided in accordance with the requirements of 10 CFR 50.73 (a) (2) (iv), and provides a corrected root cause. Other minor changes were made to reflect current status and are marked with revision bars in accordance with NUREG 1022, Supplement 1.

Very truly yours,

T. F. Plunkett  
Vice President  
Turkey Point Nuclear

TFP/CLM/clm

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Ross C. Butcher, Senior Resident Inspector, USNRC, Turkey  
Point Nuclear Plant

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# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>TURKEY POINT UNIT 4</b>										DOCKET NUMBER (2) <b>05000251</b>			PAGE (3) <b>1 OF 4</b>		
TITLE (4) <b>Autostart of Auxiliary Feedwater Pumps Following Low Suction Pressure Trip of Main Feedwater Pump Due to Malfunction of the Condensate Polishing Vessel Inlet Valve (CV-4-6351D) Close Limit Switch</b>															
EVENT DATE (5)				LER NUMBER (6)			RPT DATE (7)				OTHER FACILITIES INV. (8)				
MON	DAY	YR		YR	SEQ #	RI	MON	DAY	YR		NAME				DOCKET # (9)
10	29	91		91	006	01	06	17	92						
OPERATING MODE (9)			1		<b>10 CFR 50.73(A) (2) (iv)</b> <u>OTHER</u> <small>(Specify in Abstract below and in text)</small>										
POWER LEVEL (10)			22												
LICENSEE CONTACT FOR THIS LER (12)															
E. J. Weinkam III, Licensing Manager												TELEPHONE NUMBER			
												305-246-7383			
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)															
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	NRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	NRDS					
X	BA	33	E081	N											
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR	
YES	(if yes, complete EXPECTED SUBMISSION DATE)									NO					
										X					
ABSTRACT (16)															
<p>On October 29, 1991, at 2316 EST, with Unit 4 at approximately 22 percent power, and Unit 3 at 100 percent power, all three auxiliary feedwater (AFW) pumps autostarted following a trip of the only operating main feedwater (MFW) pump for Unit 4. Autostart of the AFW pumps is an engineered safety feature (ESF) actuation. A plant operator immediately started the 4B MFW pump. At 2323, the AFW pumps were secured and returned to standby mode. The NRC was notified of this event in accordance with 10 CFR 50.72 at 0020 EST, October 30, 1991.</p> <p>The immediate cause of the AFW pumps autostart was the trip of the 4A MFW pump upon loss of suction pressure. The loss of suction pressure was caused by the diversion of condensate flow to the "D" polisher vessel, through the open inlet valve, and through the discharge valve to the backwash receiver. A misaligned Close limit switch on the "D" polisher vessel inlet valve, CV-4-6351D, provided a permissive to open the discharge valve to the backwash receiver.</p> <p>The limit switch was adjusted, tested satisfactorily and returned to service. Operating procedure OP-7001.3, "Condensate Polishing System - Powdex Vessel Operation," has been revised to require a visual verification of the vessel inlet valve closure prior to initiation of backwash.</p>															



# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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## I. EVENT DESCRIPTION

On October 29, 1991, at 2254 EST, the Unit 4 output breaker (EL) (BKR) was closed connecting Turkey Point Unit 4 to the Florida Power & Light (FPL) power distribution system (the grid). Preparations were in progress to backwash the Unit 4 "D" condensate polisher vessel (BA) (VSL). The main feedwater (MFW) regulator valves (BA) (FCV) were placed in the automatic control mode at 2312 EST with the unit at approximately 22 percent power. At 2316 EST, upon receipt of a condensate polishing trouble alarm, a main feedwater (MFW) pump (BA) (P) low suction pressure alarm, and a MFW low flow alarm, the 4A MFW pump (the only Unit 4 MFW pump running) was discovered to be tripped and all three auxiliary feedwater (AFW) pumps (BA) (P) were discovered to be running. Autostart of the AFW pumps is classified as an Engineered Safety Feature (ESF) actuation.

Subsequent to the event, a plant operator started the 4B MFW pump. At 2323, the three AFW pumps were secured and returned to standby mode. The NRC was notified of this event in accordance with 10 CFR 50.72 (b) (2) (ii) at 0020 EST, October 30, 1991.

## II. EVENT CAUSE

### a. Immediate Cause

The immediate cause of the autostart of the AFW pumps was the trip of the 4A MFW pump upon loss of suction pressure.

### b. Root Cause

The loss of suction pressure to the MFW pump was caused by the diversion of condensate flow to the "D" polisher vessel, through the open inlet valve, and through the backwash receiver. The Close limit switch on the polisher vessel inlet valve, CV-4-6351D, provided a signal that the inlet valve was closed, when in fact the inlet valve was still open. This false signal opened the discharge valve (CV-4-6349D) to the backwash receiver, and removed closing air to CV-4-6351D. These two actions established a flow path directly from the suction of the MFW pump to the backwash receiver. The malfunctioning limit switch was found out of adjustment.





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## III. EVENT SAFETY ANALYSIS

A loss of the MFW supply is a previously analyzed event. As a result of these analyses, plant procedures were developed to provide operator guidance in responding to the transient conditions produced and to assure that the plant is stabilized in a safe condition in accordance with the plant Technical Specifications. For this event, steam generator water levels were maintained within operating limits. Another MFW pump was started and the AFW pumps were secured and returned to their standby condition in accordance with approved plant procedures.

A post-event review was conducted to assess the proper operation of safety related equipment. This review established that plant parameters responded as expected. Other than the AFW pumps autostart, there were no manual or automatic reactor protection system or engineered safety feature actuations. Engineered Safety Features were designed to prevent by anticipation, or by reducing the severity through quick automatic response, events that could affect the health and safety of the public.

Based on the above, the health and safety of the public were not adversely affected by this event.

## IV. CORRECTIVE ACTIONS

### A. Immediate Corrective Actions

1. The condensate polishing system was bypassed.
2. The limit switch on valve CV-4-6351D was adjusted, tested satisfactorily and returned to service.
3. The remaining Unit 4 condensate polisher vessel inlet valves (CV-4-6351A, B, and C) were checked and found to be operating properly.

### B. Corrective Actions to Prevent Recurrence

Operating procedure OP-7001.3, "Condensate Polishing System - Powdex Vessel Operation," has been revised to require a visual verification of the vessel inlet valve closure prior to initiation of backwash.



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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V. ADDITIONAL INFORMATION

A. Similar Events

None.

B. Additional Information

During this event, water and resin beads overflowed the backwash receiver. The resin beads were recovered in the bermed area and collected for proper disposal at the local landfill. Analysis of the water and resin beads showed no radioactivity. Analysis of the water showed that the water was within the required discharge limits for acidity.

C. Failed Parts

The limit switch for the Valve Operator for Condensate Polisher Vessel inlet valve CV-4-6351D was found to need adjustment.

Manufacturer: Ramcon  
Model Number: R-2000D-75  
Vendor: Ecodyne Graver

