NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Limerick Generating Station Unit 1	0 5 0 0 0 3 5 2	1 OF 0 5

TITLE (4) Technical Specification Violation Due to Inadequate Training and an Equipment Failure

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)
1 2	3 0	8 7	8 7	— 0 6 8	— 0 1	0 9	1 5	8 8		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	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)	X 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
Charles A. Mengers, Senior Engineer, Licensing Section	AREA CODE 2 1 5 — 8 4 1 - 5 1 8 4

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	
B	I L	P D S	B 0 7 0	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)

Abstract:

On December 30, 1987 at approximately 1000 hours the radiation monitor sampling system for the hot maintenance shop was found out of service while the shop ventilation system was operating. This violates Technical Specification 3.3.7.12 which requires continuous sampling while the shop ventilation is in service. The monitoring system was out of service for approximately twenty four hours while the shop ventilation was operating. The hot shop ventilation was secured at approximately 1000 hours on December 30, 1987 and the system was blocked out of service until correcti e actions could be taken to preclude the possibility of further operation of the system in violation of technical specifications. The cause of the event was combination of inadequate training and equipment failure. To prevent recurrence, training was provided to all licensed personnel by June 2, 1988. The training stressed the interdependence of system indications and the indications to be used for determining system operability. The system sampling and operating procedures have been revised. In addition, the scope of review of a previously requested modification has expanded and is continuing.

There were no consequences and no release of radiation occurred as a result of this event.

IE22
1/1

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Limerick Generating Station Unit 1	0 5 0 0 0 3 5 2	8 7	— 0 6 8	— 0 1	0 2 OF 0 5

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

Unit Condicions Prior to the Event:

Operational Condition 1, Unit 1 operating at 100% power.

Description of the Event:

On December 30, 1987 at approximately 1000 hours a chemistry technician observed the sample pump for the hot maintenance shop ventilation radiation monitor was not operating and the shop ventilation system was in service. This information was relayed to the control room shift supervisor who declared the sampling system inoperable. Technical Specification 3.3.7.12 requires a constant sampling radiation monitor to operate when the hot maintenance shop ventilation is in service. Therefore, control room personnel immediately secured the shop ventilation and a blocking permit was applied by 1100 hours that day to prevent future non-compliances.

On December 29, 1987 at approximately 1000 hours a chemistry technician had obtained a weekly grab sample from the hot maintenance shop radiation monitor as required by ST-5-076-820-0 "Weekly Particulate Analysis". The sample pump was secured prior to sampling and restarted as required once sampling was complete. After return to service, the technician noticed that the electronic flow indicator showed a normal sample flow of 3 SCFM. However, the glass rotometer was reading approximately zero. The technician also reported feeling the pump vibrating and described these indications to control room supervision. Shift Supervision checked that the control room indications were normal and concluded that the system was operable and allowed the hot shop ventilation to continue to operate. The same technician returned and verified similar indications at 1430 hours that day.

The sampling procedure requires that the indicated flow be written down at the time of replacement of the sample cartridge. This flow indication can be obtained from either a digital readout, which provides indication locally and in the control room, or a glass rotometer which provides local indication only. The digital flow indication displays either 3 SCFC or 0 SCFC and receives the input for its signal from a Barksdale "Dialamatic Pressure Switch" #VCD2H-H18SS which has a calibration range of 8-30 inches of water. The switch position (open or closed) results in either the 3 SCFM or 0 SCFM readout. During this event, the pressure switch was sticking and provided an incorrect flow indication of 3 SCFM.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Limerick Generating Station Unit 1	0 5 0 0 0 3 5 2	8 7	— 0 6 8	— 0 1	0 3 OF 0 5

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

Consequences of the Event:

There were no consequences and no release of radiation occurred. No work on contaminated components was done in the shop from the 29th thru the 30th of December.

If there had been work on contaminated components there would be the potential of an unmonitored release. However, local sampling points are used when contaminated components are in the shop. Radiation levels of each sample are checked every 8 hours.

Cause of the Event:

The cause of the event was a combination of inadequate training and equipment failure.

Personnel training on this system has been inadequate and contributed to the cause of the event. Shift supervision used control room indications available to determine system operability. It was not known by supervision that all control room indication on this system could be affected by a single failure which would result in both local and control room indications appearing normal.

The Barksdale Pressure switch was tested and found to produce false indications due to the pressure switch sticking. This resulted in a normal flow indication (3 SCFM) locally and in the control room. It also gives a normal system running indication locally and in the control room. These indications gave the appearance that the system was operating normally.

Corrective Actions:

At approximately 1000 hours on December 30, 1987 a chemistry technician reported that the sampling system was not operating; shift supervision immediately secured the hot shop ventilation.

Actions to Prevent Recurrence:

The hot shop ventilation fans were blocked out of service and the sticking pressure switch was replaced and tested satisfactorily.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Limerick Generating Station Unit 1	0 5 0 0 0 3 5 2	8 7	— 0 6 8	— 0 1	0 4 OF 0 5

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

In order to support necessary maintenance work in the hot shop, the block was temporarily restored from March 28, 1988 through April 1, 1988 to allow operation of the hot shop exhaust system. On April 1, 1988 the block was reapplied and the hot shop ventilation was not returned to service until the remaining actions were taken to preclude recurrence of the event.

Operations personnel have received training which described the system indications available in the control room and at the skid. This training targeted the lack of independence between control room indications and the local electronic indications. It included the sampling flow rate requirements which satisfy Technical Specifications. Also, training detailed those indications which in general may be used to determine system operability. This training was given in the Licensed Operator Requalification training cycle which was completed on June 2, 1988.

A modification was requested in July 1987 to provide an interlock to trip the ventilation fans if a sampling failure occurs. The scope of the modification has been expanded to include redundancy to preclude a single failure from creating Technical Specification non-compliance.

To provide additional control and awareness, a number of procedures were revised. The system sampling and operating procedures (ST-5-076-815-0 "Weekly Charcoal Analysis" and ST-5-076-820-0 "Weekly Particulate Analysis) were revised on March 28, 1988 to include a verification that both the electronic and the rotometer flow meters are indicating flow prior to and after sampling. A note was added to inform shift supervision that the operability of the skid(s) may be affected if both indicators do not indicate flow. Additionally, the operations daily surveillance logs (ST-6-107-590-1 "Daily Surveillance Log - OPCONS 1, 2 and 3 and ST-6-107-591-1 "Daily Surveillance Log - OPCONS 4 and 5") were revised on May 31, 1988 to include a check of the sample flow immediately after placing the Hot Shop Exhaust in service and on each shift while in service. The note also directs the operator to inform shift supervision if the Hot Shop HVAC is in service with no flow indicated on the flow meter.

EIIS Codes:

VC Service Building Environmental Control System

IL Radiation Monitoring System

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Limerick Generating Station Unit 1	0 5 0 0 0 3 5 2	8 7	— 0 6 8	— 0 1	0 5 OF 0 5

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

Previous Similar Events:

LER 87-031 involved a violation of technical specification similar to this LER.

Tracking Codes: Inadequate Training (X)

Design, Manufacture, Construction/Installation Deficiency (B)

PHILADELPHIA ELECTRIC COMPANY
2301 MARKET STREET
P.O. BOX 8699
PHILADELPHIA, PA 19101
(215) 841-5020

E. P. FOGARTY
MANAGER
NUCLEAR SUPPORT DIVISION

10 CFR 50.73

September 15, 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 revised LER details a non-compliance with Technical Specification 3.3.7.12 due to inadequate training and an equipment failure.

Reference:	Docket No. 50-352
Report Number:	87-068
Revision Number:	01
Event Date:	December 30, 1987
Report Date:	September 15, 1988
Facility:	Limerick Generating Station P.O. Box A, Sanatoga, PA 19464

This revised LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i)(B). This revised LER describes the return to service of the Hot Shop Ventilation System prior to completion of the Actions Taken to Prevent Recurrence defined in the original LER. This action was required to support necessary plant maintenance. Revisions are indicated by a vertical bar in the right hand margin and address the areas of training and procedures.

Very truly yours,

E. P. Fogarty
Manager
Nuclear Support Division

cc: W. T. Russell, Administrator, Region I, USNRC
T. J. Kenny, USNRC Senior Resident Inspector
INPO Records Center

IE22
1/1