

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
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August 4, 1989
IP3-89-055


Docket No. 50-286
License No. DPR-64

Document Control Desk
Mail Station PI-137
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

The attached Licensee Event Report LER 89-012-00 is hereby submitted in accordance with the requirements of 10CFR50.73. This event is of the type defined in the requirements per 10CFR50.73(a)(2)(i).

Very truly yours,


William A. Josiger
Resident Manager
Indian Point Three Nuclear Power Plant

WB/rj
Attachment

cc: Mr. William Russell
Regional Administrator
Region 1
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Indian Point, Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 8 6	PAGE (3) 1 OF 0 4
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TITLE (4)
CROSSWIRING OF A HOT LEG AND COLD LEG CHANNEL TEST SWITCH DURING A MODIFICATION

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)																																																				
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (9)</td> <td colspan="11">THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)</td> </tr> <tr> <td rowspan="6">POWER LEVEL (10) 0 2 5</td> <td>20.402(b)</td> <td></td> <td>20.405(c)</td> <td></td> <td>50.73(a)(2)(iv)</td> <td></td> <td>73.71(b)</td> </tr> <tr> <td>20.405(a)(1)(i)</td> <td></td> <td>50.38(c)(1)</td> <td></td> <td>50.73(a)(2)(v)</td> <td></td> <td>73.71(c)</td> </tr> <tr> <td>20.405(a)(1)(ii)</td> <td></td> <td>50.38(c)(2)</td> <td></td> <td>50.73(a)(2)(vii)</td> <td></td> <td rowspan="4">OTHER (Specify in Abstract below and in Text, NRC Form 366A)</td> </tr> <tr> <td>20.405(a)(1)(iii)</td> <td></td> <td>50.73(a)(2)(i)</td> <td>X</td> <td>50.73(a)(2)(viii)(A)</td> <td></td> </tr> <tr> <td>20.405(a)(1)(iv)</td> <td></td> <td>50.73(a)(2)(ii)</td> <td></td> <td>50.73(a)(2)(viii)(B)</td> <td></td> </tr> <tr> <td>20.405(a)(1)(v)</td> <td></td> <td>50.73(a)(2)(iii)</td> <td></td> <td>50.73(a)(2)(x)</td> <td></td> </tr> </table>												OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											POWER LEVEL (10) 0 2 5	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	20.405(a)(1)(i)		50.38(c)(1)		50.73(a)(2)(v)		73.71(c)	20.405(a)(1)(ii)		50.38(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)	X	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)	
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LICENSEE CONTACT FOR THIS LER (12)

NAME William Booth	TELEPHONE NUMBER
	AREA CODE 9 1 4 7 3 1 6 8 1 0 4 6

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)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) 10/31/89	<input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On June 24, 1989 at 1400 hours while commencing load escalation from twenty-five percent reactor power, control room operators observed 34 loop delta temperature indication reading low and 34 loop average reactor coolant temperature reading approximately three (3) degrees higher than normal. The Instrument and Control Department inspected the loop 34 instrumentation panel and found one hot leg temperature channel test switch and the cold leg temperature channel test switch cross-wired. The wires were reconnected to the correct switches and the instruments were returned to normal operation. The root causes for this event are identified as several personnel errors. These errors include inadequate installation workmanship, inadequately performed post installation testing and inadequate quality control. Since this event is one of several involving similar occurrences, an addendum to this LER will be submitted by October 31, 1989. The addendum will detail an evaluation of the equipment installation process and any resultant corrective actions. The specific corrective actions for this event include reemphasizing to Quality Control and Maintenance personnel the importance of correctly conducting post maintenance testing and independent quality control inspections.

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

DESCRIPTION OF THE EVENT

On June 24, 1989 at 1400 hours, while commencing load escalation from twenty-five percent reactor power, control room operators observed a low delta T (average hot leg temperature minus cold leg temperature) and a slightly higher than normal average reactor coolant temperature (approximately three degrees) for loop 34.

Instrumentation and Controls (I&C) personnel conducted troubleshooting of loop 34 hot and cold leg temperature instrumentation and found that one of three hot leg test switches (TS-441A3) and the cold leg test switch (TS-441B) for loop 34 were cross-wired. I&C personnel reconnected the wires correctly and restored loop 34 temperature indication to normal.

INVESTIGATION OF THE EVENT

Indian Point 3 (IP3) had just completed a modification which involved removing the resistance temperature detector bypass manifold system and installing a new thermal well RTD system for Reactor Coolant System (RCS) temperature (T) monitoring and protection. This modification included all mechanical and electrical rewiring necessary to install the new system. The portions of the maintenance work request that detailed the electrical work, specifically the terminating of the T-hot and T-cold terminal blocks (TB) and test switches, were initialed and verified by the maintenance contractor foreman and contractor Quality Control technician as having been properly terminated on April 19, 1989. The maintenance work request required a point-to-point continuity check of every termination after each panel was completed, including the connections described in this event. Had these point-to-point continuity checks been correctly performed, this event would not have occurred. The reactor was in cold shutdown at this time while the plant was conducting the cycle 6/7 refueling and steam generator replacement outage. Criticality was achieved on June 22, 1989.

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

Since this problem was not identified until June 24, the plant operated for two days outside the confines of Technical Specifications with less than the specified minimum degree of redundancy for the Over Power delta T and Over Temperature delta T protective functions .

CAUSE OF THE EVENT

The root cause of this event is identified as an inadequately performed modification installation in that:

1. The continuity checks of the connections described were less than adequate, and
2. The Quality Control of both the termination work and the post installation continuity checks were less than adequate, and
3. Workmanship with respect to installation of the wires was less than adequate.

CORRECTIVE ACTIONS

The following is a summary of corrective actions undertaken as a result of this event:

1. The Maintenance Department supervision will emphasize to maintenance personnel the importance of correctly conducting post-maintenance tests in accordance with maintenance procedures.
2. Quality Control supervision will emphasize to QC inspectors the significance of conducting accurate, independent surveillance of work that is under their purview.
3. Evaluate occurrences similar to the event described herein with regard to equipment installation and post installation testing, and develop additional corrective actions to prevent recurrence.

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ANALYSIS OF THE EVENT

This event is reportable under 10CFR50.73.(a)(2)(i)(B), any operation or condition prohibited by the plant's Technical Specifications. The plant operated for two days with less than the minimum degree of redundancy listed in table 3.5-2 as required by Technical Specification 3.5.3. Two delta T signals are required to initiate Over Power or Over Temperature protective functions. Even though loop 34 delta T was inoperable, the remaining three loop delta signals were available throughout the time period of concern. If a condition requiring a trip would have occurred, sufficient operable channels were available to initiate an automatic trip, and so the plant was not operating in an unanalyzed condition.

SECURING FROM THE EVENT

Following identification of the cross-wiring problem, the loop 34 temperature instruments were returned to normal on June 24 and plant operations continued.