

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
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TITLE (4):  
Control Room Ventilation Actuation in Recirculation Mode Due to NH<sub>3</sub> Unit Chemcassette Break

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 2	0 5	8 6	8 6	0 0 4	0	0 2	2 5	8 6	LaSalle Unit 2		0 5 0 0 0 3 7 4
											0 5 0 0 0

OPERATING MODE (9): 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11):									
	20.402(b)	<input checked="" type="checkbox"/>	80.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)	<input type="checkbox"/>				
POWER LEVEL (10): 0 1 0 1 0	20.406(a)(1)(ii)	<input type="checkbox"/>	80.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)	<input type="checkbox"/>				
	20.406(a)(1)(iii)	<input type="checkbox"/>	80.73(a)(2)(vi)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 386A)					
	20.406(a)(1)(iv)	<input type="checkbox"/>	80.73(a)(2)(vii)(A)	<input type="checkbox"/>						
	20.406(a)(1)(v)	<input type="checkbox"/>	80.73(a)(2)(vii)(B)	<input type="checkbox"/>						
	20.406(a)(1)(vi)	<input type="checkbox"/>	80.73(a)(2)(viii)	<input type="checkbox"/>						

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

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13):

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
X	V I	D I E T		N					

SUPPLEMENTAL REPORT EXPECTED (14):		EXPECTED SUBMISSION DATE (15):	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE):	<input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At 1918 hours on February 5, 1986, the "A" Control Room HVAC System (VC) ammonia detector, OXY-VC125B, tripped spuriously causing an Engineered Safety Feature (ESF) actuation. The OXY-VC125B ammonia detector tape cassette unit was declared inoperable and so stated in the Degraded Equipment Log. At the time of the event, the A "VC" system was operating in the Recirculation Mode with the supply "odor eaters" in service and the minimum outside air dampers open. This conservative lineup had no significant plant effect. The cause of the event was due to a broken chem cassette tape in the tape carriage mechanism.

The chemcassette tape was replaced and the "A" VC system was declared operable at 0745 hours the next day.

At the time of the event, Unit 1 was defueled and Unit 2 was in the Run Mode at 100% power. The "B" VC HVAC system was operable but not in service.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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	YEAR	SEQUENTIAL NUMBER		REVISION NUMBER								
	0 1	0 0 4		0 0		0	2	OF	0	3		

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

I. EVENT DESCRIPTION

At 1917 hours on February 5, 1986, the "A" Control Room HVAC system (VC, VI) ammonia detector, OXY-VC125B, tripped spuriously causing an Engineered Safety Feature (ESF) actuation. While attempting to reset the ammonia detector at 1926 hours, a non-licensed Operator depressed the reset button for the chlorine detector, OAE-VC090B, and it too tripped. When this occurred, the alarm relay deenergized to indicate an alarm condition. This detector was immediately reset. The ammonia tape cassette unit was declared inoperable and so stated in the Degraded Equipment Log. Work Request L55876 was written to investigate the problem. The detector was returned to service the next day. At the time of the event, the "A" VC/VE system was operating in the Recirculation Mode with the supply "odor eaters" in service and the minimum outside air dampers open. Unit 1 was defueled and Unit 2 was in the "Run" Mode at 100% power. The "B" Control Room HVAC system was operable but not in service.

II. CAUSE

The cause of the OXY-VC125B ammonia detector trip was due to a broken chemcassette tape in the tape carriage mechanism.

The chemcassette consists of a reel of chemically treated paper which darkens when exposed to ammonia gas. Normally, this tape is spooled past an air sample line where it darkens according to the ammonia concentration in the sample. Optical equipment compares the exposed tape portion to an exposed section of the tape and generates an electrical signal corresponding to the darkness of the exposed tape. When the signal reached the detector's setpoint (25 ppm ammonia), the detector alarmed and initiated an ESF actuation.

Breakage of tape in the chemcassette mechanism has been reduced by including steps to inspect and clean the mechanism during weekly surveillance of the ammonia detectors, but the tapes do break occasionally.

The ammonia detector that tripped was manufactured by MDA Scientific, Incorporated and is model number 7060-FAN.

Depressing the reset button of the chlorine detector caused the silicon controlled rectifier to become conductive and deenergize the alarm relay coil to indicate an alarm condition. This alarm sequence is characteristic of the detector.

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE

The ammonia alarm resulted in an ESF actuation consisting of placing the "A" VC/VE HVAC trains in the Recirculation Mode with the charcoal filter trains (odor eaters) being placed in service. This conservative lineup had no significant plant effect.

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		8 6	0 0 4	0 0	0 3	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A (1) (17))

IV. CORRECTIVE ACTION

Work Request L55876 was generated to repair the ammonia detector. The Instrument Maintenance personnel replaced the tape carriage mechanism and returned the detector to operation. LIS-VC-053, Control Room HVAC System Ammonia Detector Functional Test, was performed and completed satisfactorily the same day. The ammonia tape cassette unit was removed from the Degraded Equipment Log and declared operable at 0745 hours on February 6, 1986.

Troubleshooting of the chlorine detector showed that if the detector is not alarmed and the reset button is depressed, the detector unit will alarm. This confirms with the vendor specifications. A sign will be placed at each of the four chlorine detectors warning that pressing the reset will trip the detector. (AIR 373-200-86-01200)

V. PREVIOUS OCCURRENCES

Broken chemcassette tapes have been reported in the following licensee event reports.

- 373/85-038-00
- 373/84-091-01
- 373/84-078-00
- 373/82-060/03L-0
- 373/82-157/03L-0

VI. NAME AND TELEPHONE NUMBER OF PREPARER

Paul S. Watford, Technical Staff Engineer, 815/357-6761, extension 323.



**Commonwealth Edison**  
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February 25, 1986

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

Dear Sir:

Reportable Occurrence Report #86-004-00, Docket #050-373 is being submitted to your office in accordance with 10CFR 50.73.

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

GJD/DRP/kg

Enclosure

xc: NRC, Regional Director  
INPO-Records Center  
File/NRC

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