NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104

LICENSEE EVENT REPORT (LER)

EXPIRES: 8/31/88

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NRC Form 388 (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OM8 NO. 3150-0104 EXPIRES: 8/31/88

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On September 14, 1987 at approximately 1355, a main steam [SB] drain line inboard isolation valve closed unexpectedly due to a Nuclear Steam Supply Shutoff System (NSSSS) [JM] isolation signal during the performance of a Leak Detection (LD) [IJ] system Surveillance Instruction (SVI). At the time of the event, the plant was in Operational Condition 1 (Power Operation) with reactor power approximately 85 percent of rated. Reactor vessel [RPV] pressure was approximately 990 psig.

On September 14 at 1318, plant Instrument & Controls technicians started the performance of SVI-E31-T5311B, "Turbine Building Main Steam Line Temperature High Channel Functional for 1E31-N351B & 1E31-N351C." At 1450 during a walkdown of Control Room panels, a control room operator discovered that 1B21-F0016, the inboard main steam drain line isolation valve had gone closed. A review of available data revealed that the valve had closed at approximately 1355. Plant operators verified that no valid NSSSS isolation signal existed and opened the isolation valve at 1510.

The cause of the closure of the main steam drain line inboard isolation valve is suspected to be due to a bad connection in the channel C NSSSS isolation logic. The channel C NSSSS isolation logic is in parallel with the B NSSSS isolation logic (tested during SVI-E31-T5311B), providing power to the isolation relay for the valve. It is believed that the C NSSSS isolation logic was open due to the bad connection. Therefore, when the B NSSSS isolation logic was tested as required by the SVI, the isolation relay was de-energized causing closure of the valve. Subsequent troubleshooting identified a faulty contact in a relay [RLY] (Manufacturer: Amerace Corporation, Model: EGPI) in the C NSSSS logic, however failure of this contact would not have resulted in the isolation. Re-performance of the SVI after the relay replacement was conducted satisfactorily. In addition, a physical verification of the wiring in the affected portion of the NSSSS C logic was performed to ensure no loose or damaged connections exist.

A previous similar event occurred on May 30, 1987 during the performance of SVI-E31-T0079B, "Main Steam Line Tunnel Temperature High Channel Calibration" (See LER 87-039). The cause for that event was also suspected to be a bad connection in the channel C NSSSS isolation logic. Troubleshooting of that event could not duplicate the valve isolation nor confirm existence of the bad connection. The logic circuitry has been tested satisfactorily several times since the May 30 event during the performance of surveillance instructions.

The drain line isolation valve provides a containment isolation mechanism to the flow path for condensation from areas upstream of the inboard Main Steam Line Isolation Valves (MSIV) to the main condenser. The safety related function of this valve is to close in the event of an NSSSS isolation signal. The 1B21-F0016 valve operated as designed during this event. Additionally, an outboard isolation valve is installed and was unaffected by this event. Therefore, this event is not considered to be safety significant.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		LICENSEE	EVENT	REPORT	(LER)	TEXT	CONTINUATION
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U.S. WUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/88

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No additional isolations in the NSSSS system have been observed since this event. However, the routine system performance monitoring will continue as required.

Energy Industry Identification System Codes are identified in the text as [XX].

NRC Form 366A (9-83) THE CLEYELAND ELECTRIC ILLUMINATING COMPANY

P.O. BOX 97 . PERRY, OHIO 44081 . TELEPHONE (216) 259 3737 . ADDRESS-10 CENTER ROAD

ADDRESS-TO DENTER HOAD

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USNRC-DS

Murray R. Edelman sr. vice president NUCLEAR Serving The Best Location in the Nation PERRY NUCLEAR POWER PLANT

October 13, 1987 PY-CEI/NRR-0735 L

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

> Perry Nuclear Power Plant Docket No. 50-440 LER 87-065-00

Dear Sir:

Enclosed is Licensee Event Report 87-065-00 for the Perry Nuclear Power Plant.

Very truly yours, Rack

Muiray R. Edelman Senior Vice President Nuclear Group

MRE:njc

Enclosure: LER 87-065-00

cc: T. Colburn K. Connaughton

> U.S. Nuclear Regulatory Commission 799 Roosevelt Road Glen Eliyn, Illinois 60137

