

APPROVED OMB NO. 2180-0104
EXPIRES - 9/31/95

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) Limerick Generating Station Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 5 2 8 5	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 1 9	0 0	0 2	OF	0 4	

TEXT (if more space is required, use additional NRC Form 366A (1))

Description of the Event:

On January 28, 1985, with Unit 1 operating at 3.5 percent power in the startup mode, a plant operator recording channel checks during the performance of Surveillance Test ST-6-107-590-1, "DAILY SURVEILLANCE LOG/OPCONS 1, 2, 3", observed a low (zero degree) differential temperature reading during the channel check of the HPCI Room differential temperature switch TDTS-55-1N601B.

A Maintenance Request Form (MRF) was generated to investigate the temperature switch. Investigation on January 29, 1985, with Unit 1 still operating at 3.5 percent power, revealed that the thermocouple field wires were reversed at the terminals on the temperature switch, therefore, precluding its ability to generate a signal to close the HPCI turbine steam supply outboard isolation valve on a high differential temperature between the room supply and exhaust ventilation ducts in the HPCI equipment room. Both the inboard and outboard HPCI steam supply isolation valves were immediately manually closed and HPCI declared inoperable. The unit continued to operate because the other required ECCS systems were operable.

A functional test of the temperature switch, "NSSSS-HPCI Equipment Room Temperature Division 2 Functional Test", ST-2-055-611-1, determined that the problem was caused by a reversed pair of unlabeled wires from the thermocouple to the Temperature Switch TDTS-55-1N601B terminals.

The wires were labeled and connected to their correct terminals. The functional test for this temperature switch was satisfactorily performed and the switch declared operable. The HPCI steam supply isolation valves were opened and HPCI returned to service at 0336 hours January 30, 1985.

A review of the results of the daily channel checks for this switch from the date of initial criticality (December 22, 1984) to January 28, 1985 was performed to determine the length of time the wires had been reversed.

Based on this review, we have postulated that the wires may have been reversed prior to January 1, 1985.

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FACILITY NAME (1) Limerick Generating Station Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 5 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 5	0 1 9	0 0	0 3	OF	0 4

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Consequences of the Event:

Temperature switch TDTS-55-1N601B generates a signal to close the HPCI turbine steam supply outboard isolation valve in the event of a measured high differential temperature between the room supply and exhaust ventilation ducts in the HPCI equipment room. Reversal of the thermocouple wires for TDTS-55-1N601B prevented the temperature switch from closing the HPCI outboard isolation valve, HV-55-1F003, upon a measured differential temperature of eighty degrees Fahrenheit between the room supply and exhaust ventilation ducts of the HPCI Equipment Room. Isolation capability was still provided by temperature switch TDTS-55-1N601D which would have generated a signal to close HPCI steam supply line by signaling the inboard isolation valve HV-55-1F002 to close under these conditions.

Cause of the Event:

The event was caused by leads reversed from field thermocouple wires to the temperature switch TDTS-55-1N601B terminals.

Investigation of the event determined that the improperly wired field thermocouple wires were not labeled. The failure to properly label these wires contributed to the event because the functional test for this temperature switch requires lifting of both these wires.

Comparison of the results of the differential temperature reading during the daily channel checks of temperature switch TDTS-55-1N601B verses the differential temperature reading during the daily channel checks of temperature switch TDTS-55-1N601D, which also measures and displays HPCI Room differential temperature, revealed recorded differences of up to twenty-seven degrees Fahrenheit. Although the surveillance test "DAILY SURVEILLANCE LOG/OPCONS 1, 2, 3," provides the guidance that instruments reading the same plant parameter shall be in close agreement, the brief period of record of channel checks of these temperature switches during power operation did not provide operations staff with sufficient information to determine what constitutes "close agreement."

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TEXT (if more space is required, use additional NRC Form 366A (17))

Corrective Actions:

The wires were labeled and properly connected to the temperature switch terminals and a functional test for this temperature switch performed to verify operability. An additional action taken in response to this event was to review and verify that all other thermocouple wires for the other NSSSS differential temperature switches are clearly labeled. This additional action was completed by February 6, 1985.

Furthermore, the procedure portion of daily Surveillance Test ST-6-107-590-1 will be enhanced to describe how to recognize discrepancies when recording channel check readings. The Limerick Training Coordinator will include this particular event in the operators monthly reading list for the purpose of identifying the importance of recognizing discrepancies during performance of channel checks.

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March 11, 1985

Docket No. 50-352

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Washington, DC 20555

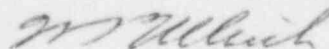
SUBJECT: Licensee Event Report
Limerick Generating Station - Unit 1

This LER concerns the discovery of an inoperable HPCI Room differential temperature switch.

Reference:	Docket No. 50-352
Report Number:	85-019
Revision Number:	00
Event Date:	January 29, 1985
Report Date:	March 11, 1985
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). We regret the late submission date of the LER. The delay in the reporting of this LER was due to the time required to determine and initiate an appropriate long-term corrective action.

Very truly yours,



W. T. Ullrich
Superintendent
Nuclear Generation Division

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J. T. Wiggins, Senior Site Inspector
See Service List

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January 16, 1985