

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

FACILITY NAME (1)

Limerick Generating Station
Unit 1

DOCKET NUMBER (2)

0 5 0 0 0 3 5 2

LER NUMBER (3)

YEAR SEQUENTIAL REVISION

8 5 — 0 9 0 — 0 0 0

PAGE (3)

0 2 OF 0 3

TEXT (If more space is required, use additional NRC Form 366a) (17)

Unit Conditions Prior to the Event:

Opcon 4 (Cold Shutdown)
Reactor Power 0%
Unit in mini-outage to replace defective IRM & SRMs.

Description of the Event:

On November 17, 1985 at 2:06 a.m., the operators received an alarm, "High Toxic Chemical Concentration". Sample station #1 on the 'B' channel toxic gas analyzer, indicated a vinyl chloride concentration of 14 parts per million (ppm) (5ppm higher than the alarm setpoint of 9 ppm) at the Toxic Gas Detector Terminal located in the Main Control Room (MCR) while the remaining 3 sample stations (#2 on the B detector and #1 and #2 on the A detector) were reading zero. Special Event Procedure (SE-2 Toxic Gas) was entered when the "High Toxic Chemical Concentration" alarmed. The MCR Ventilation System isolation was initiated by manually tripping the 'C' chlorine isolation channel. The MCR Ventilation System isolated and the 'A' train of the CREFAS started. The "High Toxic Chemical Concentration" alarm cleared within 10 minutes of receiving the initial alarm, when the readings on the B channel, sample station #1 returned to normal. A total of 3 high vinyl chloride readings were observed between 0206 and 0215. SE-2 was exited when the "High Toxic Chemical Concentration" alarm cleared and all toxic gas readings returned to normal. The 'C' channel chlorine isolation was reset and the 'A' CREFAS was secured at 2:36 am.

The EIIS code for the affected system is VI.

Consequences of the Event:

No adverse consequences resulted from this event because the Main Control Room Isolation System and Control Room Emergency Fresh Air System responded as designed.

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APPROVED OMS NO. 3150-0104

EXPIRES: 9/31/85

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

TEXT (if more space is required, use additional NRC Form 368a) (17)

Cause of the Event:

The cause of the spurious high vinyl chloride readings on sample port #1 of the 'B' channel toxic gas analyzer is unknown. When the alarm was received, the readings from the A and B detectors, with 2 sample stations each, were observed at the Toxic Gas Detector Terminal located in the MCR. Sample station #1 of the B detector was reading 14 ppm (5 ppm above the alarm setpoint) while the remaining 3 sample ports were reading zero. All four sample stations draw their samples from the same area of the Control Structure Outside Air Intake Plenum.

Investigation of the cause of these alarms revealed that any failure in the detector, including the optics circuitry, power supply, servo mechanism, or microprocessor would have affected the readings from both sample stations #1 and #2 on the B detector since these components are common to both sample stations. A detector failure, therefore could not have been the cause of this event. Discussions with Toxic Gas Detector manufacturer, Foxboro, revealed that they have never received reports of this type of problem occurring with the Miran 981 Toxic Gas Detector Model. Since this occurrence, the 'B' toxic Gas Detector has continued to operate properly, with no repetition of the event.

Corrective Actions

The MCR isolation was reset after all toxic gas channels were compared and the readings were normal.

Previous Similar Occurrences:

Control Room Emergency Fresh Air System actuations were reported in several previous LERs. However, these events were of different root cause.

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December 17, 1985

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 deals with the actuation of the Control Room Emergency Fresh Air System due to a "High Toxic Chemical Concentration" alarm.

Reference:	Docket No. 50-352
Report Number:	85-090
Revision Number:	00
Event Date:	November 17, 1985
Report Date:	December 17, 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)(iv).

Very truly yours,



W. T. Ullrich
Superintendent
Nuclear Generation Division

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September, 1985