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 FACIL:50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
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 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-019-00:on 901003,critical heat tracing circuits
 inoperable due to inadequate work controls.W/901019 ltr.

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OCT 19 1990

L-90-372
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: 90-019
Date of Event: October 3, 1990
Technical Specification 3.0.1 Entry - Critical Heat Tracing
Circuits Inoperable Due To Inadequate Work Controls

The attached Licensee Event Report is being provided pursuant to the requirements of 10CFR50.73 to provide information on the subject event.

Very truly yours,

KN HARRIS by J. W. Pearce

K. N. Harris
Vice President
Turkey Point Nuclear Plant

KNH/DRP/dwh

Attachment

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

9011020001 901019
PDR ADDCK 05000250
S PNU

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Turkey Point Unit 3										DOCKET NUMBER (2) 0 5 0 0 0 2 5 0										PAGE (3) 1 OF 0 4																															
TITLE (4) Technical Specification 3.0.1. Entry - Critical Heat Tracing Circuits Inoperable Due To Inadequate Work Controls																																																			
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 Turkey Point Unit 4										DOCKET NUMBER(S) 0 5 0 0 0 2 5 1																							
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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)										60.73(a)(2)(iv)										73.71(b)																			
POWER LEVEL (10)		1 0 0										20.405(a)(1)(i)										50.36(c)(1)										60.73(a)(2)(v)										73.71(c)									
		20.405(a)(1)(ii)										50.36(c)(2)										X 60.73(a)(2)(vii)										OTHER (Specify in Abstract below and in Text, NRC Form 366A)																			
		20.405(a)(1)(iii)										X 60.73(a)(2)(i)										60.73(a)(2)(viii)(A)																													
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LICENSEE CONTACT FOR THIS LER (12)																																																			
NAME David R. Powell, Licensing Superintendent																		TELEPHONE NUMBER AREA CODE 3 0 5 2 4 6 - 6 5 5 9																																	
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																																									
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)

At approximately 0843, on October 3, 1990, with Units 3 and 4 in Mode 1 at 100 percent power, an alarm was received on Control Room annunciator X-7/6, "Heat Tracing Trouble." A Nuclear Operator was dispatched to the Auxiliary Building to investigate the cause for the alarm. At 0855 and at 0920, respectively, Control Room personnel were notified that Critical Heat Tracing (CHT) Circuit # 6, Unit 4 boric acid transfer pumps (BATPs) discharge to the boric acid filter, and CHT Circuit # 69, 3A BATP strip heater, were reading below 145 degrees F. Technical Specification (TS) 3.6 requires at least one channel of CHT for the flow path from the Boric Acid Storage Tanks (BASTs) to be operable during power operation. With CHT Circuits # 6 and # 69 reading below 145 degrees F, both channels of each circuit were considered to be inoperable. Units 3 and 4 entered TS 3.0.1 at 0920 and 0855, respectively. Temporary lagging on CHT Circuits # 6 and # 69 became wet during area decontamination operations. The cooling effect of the wet lagging did not permit the CHT circuits to maintain boric acid piping above 145 degrees F. The lagging became wet due to inadequate work controls. CHT Circuit # 6 and # 69 temperatures were stabilized above 145 degrees F. Units 3 and 4 exited TS 3.0.1 at 1015 and 1240, respectively. This event has been discussed with the Decon Shift Supervisor.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

DESCRIPTION OF THE EVENT

At approximately 0843, on October 3, 1990, with Unit 3 and Unit 4 in Mode 1 at 100 percent power, an alarm was received on Control Room annunciator X-7/6, "Heat Tracing Trouble." In accordance with Off-Normal Operating Procedure 0-ONOP-048, "Off-Normal Critical Heat Tracing System Temperature," a Nuclear Operator (NO) was dispatched to the Heat Tracing System recorders to determine which heat tracing circuit had an off-normal temperature or if the recorder was inoperable.

At 0855, the NO notified Control Room personnel that Critical Heat Tracing (CHT) (EIIS:FE) Circuit # 6, Unit 4 Boric Acid Transfer Pumps (BATPs) discharge to the boric acid filter, was reading below 145 degrees Fahrenheit (F). At 0920, Control Room personnel were notified that CHT Circuit # 69, 3A BATP strip heater, was reading below 145 degrees F.

Technical Specification (TS) 3.6 requires two channels of heat tracing for the flow path from the boric acid storage tanks (BASTs) to be operable during power operation. One channel of heat tracing for the flow path from the BASTs may be inoperable for 24 hours during power operation. TS 3.6 does not contain a Limiting Condition for Operation addressing inoperability of two channels of heat tracing for the flow path from the BASTs. With CHT Circuits #6 and #69 reading below 145 degrees F, both channels of each circuit were considered to be inoperable. Unit 3 and Unit 4 entered TS 3.0.1 at 0920 and 0855, respectively.

The 3A BATP was aligned to recirculate the A BAST in an effort to increase boric acid piping temperature and prevent boric acid from precipitating. At 1015, CHT Circuit # 69 temperature stabilized above 145 degrees F without the A BAST being on recirculation and both channels of CHT Circuit # 69 were declared operable. No boric acid piping flow blockage occurred from boric acid precipitation. Unit 3 exited TS 3.0.1 at this time.

The 4A and 4B BATPs were alternately aligned to recirculate the C BAST in an effort to increase boric acid piping temperature and prevent boric acid from precipitating. Wet insulation covering CHT Circuit # 6 was replaced. At 1240, CHT Circuit # 6 temperature stabilized above 145 degrees F without the C BAST being on recirculation and both channels of CHT Circuit # 6 were declared operable. No boric acid piping flow blockage occurred from boric acid precipitation. Unit 4 exited TS 3.0.1 at this time.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

CAUSE OF THE EVENT

On October 3, 1990, decontamination personnel were cleaning the BAST room using water hoses as directed by the Decontamination (Decon) Shift Supervisor. Actions were taken prior to the decontamination work to protect components from water spray but temporary lagging on heat tracing circuits was not protected. The temporary lagging on critical heat tracing circuits became wet. The cooling effect of the wet lagging did not permit CHT Circuits # 6 and # 69 to maintain boric acid flow path piping temperatures above 145 degrees F. Both channels of each CHT circuit remained energized during this event.

The cause for the lagging on CHT Circuits # 6 and # 69 becoming wet was inadequate work controls. Operating Procedure (OP) 11550.71, "Decontamination of Tools, Equipment and Areas," allows the use of water hoses for decontaminating areas of the Auxiliary Building which have adequate drainage. However, procedure OP 11550.71 does not contain adequate guidance for ensuring equipment that may be damaged by water is identified prior to area decontamination operations. The Decon Shift Supervisor makes this determination based on individual work experience but has not received formal training for this task.

ANALYSIS OF THE EVENT

No credit is taken for the concentrated boric acid contained in the Boric Acid Storage Tanks (BASTs) in any of the Design Basis Accidents described in the Turkey Point Final Safety Analysis Report. The most severe anticipated cooldown transient is a main steam line break (MSLB) accident. The steam release arising from a rupture of a main steam line would result in an initial increase in steam flow which decreases during the accident as the steam pressure falls. The energy removal from the Reactor Coolant System causes a reduction of coolant temperature and pressure. In the presence of a negative moderator temperature coefficient, the cooldown results in an insertion of positive reactivity. If the most reactive rod control cluster is assumed stuck in its fully withdrawn position after reactor trip, there is an increased possibility that the core will become critical and return to power. The core is ultimately shut down by the boric acid delivered by the safety injection system from the Refueling Water Storage Tank. A Westinghouse analysis demonstrates that no core damage will occur during cooldown under the above conditions.

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

The BASTs and the Boric Acid Transfer Pumps (BATPs) provide a source of concentrated boric acid to be added to the RCS to offset reactivity changes caused by normal plant operating transients, changes in power level, and in order to attain and maintain cold shutdown conditions. (Note: For Turkey Point Units 3 and 4, safe shutdown is hot shutdown.) An additional means of providing borated water is from the RWST through the charging pumps to the RCS. These flow paths (RWST to the charging pumps and to the safety injection pumps) were available throughout the event.

CORRECTIVE ACTIONS

1. The 3A BATP was aligned to recirculate the A BAST. CHT Circuit # 69 temperature stabilized above 145 degrees F without the A BAST being on recirculation and both channels of CHT Circuit # 69 were declared operable.
2. The 4A and 4B BATPs were alternately aligned to recirculate the C BAST. Wet insulation covering CHT Circuit # 6 was replaced. CHT Circuit # 6 temperature stabilized above 145 degrees F without the C BAST being on recirculation and both channels of CHT Circuit # 6 were declared operable.
3. This event has been discussed with the Decon Shift Supervisor. As a result of this discussion, the Decon Shift Supervisor has been instructed to contact Control Room personnel for assistance in determining what equipment may be damaged by water prior to using water hoses for decontamination operations within the power block.
4. Health Physics Surveillance procedure 0-HPS-096.1, "Decontamination of Tools, Equipment and Areas," is currently being drafted and will replace procedure OP 11550.71. This new procedure will include the Decon Shift Supervisor responsibility identified in Item 3 above. Procedure 0-HPS-096.1 will be issued by January 15, 1991.

ADDITIONAL INFORMATION

A loss of CHT event was described in Licensee Event Report 50-250/89-09. However, that event does not share the same root cause as this event.