

# LICENSEE EVENT REPORT (LER)

Facility Name (1) LaSalle County Station Unit 1										Docket Number (2) 0   5   0   0   0   3   7   3				Page (3) 1   of   0   3	
Title (4) Spurious Ammonia Detector Trip Due to Failure of the Detector's Front Optics Indicator Lamp															
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   1	0   8	8   7	8   7	0   3   5	0   0	1   2	0   3	8   7	LaSalle Unit 2				0   5   0   0   0   3   7   4		

OPERATING MODE (9) 1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)															
POWER LEVEL (10) 0   8   8		20.402(b)				20.405(c)				<input checked="" type="checkbox"/> X		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	
		20.405(a)(1)(iii)				50.73(a)(2)(i)						50.73(a)(2)(viii)(A)				in Abstract	
		20.405(a)(1)(iv)				50.73(a)(2)(ii)						50.73(a)(2)(viii)(B)				below and in	
		20.405(a)(1)(v)				50.73(a)(2)(iii)						50.73(a)(2)(x)				Text)	

LICENSEE CONTACT FOR THIS LER (12)															
Name Paul S. Watford, Technical Staff Engineer, extension 323										TELEPHONE NUMBER AREA CODE 8   1   5   3   5   7   -   6   7   6   1					

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)															
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS					
X	V	I	D	E	T										

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)

At 2050 hours on November 8, 1987, with Units 1 and 2 in Operational Condition 1 (Run) at 88% and 83% power respectively, the "B" Control Room HVAC System (VC) "B" ammonia detector (OXY-VC165B) tripped. Per design, an Engineered Safety Feature (ESF) damper actuation occurred which isolated the "B" VC train from the outside air and recirculated the air flow through the "odor eater" (charcoal adsorber).

The Instrument Maintenance Department investigated the event and found that the front optics indicator lamp had failed. The lamp was replaced and the detector was returned to service at 1400 hours on November 9, 1987. This was the first occurrence of a failed optics lamp causing an ammonia detector trip.

The safety consequences of this event were minimal since the "B" VC system responded to the ammonia detector trip per design.

This event is reportable pursuant to the requirements of 10CFR50.73(a)(2)(iv) due to the actuation of an ESF system.

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TEXT

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

A. CONDITION PRIOR TO EVENT

Unit(s): 1/2      Event Date: 11/8/87      Event Time: 2050 Hours

Reactor Mode(s): 1/1      Mode(s) Name: Run/Run      Power Level(s): 88%/83%

B. DESCRIPTION OF EVENT

At 2050 hours on November 8, 1987, with Units 1 and 2 in Operational Condition 1 (Run) at 88% and 83% power respectively, the "B" Control Room HVAC System (VC) [VI] "B" ammonia detector (OXY-VC165B) tripped. Per design, an Engineered Safety Feature (ESF) damper actuation occurred which resulted in the following:

- the "B" VC "odor eater" (charcoal adsorber) was placed into operation (the adsorber's inlet and outlet dampers, OVC11YB and OVC12YB, opened and the adsorber's bypass damper, OVC13YB, closed), and
- the minimum outside air dampers, OVC52YB and OVC05YB, closed.

At the time of the event, the "B" VC system was operating in the Recirculation Mode with the minimum outside air dampers open and the "odor eater" bypassed.

The Instrument Maintenance (IM) Department investigated the event (under Work Request L73255) and found that the ammonia detector's front optics indicator lamp failed. The detector monitors the outside air by drawing an air sample through a chemcassette tape. The tape is chemically treated such that a colored stain is produced if ammonia exists in the air sample. To determine the ammonia concentration, the stain is monitored photoelectrically by an internal optics block lamp and two (2) photoelectric cells. The internal optics block lamp is arranged in series with the front optics indicator lamp (which is used for indication only). A failure of either lamp will de-energize both lamps and produce a detector trip.

The front optics indicator lamp was replaced and proper detector operation was verified in accordance with LIS-VC-003 (Control Room HVAC System Ammonia Detector Calibration). Ammonia detector OXY-VC165B was returned to service at 1400 hours on November 9, 1987.

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TEXT

No other systems or components were inoperable at the beginning of the event which contributed to this event.

This event is reportable pursuant to the requirements of 10CFR50.73(a)(2)(iv) due to the actuation of an ESF system.

C. APPARENT CAUSE OF EVENT

The cause of the event was a failed front optics indicator lamp. The optic lamps (front and internal) are normally changed every year as part of the ammonia detector preventative maintenance program and were recently changed in April 1987. Since this is the first occurrence of a failed optics lamp, it is considered an isolated event.

D. SAFETY ANALYSIS OF EVENT

The safety consequences of this event were minimal since the "B" VC system responded to the ammonia detector trip per design. During this event when the ammonia detector was inoperable, the "B" VC "odor eater" was in operation. This event had no effect on the non-operating "A" VC train. The front optics indicator lamp in the ammonia detector was replaced and the detector was restored to service within seven days thus meeting all operational requirements of Technical Specification 3.3.7.8.

E. CORRECTIVE ACTIONS

The front optics indicator lamp was replaced (under Work Request L73255) and the detector was returned to service at 1400 hours on November 9, 1987.

A preventative maintenance program is presently in place to improve the performance of the ammonia detectors. This program consists of inspecting and cleaning (all moving parts) of the ammonia detectors on an annual basis. In addition, the optic lamps (front and internal) are replaced.

Consideration is being given to adding an additional ammonia detector to each VC train and instituting a single failure proof trip logic. A Technical Specification amendment request has been submitted which would allow removal of these detectors if approved.

F. PREVIOUS EVENTS

None

G. COMPONENT FAILURE DATA

Manufacturer	Nomenclature	Model Number	MFG Part Number
MDA Scientific Company	Optics Light Bulb	7060-FAN	LP4





**Commonwealth Edison**  
LaSalle County Nuclear Station  
Rural Route #1, Box 220  
Marseilles, Illinois 61341  
Telephone 815/357-6761

December 3, 1987

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

Dear Sir:

Licensee Event Report #87-035-00, Docket #050-373 is being  
submitted to your office in accordance with  
10CFR50.73(a)(2)(iv).

*for R. D. Bishop*  
G. J. Diederich  
Station Manager  
LaSalle County Station

GJD/PSW/kg

Enclosure

xc: Nuclear Licensing Administrator  
NRC Resident Inspector  
NRC Region III Administrator  
INPO - Records Center

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