

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8908160076 DOC. DATE: 89/08/09 NOTARIZED: NO DOCKET #
 FACIL: 50-251 Turkey Point Plant, Unit 4, Florida Power and Light 'C' 05000251
 AUTH. NAME AUTHOR AFFILIATION
 HERRIN, D.W. Florida Power & Light Co.
 WOODY, C.O. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-005-00: on 890628, 4A accumulator level Tech Spec not met due to wrong redundant level transmitter.

W/8 ltr.

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AUGUST 9 1989

L-89-282
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: 89-05
Date of Event: June 28, 1989
4A Accumulator Level Technical Specification
Not Met Due to Wrong Redundant Level
Transmitter Identified as Malfunctioning

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
Acting Senior Vice President - Nuclear

COW/JRH/cm

Attachment

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

8908140076 890809
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Turkey Point Unit 4										DOCKET NUMBER (2) 0 5 0 0 0 2 5 1 1					PAGE (3) 1 OF 0 4							
TITLE (4) 4A Accumulator Level Technical Specification Not Met Due to Wrong Redundant Level Transmitter Identified as Malfunctioning																						
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	28	8	9	—	0	0	5	—	0	0	8						0	5	0	0	0
OPERATING MODE (9) 1			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																			
POWER LEVEL (10) 0 5 2			20.402(b)			20.406(e)			50.73(a)(2)(iv)			73.71(b)										
			20.406(a)(1)(i)			50.34(a)(1)			50.73(a)(2)(v)			73.71(c)										
			20.406(a)(1)(ii)			50.34(a)(2)			50.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)										
			20.406(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(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)(x)													
LICENSEE CONTACT FOR THIS LER (12)																						
NAME Dennis W. Herrin, Regulation and Compliance Engineer										TELEPHONE NUMBER AREA CODE 3 0 5 2 4 6 - 6 7 4 9												
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																						
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS												
X	B	P	L	T	R	3	6	9	N													
SUPPLEMENTAL REPORT EXPECTED (14)																						
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO		EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR						

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

On July 11, 1989, it was determined that the Unit 4 Safety Injection Accumulator Level Technical Specification (TS) limits were exceeded during operation. TS 3.4.1.a.3 requires each accumulator to contain 875 - 891 cubic feet of water. TS 3.4.1.b.1 states that one accumulator may be taken out of service for four hours if TS 3.4.1.a.3 cannot be met. Due to the incorrect initial determination of which of two redundant accumulator level transmitters was indicating correctly using normal diagnostic techniques, the wrong level transmitter on 4A Accumulator was taken out of service for repair. During the time taken to determine that the wrong level transmitter was out of service, the 4A Accumulator actually exceeded the 891 cubic foot TS limit (6664 gallons) by a maximum value of 20.4 gallons for approximately nine hours and thirty-eight minutes. This condition was alarmed but considered invalid since it occurred on the channel out of service and the redundant channel indicated within normal limits. This event is within the bounds of an evaluation previously performed by Westinghouse which concluded that the health and safety of the public was not affected. Procedures now contain a maximum deviation value which will initiate an investigation to identify any malfunctions prior to exceeding any administrative or TS limits.

FACILITY NAME (1) Turkey Point Unit 4	DOCKET NUMBER (2) 0 5 0 0 0 2 5 1	LER NUMBER (6)			PAGE (3)		
		YEAR 8 9	SEQUENTIAL NUMBER 0 0 5	REVISION NUMBER 0 0			

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

Description of the Event

At 0905 on June 27, 1989, with Unit 4 in Mode 1 at 52% power, 4A Accumulator level transmitter LT-4-920 (EIIIS system BP, component LT) exceeded an administrative accumulator high level setpoint of 6628 gallons. With redundant level transmitter LT-4-922 indicating an accumulator level within a normal operating band, the decision was made to remove LT-4-920 from service. The Operations Department personnel made a qualitative assessment of which level transmitter was indicating correctly based on the reaction of the channels during accumulator filling operations and previous outleakage of water from the accumulator. Troubleshooting of the instrument loop thought to be in error commenced that afternoon and continued through the evening shifts.

At 0912 on June 28, 1989, with Unit 4 in Mode 1 at 52% power, a 4A Accumulator Hi-Hi level alarm was generated by LT-4-920. This alarm was acknowledged but considered to be invalid since LT-4-920 was out of service and redundant level transmitter LT-4-922 indication was within the normal operating band.

Continued testing on LT-4-920 revealed that the instrument reading was approximately five gallons higher than the actual accumulator level which did not account for the large deviation from LT-4-922 indication. At 1255 on June 29, 1989, LT-4-920 was declared in service, LT-4-922 was declared out of service, and 4A Accumulator level was adjusted to within its normal operating band based on LT-4-920 indication. Subsequent inspection of LT-4-922 revealed a faulty differential pressure cell. This accounted for most of the deviation in level indication between LT-4-920 and LT-4-922.

With exception of periods when maintenance was venting and calibrating the level transmitter, LT-4-920 indications were valid during the time it was declared out of service. On July 11, 1989, a review of LT-4-920 level indications obtained from the Emergency Response Data Acquisition Display System (ERDADS) for the period LT-4-920 was declared out of service indicated that 4A Accumulator level exceeded Technical Specification 3.4.1.a.3 high level specifications for approximately nine hours and thirty-eight minutes. This condition is prohibited by Technical Specification 3.4.1.b.1 which allows one accumulator to be declared out of service for four hours during operation if the conditions of Technical Specification 3.4.1.a.3 cannot be met.

Cause of the Event

The cause of this event was cognitive personnel error by a utility-licensed operator in that an incorrect initial determination was made as to which of the two redundant level transmitters was malfunctioning through the use of normal diagnostic techniques. During a previous Unit 4 startup, outleakage had been experienced on the 4A Accumulator. Therefore, it was concluded that the level transmitter which appeared to be trending lower was functioning properly and that the highest reading level transmitter was incorrect. Additionally, it was felt that the deviation between the level transmitters increased significantly during accumulator fill operations.

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

Analysis of the Event

On January 3, 1989, FPL submitted LER 50-250/88-30, "Instrument Loop Error and Installation Error Caused Accumulator Level Instrumentation Inability to Assure Technical Specification Limits Met." In Corrective Action No. 1, FPL made a commitment to investigate the conditions which existed on Turkey Point Unit 4 to determine the maximum accumulator level instrument inaccuracies and their safety significance. This investigation was completed by Westinghouse on May 16, 1989.

The Westinghouse investigation determined that Turkey Point Unit 4 accumulator water volumes could actually have been as much as 21.4 gallons greater than the maximum volume specified in the Technical Specifications (6664 gallons) or 45.2 gallons less than the Technical Specification minimum volume (6544 gallons). The identified accumulator level deviations were then evaluated for impact on the LOCA related accident analyses within the scope of Westinghouse Safeguards Analysis Technology (i.e., Large Break LOCA, Small Break LOCA, LOCA Hydraulic Forcing Function, Post-LOCA Long Term Core Cooling, Hot Leg Switchover to Prevent Potential Boron Precipitation, and Steam Generator Tube Rupture). The evaluations demonstrated that the results and conclusions of the LOCA related accident analyses used to license the current operation of Turkey Point Unit 4 would have remained valid for operation outside the Technical Specification band on accumulator water volume up to the limits specified above.

From 0912 to approximately 1850 on June 28, 1989, the 4A Accumulator level exceeded the Technical Specification high level specification of 6664 gallons by a maximum value of 20.4 gallons. Since this value is bounded by the Westinghouse evaluations identified above, it can be concluded that this condition had no affect on the health and safety of the public.

Corrective Actions

- 1) LT-4-922 has been replaced with a spare transmitter.
- 2) Procedures 3/4-OSP-201.1, "RCO Daily Logs," have been changed to include a maximum channel deviation value between redundant accumulator level transmitters. Exceeding this value will require that a Plant Work Order be generated to determine the reason for the channel deviation. These procedural enhancements will provide additional time to identify a malfunctioning accumulator level transmitter channel prior to exceeding a FPL administrative or Technical Specification accumulator level limit.
- 3) A standard policy will be developed and implemented for determining the operational status of instruments/indicators in two-channel systems when readings significantly differ from each other. This action will be completed by September 15, 1989.

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	0500025189	—	005	—00	04	OF 04

TEXT (If more space is required, use additional NRC Form 386A's) (17)

Additional Information

Although not similar, a related event was reported in LER 50-250/88-030.

