

# REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8709010410      DOC. DATE: 87/08/27      NOTARIZED: NO      DOCKET #  
 FACIL: 50-251 Turkey Point Plant, Unit 4, Florida Power and Light Co      05000251  
 AUTH. NAME      AUTHOR AFFILIATION  
 WAGER, V.      Florida Power & Light Co.  
 WOODY, C. O.      Florida Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 87020-00 : on 870728; discovered that Unit 4 steam generator feedwater control valve actuator stem not properly engaged w/control valve stem. Caused by improperly matched coupler halves. Set screw inserted into block. W/870827 ltr.

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

## NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES 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/NAS	1 1
	AEOD/DSP/ROAB	2 2	AEOD/DSP/TPAB	1 1
	DEDRO	1 1	NRR/DEST/ADS	1 0
	NRR/DEST/CEB	1 1	NRR/DEST/ELB	1 1
	NRR/DEST/ICSE	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
	<u>REG FILE</u> 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

## 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) Unit 4 Power Reduction Due to Steam Generator 4A Feedwater Flow Control Valve (FCV 4478) Actuator Stem Not Properly Engaged With the Control Valve Stem																																											
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 0										
0 7			2 8			8 7			8 7			0 2 0			0 0			0 8			2 7			8 7			N/A						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)																																									
1		20.402(b)										20.405(c)										50.73(a)(2)(iv)										73.71(b)											
POWER LEVEL (10)		1 0 0										20.406(a)(1)(i)										50.36(c)(1)										50.73(a)(2)(v)										73.71(c)	
												20.406(a)(1)(ii)										50.36(c)(2)										50.73(a)(2)(vi)										OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
												20.406(a)(1)(iii)										50.73(a)(2)(i)										50.73(a)(2)(vii)(A)											
												20.406(a)(1)(iv)										50.73(a)(2)(ii)										50.73(a)(2)(viii)(B)											
												20.406(a)(1)(v)										50.73(a)(2)(iii)										50.73(a)(2)(ix)											
LICENSEE CONTACT FOR THIS LER (12)																																											
NAME																TELEPHONE NUMBER																											
Virgil Wager, Licensing Engineer																AREA CODE						3 0 5 2 4 6 7 6																					
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 J		F F C		F 1 3 0		Y																																			
SUPPLEMENTAL REPORT EXPECTED (14)																EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR																					
YES (If yes, complete EXPECTED SUBMISSION DATE)																X NO																											

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

On July 28, 1987, Unit 3 was at Cold Shutdown (Mode 5) and Unit 4 was at 100 percent power (Mode 1). At 1240, it was discovered that 4A Steam Generator (SG) feedwater control valve 4-478 (FCV 4-478) did not have the actuator properly engaged with the valve stem. At 1800 the power level was reduced from 100% power to approximately 12% power to facilitate the investigation of the problem and implement the necessary repairs. The 4A SG feedwater flow control was transferred from FCV 4-478 to the bypass valves, and FCV 4-478 was isolated to permit the necessary repair. Inspection of the actuator to valve coupling block revealed the threads in the coupling block were slightly worn and deteriorated thus permitting disengagement of the control valve stem from the coupling block. The coupling block was replaced and FCV 4-478 was calibrated and tested as required by AP-0190.28, Postmaintenance Testing procedure. At 2255, normal feedwater flow control was established for 4A SG through FCV 4-478 and power increase was commenced to 100 percent.

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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 7	— 0 2 0 —	0 0	0 2	OF	0 3

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

EVENT

On July 28, 1987, at 1240, with Unit 4 at 100 percent power (Mode 1), Unit 3 at Cold Shutdown (Mode 5) it was found that the 4A Steam Generator (SG) Feedwater Flow Control Valve (FCV 4-478) (EIIIS:FFC) stem was not properly engaged in the actuator coupling block that connects the valve stem to the actuator stem. A set screw was inserted into a manufactured hole which is in alignment with the valve stem in order to secure the valve stem to the actuator coupling block. The continuing evaluation of the condition raised the concern that FCV 4-478 may not fully close or remain closed upon receipt of a feedwater isolation signal, reactor trip or safety injection signal. The decision was made to reduce the power level to approximately 12 to 15 percent which would permit placing the 4A SG feedwater flow control on the bypass valves so that FCV 4-478 could be isolated to permit the necessary repairs. The reduction of the power level commenced at 1800 and the unit was stabilized at 12 percent reactor power (65 MWe) at 2100. At 2145, the coupling block was removed and inspection of the threads on the actuator stem and valve stem revealed they were in good condition. The coupling block threads indicated some wear and deterioration. The coupling block was replaced. The valve was calibrated and stroked in compliance with the requirements of procedure AP-0190.28, Postmaintenance Testing. At 2255, normal feedwater flow control for 4A SG was established through FCV 4-478 and power level increase to 100% power was commenced.

CAUSE OF EVENT

The as-found condition of the valve revealed it was approximately one half inch above the seat when indicating fully closed and with zero demand on the controller. Inspection of the coupling block threads revealed a small amount of wear and deterioration. This lead to disengagement of the valve stem threads inside the coupler. The FPL Engineering Department (JPE) evaluation of the root cause of the problem determined the coupler halves were improperly matched.

ANALYSIS OF THE EVENT

The main feedwater control valves provide feedwater flow control during normal operation and feedwater isolation after reactor trips, and Safety Injection. They are required to close in seven seconds after receipt of a Safety Injection signal only in the event of a Main Steam Line Break (MSLB). Automatic operation of FCV 4-478 was not affected. The Safety Injection signal also trips the Non-nuclear Safety Related (NNS) main steam generator feedwater pumps which results in closure of the NNS check valve and NNS motor operated valve (MOV) in the discharge line. Operation of the check valve or the MOV would have provided redundant feedwater isolation. Based on the above the health and safety of the public were not affected.

## 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 7	— 0 2 0	— 0 0	0 3	OF	0 3

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

CORRECTIVE ACTIONS

- 1) A set screw was inserted in the actuator coupling block to secure the flow control valve stem within the block.
- 2) The power level of the unit was reduced from 100% to approximately 12% to permit transfer of the 4A SG feedwater flow control from FCV 4-478 to the bypass flow control valves. This facilitated the isolation and repair of FCV 4-478.
- 3) The actuator coupling block was replaced and FCV 4-478 was calibrated and tested as required by the Postmaintenance Testing procedure, AP-0190.28.
- 4) The actuator coupling blocks on the feedwater flow control valves for 4B and 4C SG's were inspected. The installed couplings have been evaluated by JPE and found to be satisfactory for continued use.

ADDITIONAL DETAILS

Manufacturer: Fisher Service Co., No. FFCCOL00096  
Similar Occurrences: none





AUGUST 27 1987

L-87-358  
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: 87-20  
Date of Event: July 28, 1987  
Unit 4 Power Reduction Due to Steam Generator 4A  
Feedwater Flow Control Valve (FCV 4-478) Actuator  
Stem Not Properly Engaged With the Control Valve Stem

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,

C. O. Woody  
Group Vice President  
Nuclear Energy

COW/SDF/gp

Attachment

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

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