

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Limerick Generating Station - Unit 1

DOCKET NUMBER (2): 0 5 0 0 0 | 3 5 2 | 1 OF 0 5

TITLE (4): Technical Specification Requirements Missed Due to Personnel Error

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 NAME(S)	DOCKET NUMBER(S)
01	05	88	88	001		01	02	88		0 5 0 0 0

OPERATING MODE (9): 1

POWER LEVEL (10): 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 18 CFR § (Check one or more of the following) (11)

<input type="checkbox"/> 88.402(d)	<input type="checkbox"/> 88.408(a)	<input type="checkbox"/> 88.736(a)(2)(iv)	<input type="checkbox"/> 72.71(b)
<input type="checkbox"/> 88.408(a)(1)(ii)	<input type="checkbox"/> 88.366(a)(1)	<input type="checkbox"/> 88.736(a)(2)(iv)	<input type="checkbox"/> 72.71(c)
<input type="checkbox"/> 88.408(a)(1)(iii)	<input type="checkbox"/> 88.366(a)(2)	<input type="checkbox"/> 88.736(a)(2)(v)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 308A)
<input type="checkbox"/> 88.408(a)(1)(iv)	<input checked="" type="checkbox"/> 88.736(a)(2)(ii)	<input type="checkbox"/> 88.736(a)(2)(vi)(A)	
<input type="checkbox"/> 88.408(a)(1)(v)	<input type="checkbox"/> 88.736(a)(2)(iii)	<input type="checkbox"/> 88.736(a)(2)(vi)(B)	
<input type="checkbox"/> 88.408(a)(1)(vi)	<input type="checkbox"/> 88.736(a)(2)(iv)	<input type="checkbox"/> 88.736(a)(2)(v)	

LICENSEE CONTACT FOR THIS LER (12):

NAME: Charles A. Mengers, Senior Engineer, Licensing Section

TELEPHONE NUMBER: 215 841-5184

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):

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15):

MONTH	DAY	YEAR

ABSTRACT (Limit to 1,000 words, i.e., approximately fifteen single-spaced typewritten lines) (16)

Abstract: 88-001

On January 6, 1988, the requirement of Technical Specification 3.3.2.b was not met. During a review of surveillance test ST-6-107-590-1 "Daily Surveillance Log" it was noticed that a Reactor Core Isolation Cooling (RCIC) system pipe-routing area temperature reading was deviating from previous shift readings. Subsequent investigation revealed that during the performance of an ST the thermocouple leads were inadvertently reversed. This condition went undetected during the performance of the Independent Verification of Restoration portion of the ST. Additionally, Operations personnel recognized the abnormally low temperature indication but attributed the reading to extreme cold weather. There were no adverse consequences and no release of radioactive material as a result of this event. Had a steam leak occurred in the RCIC pipe-routing area with the subject thermocouple leads reversed the isolation logic would still serve its design function due to the presence of an alternate trip system containing a redundant thermocouple. The thermocouple leads were properly relanded at 1600 hours on January 6, 1988 and indication was verified to reflect current plant conditions. The technicians involved were counseled as to their error and discussion of this event will be included in annual technician training. Shift Operations personnel have received a memo detailing this LER and the requirement to notify Shift Supervision of inconsistent channel readings.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 288A-2 (1/77)

Unit Conditions Prior to the Event:

Operating Mode: 1 (Power Operation)

Reactor Power: 100%

Description of the Event:

On January 6, 1988, it was discovered that an incorrectly connected thermocouple resulted in a condition which did not meet the requirements of Technical Specification 3.3.2.b which states, "With the number of OPERABLE channels less than required by the minimum OPERABLE channels per Trip System requirement for one trip system, place the inoperable channel(s) and/or that trip system in the tripped condition within 1 hour."

During a review of surveillance test ST-6-107-590-1 "Daily Surveillance Log" it was noticed that a Reactor Core Isolation Cooling (RCIC) system pipe-routing area temperature reading was deviating from previous shift readings. Specifically, the day shift (X) reading on January 5, 1988 was 84 degrees F while the afternoon (Y) shift and the night (Z) shift readings were both 54 degrees F.

The January 6, 1988 X-shift Instrument and Controls group was notified of the problem and requested to investigate the cause. While troubleshooting, it was discovered that the leads to a RCIC pipe-routing area high temperature thermocouple (TIS-049-1N603J) had been reversed. This incorrect wiring hookup had resulted in the inconsistent temperature readings and rendered thermocouple TIS-049-1N603J inoperable.

Consequences of the Event:

There were no adverse consequences as a result of this event. There was no release of radioactive material as a result of this event. Had a steam leak occurred in the RCIC pipe-routing area with the thermocouple disabled due to reversed leads, the RCIC steam supply isolation valve would have closed and performed its design function due to redundancy of the temperature detection in this area. The isolation actuation instrumentation for this system consists of two trip systems. Thermocouple TIS-049-1N603L

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

NRC Form 2054
(7-83)

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)	
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Limerick Generating Station Unit 1	0 6 0 0 0 3 5 2	8 8	- 0 1 0 1	- 0 1 0	0 1 3	0 1 0 5

TEXT IS MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 2054 a) (17)

is located six feet from thermocouple TIS-049-1N603J and is on the alternate trip system. The RCIC isolation logic is a one out of one logic, therefore the RCIC steam supply isolation valve would close on a high temperature signal from the redundant thermocouple TIS-049-1N603L.

Cause of the Event:

The immediate cause of this event was the incorrect reconnection of the thermocouple, which had apparently occurred when contractor employed Instrument and Control technicians performed surveillance test ST-2-049-613-1, "Nuclear Steam Supply Shutoff System - RCIC Equipment Room Temperature Division I Functional Test." This ST was completed at approximately 0950 hours on January 5, 1988. During the performance of this surveillance test it is believed that the thermocouple leads were inadvertently reversed on reconnection. This was not discovered during the Independent Verification of Restoration (IVOR) portion of the surveillance test. The IVOR consists of a sign-off space verifying that the field wires have been properly reconnected following the performance of the surveillance test. Although the IVOR provides wire tag numbers and the terminal numbers to which they are to be attached, the contractor employed Instrument and Control technician performing the IVOR failed to recognize the incorrect reconnection of the field wires.

Operations personnel performing channel checks for this instrument during performance of ST-6-107-590-1 "Daily Surveillance Log" during Y and Z shifts on January 5, 1988 recognized the abnormally low temperature indication but attributed the reading to extreme cold weather.

Corrective Actions:

Operations personnel suspected the deviation in the temperature reading might be a problem during the review of ST-6-107-590-1, "Daily Surveillance Log" at the beginning of X-Shift on January 6, 1988. Instrument and Control personnel were notified of the problem on X-shift, January 6, 1988. Following an investigation to determine the cause of the problem the thermocouple leads were properly connected at 1600 hours on January 6, 1988 and indication was verified to reflect current plant conditions. The incorrect wiring condition existed for approximately 30 hours.

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TEXT IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 200A (1-83)

Action Taken to Prevent Recurrence:

The event was discussed at the "All Hands" meeting of the I&C technicians on January 15, 1988. The personnel were reminded of the importance of accurate performance of the independent verification program and the attention to detail requirements involved in the surveillance test program. The technicians involved were counseled as to their error and the importance of properly verifying the reconnection of leads when removed for testing.

A memo has been sent from the Assistant Superintendent Operation to Shift Personnel detailing this LER. When performing channel checks, inconsistent channel readings shall be highlighted and Shift Supervision notified.

The ST and Independent Verification of Restoration (IVOR) programs are part of the technician continuing training program. The technician yearly procedure refresher class will specifically address this event. All technicians are scheduled for the class in the first quarter of 1988.

The following Human Factors Enhancements will be added to the specific type of surveillance test involved by June 1, 1988 as follows:

- 1) The IVOR section of the ST will be formatted in such a way that the sequence of verification is consistent with the physical terminal locations in the panel.
- 2) Wire colors will be mentioned throughout the body and the IVOR section of the ST. This will provide an additional means of identifying the field wires throughout the test.

The process of lifting leads during surveillance testing is being evaluated by the Nuclear Engineering Department. Modification No. 790 is evaluating the possibility of installing switches to obviate the need to lift leads on this test during routine surveillance testing.

EIIS Codes:

- BN - Reactor Core Isolation Cooling System
- TW - Thermocouple

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(TEXT OF EVENT REPORT IS REPRODUCED WITH ADDITIONAL NRC FORM 205A 2/1/77)

Previous Similar Occurrences:

LGS LER 85-019 reports reversed thermocouple wires for the High Pressure Coolant Injection System turbine steam supply outboard isolation valve.

Tracking Codes: A, Personnel Error

Faint handwritten text, possibly "FACILITY NAME"

PHILADELPHIA ELECTRIC COMPANY

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February 8, 1988

Docket No. 50-352

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

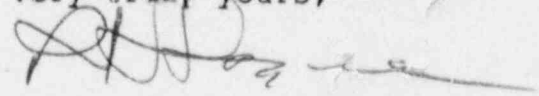
SUBJECT: Licensee Event Report
Limerick Generating Station - Unit 1

This LER reports the failure to meet Technical Specification requirements of the Reactor Core Isolation Cooling System due to personnel error.

Reference: Docket No. 50-352
Report Number: 88-001
Revision Number: 00
Event Date: January 5, 1988
Discovery Date: January 6, 1988
Report Date: February 8, 1988
Facility: Limerick Generating Station
P.O. Box A, Sanatoga, PA 19464

This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i)(B). We regret the delayed submittal of this LER and any inconvenience that it may have caused.

Very truly yours,


R. H. Logue
Assistant to the Manager
Nuclear Support Division

cc: W. T. Russell, Administrator, Region I, USNRC
E. M. Kelly, Senior Resident Inspector

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