NRC Form 366
(5-83)

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)
Perry Nuclear Power Plant, Unit 1	0 5 0 0 0 4 4 0	1 OF 0 2

TITLE (4) High Pressure Core Spray Placed In Secured Status Due To A Failed Leak Detection Transmitter

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 5 0 0 0
0 6	2 9	8 8	8 8	0 2 7	0 0	0 7	2 9	8 8		0 5 0 0 0

OPERATING MODE (9): 1

POWER LEVEL (10): 0 6 9

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	X 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
	AREA CODE
Gregory A. Dunn, Compliance Engineer, Extension 6484	2 1 6 2 5 9 - 3 7 3 7

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	
X	I J	P D T	R 3 6 9	N							

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 29, 1988 at 0705, the High Pressure Core Spray (HPCS) system was placed in a secured status due to receiving a HPCS line break alarm. Subsequent troubleshooting revealed water in the Leak Detection (LD) HPCS line break transmitter resulting in failure of the instrument. The transmitter was replaced and HPCS was returned to operable status at 0225 on June 30.

The cause of this event was failure of the differential pressure transmitter due to water intrusion. The source of the water has not been determined.

The LD HPCS line break transmitter has been replaced and the associated conduit will be sealed with duct sealant or similar compound.

IE22

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Perry Nuclear Power Plant, Unit 1	0 5 0 0 0 4 4 0	8 8	— 0 2 7	— 0 0	0 2 OF 0 2

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

On June 29, 1988 at 0705, the High Pressure Core Spray (HPCS) [BG] system was placed in a secured status due to receiving HPCS line break alarm. At the time of the event the plant was in Operational Condition 1 (Power Operation) with reactor power approximately 69 percent of rated and reactor vessel [RPV] pressure approximately 975 psig.

At 0648 the HPCS out of service alarm was received. The plant operator's initial investigation determined the cause of the alarm was an indicated HPCS line break as sensed by the Leak Detection (LD) [IJ] system. Consequently, the control room operator placed the HPCS in the secured status at 0705 as required by the Alarm Response Instruction (ARI). Subsequent troubleshooting confirmed that there was no actual line break and revealed water in the electronics of LD HPCS line break transmitter. The transmitter was replaced and verified to be operating satisfactorily and the HPCS was returned to service at 0225 on June 30.

The cause of this event was failure of the differential pressure transmitter for LD HPCS line break (Rosemount model number 1153 DB5PAN) due to water intrusion. The source of water has not been determined. Corrosion products and residue in the transmitter and associated junction box indicate stagnant water had been present for some time and has since evaporated. There is no evidence of water leakage in the area. The junction box and transmitter housing appeared to be sealed tight with no water marks or other evidence of leakage. A pressure test was conducted on the failed transmitter and verified no diaphragm leakage existed. A review of work history for the transmitter identified two previous occasions the transmitter failed. In February 1986 water entered the transmitter causing failure. It is believed that the water originated from the junction box through the conduit, however the junction box was not inspected or cleaned in 1986. The transmitter was replaced. In February 1987 the transmitter failed again due to sticking of the transmitter which was able to be freed by simple agitation. The transmitter was also replaced at the time.

The LD HPCS line break detector is used to confirm the integrity of the HPCS piping within the reactor vessel by monitoring the differential pressure between the HPCS injection line and top of the core plate. During the period of time the HPCS was out of service, the Automatic Depressurization System and the Low Pressure Core Spray and the Low Pressure Coolant Injection Systems were operable assuring adequate core cooling was available as described in Chapter 15 of the Updated Safety Analysis Report. No actual line break existed and the time HPCS was in the secured status was short (Perry Technical Specification 3.5.1 allows 14 days). Therefore, this event is considered to have no safety significance. No previous similar events have been identified.

The LD HPCS line break transmitter has been replaced and the associated junction box and conduit will be cleaned and sealed with a duct seal or similar compound to prevent water intrusion.

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

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
P.O. BOX 97 ■ PERRY, OHIO 44081 ■ TELEPHONE (216) 259-3737 ■ ADDRESS-10 CENTER ROAD
Serving The Best Location in the Nation
PERRY NUCLEAR POWER PLANT

Al Kaplan
VICE PRESIDENT
NUCLEAR GROUP

July 29, 1988
PY-CEI/NRR-0897 L

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

Perry Nuclear Power Plant
Docket No. 50-440
LER 88027

Dear Sir:

Enclosed is Licensee Event Report 88-027 for the Perry Nuclear Power Plant.

Very truly yours,

A. Kaplan

Al Kaplan
Vice President
Nuclear Group

AK:njc

Enclosure: LER 88027

cc: T. Colburn
K. Connaughton

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

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