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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-013-00:on 890617,calibr during startup surveillance testing results in unexpected ESF actuation.

W/8 ltr.

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July 17, 1989

United States Nuclear Regulatory Commission
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Operating License DPR-74
Docket No. 50-316

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Reporting System, the following report is being submitted:

89-013-00

Sincerely,

W. G. Smith, Jr.
Plant Manager

WGS:clw

Attachment

cc: D.H. Williams, Jr.
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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)
D. C. COOK NUCLEAR PLANT - UNIT 2	0 5 0 0 0 3 1 6	1 OF 0 3

TITLE (4) CALIBRATION DURING START-UP SURVEILLANCE TESTING RESULTS IN UNEXPECTED ENGINEERED SAFETY FEATURES ACTUATION DUE TO INADEQUATE SHIFT TURNOVER

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	1 7	8 9	8 9	0 1 3	0 0	0 7	1 7	8 9		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	X 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)	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
T. P. BEILMAN INSTRUMENTATION AND CONTROL DEPARTMENT SUPERINTENDENT	AREA CODE 6 1 6 4 6 5 - 5 9 0 1

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	

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 June 17, 1989 at 2232 hours, the Unit Two Reactor Trip breakers opened when an unexpected Engineered Safety Features signal initiated from the Set I, Intermediate Range (IR) Nuclear Instrumentation Channel, High Nuclear Flux.

Prior to the event, the unit was in Mode 4 with preparations being made for startup. First shift Instrumentation and Control (I&C) technicians began performing the startup surveillance procedure and removed the block of the High Nuclear Flux trip signal. Operators ensured that the Reactor Trip Breakers were open prior to the test. During testing, the IR bistable setpoints were found beyond the procedural specifications. While the calibration procedure was being obtained for use, operators closed the reactor trip breakers in preparation for testing of the Main Turbine Stop Valves. When the second shift technicians returned to begin calibration, they incorrectly informed the operators that a trip signal would not occur. Had the technicians realized that the trip would occur, they would have waited to perform the calibration until after the trip breakers had been reopened.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
D. C. COOK NUCLEAR PLANT - UNIT 2	0 5 0 0 0 3 1 6	8 9	— 0 1 3	— 0 0	0 2 OF 0 3

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

Conditions Prior To Occurrence

Unit Two in Mode 4 (Hot Shutdown) prior to start up.

Description of Event

On June 17, 1989 at 1315 hours, Instrumentation and Control (I&C) technicians began performing surveillance test procedure STP.180 "Instrument Checks Prior to Start-Up." As part of this test procedure, the High Nuclear Flux Trip Block is defeated, by lifting wires, in order to allow the trip signal through the Solid State Protection System (EIIS-JC). The procedure informs personnel that the trip signal will occur. Operators ensured that the Reactor Trip Breakers (EIIS-JC/BKR) were open prior to testing. During testing, the Set I, Intermediate Range Nuclear Instrumentation bistables (EIIS-IG/RIS) were found out of specification. Procedural requirements prompted the technicians to exit STP.180 and return to the shop to obtain a second procedure, "Intermediate Range Calibration," IMP.230.

In the meantime, a shift change occurred for operators and technicians. The second shift of operators began testing of the Main Turbine Stop Valves (EIIS-TA/XCV) and closed the Reactor Trip Breakers for interlock purposes at 1923 hours. When the second shift of technicians arrived in the control room to begin the bistable adjustments, the operators asked if a reactor trip signal would be generated as a result of the bistable adjustments. The second shift technicians referred to the procedure they intended to perform, IMP.230, which did not defeat the block of the High Nuclear Flux trip signal and, therefore, did not require notification to the control room operators of the trip signal. As a result, the technicians incorrectly replied that a trip signal would not be generated. Permission was therefore granted to perform IMP.230.

Performing the calibration involved raising the simulated test input signal above the High Nuclear Flux trip setpoint. This signal is normally blocked during the calibration procedure when the level trip mode switch is placed in the BYPASS position. However, since the wires remained lifted due to the in process surveillance procedure, the trip signal was not blocked at the Solid State Protection System. The signal initiated the unexpected reactor trip signal and the opening of the Reactor Trip Breakers at 2232 hours, according to the logic of 1/2 Intermediate Range Nuclear Instrumentation channels indicating a High Nuclear Flux (current equivalent of approximately 25 percent of rated thermal power).

The Nuclear Regulatory Commission was notified of the event via the Emergency Notification System on June 18, 1989 at 0006 hours.

There were no inoperative structures, components, or systems that contributed to this event.

Cause of the Event

Incomplete turnover/research of status when job was taken over.. Also incomplete research when the operator questioned whether or not a trip signal would occur.

Analysis of Event

This report is being submitted under 10 CFR 50.73 (a)(2)(iv) as an event that resulted in an unplanned automatic actuation of an Engineering Safety Feature including the Reactor Protection System.

The automatic reactor protection system responses, including opening of the reactor trip breakers and associated actuations, were verified to have functioned properly. Based on the above, it is concluded that the event did not constitute an unreviewed safety question as defined in 10 CFR 50.59 (a)(2) nor did it adversely impact the health and safety of the public.

Corrective Action

Immediate corrective action involved Operations personnel implementing plant procedures to verify proper response of the automatic protection system and to assess plant conditions for initiation of appropriate recovery actions.

This event and the importance of complete turnover will be stressed during the next scheduled I&C technician training meetings.

Failed Component Identification

None.

Previous Similar Events

None.