

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)  
LaSalle County Station Unit 1

DOCKET NUMBER (2)

0 5 0 0 0 3 7 3 1 OF 0 3

TITLE (4)

Ammonia Detector Failure

EVENT DATE (5)  
MONTH DAY YEAR  
0 4 2 3 8 5 8 5  
LER NUMBER (6)  
YEAR SEQUENTIAL NUMBER REVISION NUMBER  
0 4 0 0 0 5 2 1 8 5  
REPORT DATE (7)  
MONTH DAY YEAR  
0 5 2 1 8 5  
OTHER FACILITIES INVOLVED (8)  
FACILITY NAMES  
LaSalle Co. Unit 2  
DOCKET NUMBER(S)  
0 5 0 0 0 3 7 4  
0 5 0 0 0THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 6 (Check one or more of the following) (11)  
OPERATING MODE (9) 1  
POWER LEVEL (10) 1 0 0  
20.402(a) 20.406(e) X 80.73(a)(2)(iv) 73.71(b)  
20.406(a)(1)(i) 80.38(e)(1) 80.73(a)(2)(v) 73.71(c)  
20.406(a)(1)(ii) 80.38(e)(2) 80.73(a)(2)(vi) OTHER (Specify in Abstract below and in Text, NRC Form 366A)  
20.406(a)(1)(iii) 80.73(a)(2)(vii)(A) 80.73(a)(2)(viii)(B)  
20.406(a)(1)(iv) 80.73(a)(2)(ix)  
20.406(a)(1)(v)

LICENSEE CONTACT FOR THIS LER (12)

NAME  
Richard J. Rohrer, extension 575  
TELEPHONE NUMBER  
AREA CODE 8 1 5 3 5 7 1 6 7 6 1

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

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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO  
EXPECTED SUBMISSION DATE (15)  
MONTH DAY YEAR

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

On April 23, 1985, and on May 5, 1985, the Control Room received alarms for "High Chlorine/Ammonia Concentration" for the "A" train of the Control Room/Auxiliary Electrical Equipment Room HVAC (VC/VE) system. In each case the alarm was caused by a jammed chemcassette tape in the "B" ammonia detector of the "A" VC/VE train (OXY-VC125B), and resulted in Engineered Safety Feature (ESF) damper actuations to isolate the "A" VC/VE train from outside air and initiate recirculating airflow through charcoal filters. Instrument Maintenance personnel cleared the jams and restored normal detector operation following each event.

Follow-up troubleshooting identified malfunctioning capstans as a probable root cause for the recent tape-jamming events. The capstans were inspected and cleaned, resulting in proper detector operation.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

I. EVENT DESCRIPTION

At 1450 on April 23, 1985, the Control Room received a "High Chlorine/Ammonia Concentration" alarm for the "A" train of the Control Room/Auxiliary Electrical Equipment Room HVAC (VC/VE), (VI) system. At the time of the alarm Unit 1 was in Operational Condition 1 at 100% power and Unit 2 was in Operational Condition 4 at 0% power. All resulting Engineered Safety Feature (ESF) damper actuations took place satisfactorily, isolating the "A" VC/VE train from outside air and initiating recirculating air flow through charcoal filters.

Instrument Maintenance personnel, who were dispatched to investigate and repair the problem, found that the chemcassette tape in the "B" ammonia detector (OXY-VC125B) had jammed causing the alarm.

The chemcassette consists of a spool of chemically treated tape which, when exposed to ammonia concentrations, produces a dark stain on the exposed portion of the tape. Ordinarily, this tape slowly travels past the sample line and optical equipment which compares the darkened tape portion to an unexposed section of the tape through use of photocells which measure the amount of light reflected by the tape. When the tape stopped traveling because it had jammed, one section of the tape was continuously exposed to impurities from the sample line and darkened to the point that the alarm for the detector tripped, annunciating in the Control Room, and causing ESF damper actuations.

After clearing the jam and restoring normal detector operation, the alarm was reset and the ESF dampers were returned to their normal positions.

At 0922 on May 5, 1985, while Unit 1 was in Operational Condition 1 at 81% power and Unit 2 was in Operational Condition 4 at 0% power, the same ammonia detector actuated again. This time all ESF dampers except the minimum outside air dampers (OVC05YA and OVC52YA) were already in their actuated position. OVC05YA and OVC52YA closed as required. Once again, Instrument Maintenance personnel investigated and found the tape jammed. Additional troubleshooting was done to determine the cause of the repeated tape jamming under Work Request number L48651.

II. CAUSE

Instrument Maintenance personnel found that the capstans which drive the chemcassette in the "B" ammonia detector for the "A" VC/VE train were not functioning properly and probably were the cause of the recent tape-jamming problems.

The ammonia detector was made by MDA Scientific Incorporated and is model number 7060-FAN.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 386A's) (17)

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE

Each time the ammonia detectors actuated, the "A" VC/VE train was placed in a conservative line-up. These ESF actuations had no effect on the "B" VC/VE train. Safe plant operation was maintained at all times.

IV. CORRECTIVE ACTION

The capstans that drive the chemcassette tape were inspected and cleaned, resulting in proper detector operation. The alarms were reset, and the system line-up was restored to normal following each event.

V. PREVIOUS EVENTS

Jamming of a chemcassette tape has been reported in Licensee Event Report 373/84-066-00. In this previous event, the jamming was not attributed to malfunctioning capstans but to imperfections in the tape.

VI. NAME AND TELEPHONE NUMBER OF PREPARER

Richard J. Rohrer, 815/357-6761, extension 575.



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

May 21, 1985

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

Dear Sir:

Reportable Occurrence Report #85-040-00, Docket #050-373 is being submitted to your office in accordance with 10CFR 50.73.

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

GJD/DRR/kg

Enclosure

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

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