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FACIL:50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
AUTH.NAME AUTHOR AFFILIATION
MOWREY,C. Florida Power & Light Co.
CONWAY,W.F. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-009-00:on 890320,both channels of boric acid piping heat tracing inoperable.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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	AEOD/DSP/TPAB	1	1	AEOD/ROAB/DSP	2	2
	DEDRO	1	1	IRM/DCTS/DAB	1	1
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	NRR/DEST/ICSB 7	1	1	NRR/DEST/MEB 9H	1	1
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	NRR/DLPQ/HFB 10	1	1	NRR/DLPQ/QAB 10	1	1
	NRR/DOEA/EAB 11	1	1	NRR/DREP/RPB 10	2	2
	~~NRR/DRTS/~~SIB 9A	1	1	NUDOCS-ABSTRACT	1	1
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	RES/DSR/PRAB	1	1	RGN2 FILE 01	1	1
EXTERNAL:	EG&G WILLIAMS,S	4	4	FORD BLDG HOY,A	1	1
	L ST LOBBY WARD	1	1	LPDR	1	1
	NRC PDR	1	1	NSIC MAYS,G	1	1
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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Turkey Point Unit 3	0 5 0 0 0 2 5 0	1 OF 0 4

TITLE (4)
Both Channels of Boric Acid Piping Heat Tracing Inoperable

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 3	2 0	8 9	8 9	0 0 8	0 0	0 4	1 9	8 9	Turkey Point Unit 4	0 5 0 0 0 2 5 1
										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 7 4	20.402(b)	20.405(c)	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)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Craig Mowrey, Regulation and Compliance (ext. 2220)	AREA CODE 3 0 5 — 2 4 6 - 1 3 0 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
X	F E	C B L	C 3 3 2	N							

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 March 20, 1989, at 0115, with Unit 3 at 74% power, and Unit 4 in cold shutdown (Mode 5), Heat Trace Circuits 8A and 8B, on the suction lines of the boric acid transfer pumps, were declared out of service (OOS). Technical Specification (TS) 3.6.d.3 allows only one channel to be OOS for 24 hours. Because both channels were OOS, TS 3.0.1 was entered, which requires commencement of a unit shutdown within one hour. Since temperature returned to 145 degrees within 30 minutes, a unit shutdown was not required. The root cause of the event has not yet been determined. Four possible root causes have been identified and are under investigation. Two involve possible leaking valves; one involves a failure of a section of the heat trace circuit; one depends on cold water being drawn backward through an idle pump.

The two suspect isolation valves will be disassembled for inspection, and repaired as necessary. If this action is inconclusive, the piping and heat tracing circuit will be inspected using thermography techniques.

IE22

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

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

DESCRIPTION OF EVENT

On March 20,1989, at 0115, with Unit 3 at 74% power, and Unit 4 in cold shutdown (Mode 5), Heat Trace Circuit #8 (EIIS:FE) was declared out of service (OOS). This circuit supplies heat tracing from all three Boric Acid Storage Tanks (EIIS:CA, COMPONENT:TK) to all four Boric Acid Transfer Pumps (EIIS:CS, COMPONENT:P). The three tanks are shared between the two units, and each unit has two transfer pumps. The 4A transfer pump was OOS at the time. The 4B transfer pump was started, and Circuit #8 temperature, sensed by a thermocouple at the suction of the 4A pump, dropped from approximately 160 degrees Fahrenheit to approximately 129 degrees in approximately 5 minutes. When temperature dropped below 145 degrees, both channels of Heat Trace Circuit #8 were declared inoperable.

Since only one channel is allowed to be inoperable per Technical Specification (TS) 3.6.d.3, having both channels inoperable necessitates entry into TS 3.0.1, which requires commencement of a unit shutdown within one hour. At 0145, temperature had returned to 145 degrees, both channels of heat tracing were declared operable, and TS 3.0.1 was exited.

CAUSE OF EVENT

The cause of the event was the failure of Heat Trace Circuit #8 to maintain specified temperature as required by the basis for TS 3.6. The root cause of the failure to maintain temperature has not yet been determined. A drop of 30 degrees in 5 minutes is unexpectedly large since the piping and thermocouple are insulated. A drop of approximately 5 degrees is more common.

Four root causes have been postulated. First is the possibility that (relatively) cold water was drawn back into the suction header through the OOS 4A transfer pump. Investigation has thus far been inconclusive. Although the pump was OOS, its own heat trace circuit was apparently re-energized on March 18 following post-maintenance testing. This would have precluded the postulated cold water slug in the pump casing. A second and similar possibility is that cold water was drawn into the suction header from the Primary Water system (EIIS:KC) through a leaking isolation valve (394). A third possibility is that either of two isolation valves (394 or 398C) may have leaking diaphragms, allowing air inleakage around the stem into the suction header. The fourth possibility is that one or more sections of an individual heat trace circuit may be failed. A one-line drawing of the 4A and 4B transfer pumps, the C storage tank, and associated piping is attached for reference.

ANALYSIS OF EVENT

The event was initiated when the 4B transfer pump was started to recirculate the C Boric Acid Storage Tank. After temperature returned to normal, the recirculation was performed satisfactorily, and when the 4B pump was started this time, only the expected drop of 5 degrees was noted. All

three storage tank levels remained satisfactory, with tank temperatures of approximately 160 degrees. Power to both channels of Heat Trace Circuit #8 was verified. The unit remained stable in mode 1, and boration was not required. Based on the above, the health and safety of the public were not affected.

CORRECTIVE ACTIONS

1) The two isolation valves (394 and 398C) will be disassembled for inspection of their diaphragms, and repaired as necessary. This action will be completed by April 30, 1989.

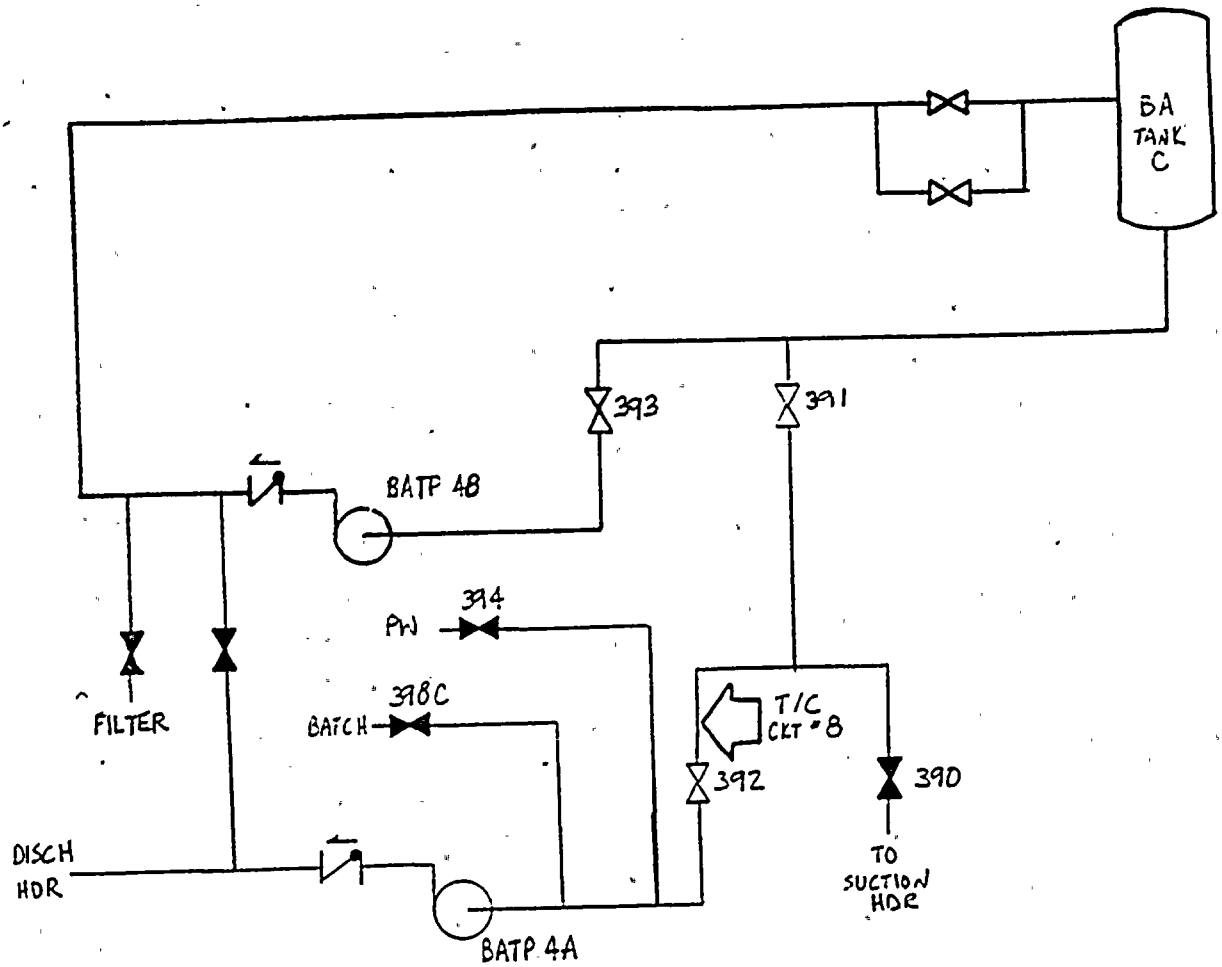
2) If Corrective Action (1) is inconclusive, thermography techniques will be applied to suspect areas of Circuit #8 and adjacent circuits, to determine if a particular section of a circuit is failed. Faulty sections will be repaired or replaced. This action will be completed by May 15, 1989.

ADDITIONAL INFORMATION

Similar occurrences: LERs 250-83-015, 251-82-014, 251-85-018, and 251-87-024. The two suspect isolation valves are manufactured by Grinnell-Saunders.

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

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



FPL

P.O. Box 14000, Juno Beach, FL 33408-0420

APRIL 1 9 1989

L-89-152
10 CFR 50.73

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Reportable Event: 250-89-08
Date of Event: March 20, 1989
Both Channels of Boric Acid Piping Heat Tracing Inoperable

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
for Senior Vice President - Nuclear

WFC/JRH/gp

Attachment

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