

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) LaSalle County Station Unit 1	Docket Number (2) 0 5 0 0 0 3 7 3	Page (3) 1 of 0 4
--	--	----------------------------

Title (4)
Spurious Ammonia Detector Trip Due to Design Deficiency in the Chemcassette Tape Mechanism

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 8	2 1	8 8	8 8	0 1 7	0 0	0 9	2 0	8 8	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 7 9	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)							

LICENSEE CONTACT FOR THIS LER (12)

Name George A. Roumeliotis, Technical Staff Engineer, extension 640	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
B	V	I	D	E	T				N

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	Expected Submission Date (15)	Month	Day	Year
--	--	-------------------------------	-------	-----	------

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

At 0555 hours on August 2, 1988 with Unit 1 and 2 in Operational Condition 1 (Run) at 79% and 23% power, respectively, the "B" Control Room HVAC System (VC) "A" ammonia detector (OXY-VC165A) tripped. Per design, an Engineered Safety Feature (ESF) damper actuation occurred which isolated the "B" VC system from outside air and placed the "odor eater" (charcoal adsorber) in operation.

The consequences of this event were minimal since the "B" VC system responded to ESF actuation per design.

The Instrument Maintenance Department investigated the event and found that takeup spool drive motor jammed. The chemcassette tape, takeup spool drive motor and capstan rubber roller were replaced. Proper movement of the chemcassette in the detector was verified, and the detector was declared operable at 0930 hours on August 25, 1988.

The root cause of this event is a design deficiency in the chemcassette tape mechanism. A Technical Specification amendment request has been submitted that would allow removal of these detectors if approved.

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

8809270377 880920
PDR ADDOCK 05000373
S PNU

IE22
///

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
		Year	Sequential Number	Revision Number			
LaSalle County Station Unit 1	0 5 0 0 0 3 7 3	8 8	- 0 1 7	- 0 0	0 2	0 0	0 4

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

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: 8/21/88 Event Time: 0555 Hours

Reactor Mode(s): 1/1 Mode(s) Name: Run/Run Power Level(s): 79%/23%

B. DESCRIPTION OF EVENT

At 0555 hours on August 21, 1988 with Unit 1 and 2 in Operational Condition 1 (Run) at 79% and 23% power, respectively, the "B" Control Room HVAC System (VC) "A" ammonia detector (OXY-VC165A) actuated, while performing LaSalle Operating Surveillance LOS-VC-M1, "Control Room Emergency Make-up Unit Operability Test." Per design, an Engineered Safety Feature (ESF) damper actuation occurred which isolated the "B" VC system from outside air (minimum outside dampers, OVC52YB and OVC05YB, closed) and placed the "odor eater" (charcoal adsorber) in operation (inlet and outlet dampers OVC11YB and OVC12YB, opened and the adsorber's bypass damper, OVC13YB, closed). At 2010 hours on the same day (August 21, 1988) Control Room ventilation was manually shifted to "A" Control Room HVAC System. This allowed Control Room HVAC System to return to the normal operating mode.

The "A" detector (OXY-VC165A) of "B" Control Room HVAC System was declared inoperable per Technical Specification 3.3.7.8 and an entry was made in the Degraded Equipment Log (#472-88-1 and 412-88-2). Technical Specification 3.3.7.8 requires that two independent ammonia detection system subsystems be operable at all times. With one detector inoperable, the inoperable detector must be restored to operable status within seven days, or within the next six hours, initiate and maintain operation of at least one Control Room charcoal filter system train in the Recirculation Mode of operation.

The "B" VC train was in operation during this event. 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.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)	
		Year	Sequential Number	Revision Number		
LaSalle County Station Unit 1	0 5 0 0 0 3 7 3	8 8	- 0 1 7	0 0	0 3	OF 0 4

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

C. APPARENT CAUSE OF EVENT

The Instrument Maintenance Department investigated the event and found that the chemcassette takeup spool drive motor had jammed, causing the cassette tape to bind up and cause the ESF actuation. A contributory cause of the event was a loose magnet on the magnetic clutch of the tape transport mechanism.

Due to the number of previous chemcassette tape failures, the root cause of this event has been determined to be a design deficiency in the chemcassette tape mechanism.

D. SAFETY ANALYSIS OF EVENT

The consequences of this event were minimal since the "B" VC system responded to the ESF actuation per design. The detector actuation resulted in an LWR actuation which placed the "odor eater" (charcoal adsorber) in operation and the minimum outside air isolation dampers closed. This event would not have been worse under other conditions because the system entered the safety mode as a result of the failure. The non-operating "A" VC train was available. The ammonia detector chemcassette tape mechanism was repaired and restored to service within seven days thus meeting all operational requirements of Technical Specification 3.3.7.8.

E. CORRECTIVE ACTIONS

The takeup spool drive motor was replaced with an identical unit from MDA Scientific Company. The chemcassette was replaced in accordance with LaSalle Instrument Surveillance LIS-GM-940, "Routine Change of Control Room HVAC Ammonia Detector Cassette." The applicable portions of LIS-VC-053, "Control Room HVAC System Ammonia Detector Functional Test," were performed satisfactorily and the ammonia detector (OXY-VC165A) was returned to service at 0930 hours on August 25, 1988.

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. A Technical Specification amendment request has been submitted that would allow removal of these detectors if approved.

F. PREVIOUS EVENTS

LER Number	Title
373/88-010-00	Spurious Ammonia Detection Trip Due to Design Deficiency in the Chemcassette Tape Mechanism

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				Page (3)	
		Year	Sequence Number	Revision Number			
LaSalle County Station Unit 1	0 5 0 0 0 3 7 3	8 8	- 0 1 7	- 0 0	0 4	OF 0 4	

TEXT Energy industry Identification System (EIS) codes are identified in the text as [XX]

F. PREVIOUS EVENTS (Continued)

- 373/87-036-00 Spurious Armonia Detection Trip Due to Design Deficiency in the Chemcassette Tape Mechanism
- 373/87-028-00 Spurious Armonia Detection Trip Due to Design Deficiency in the Chemcassette Tape Mechanism
- 373/87-024-00 Spurious Armonia Detection Trip Due to Design Deficiency in the Chemcassette Tape Mechanism
- 373/87-018-00 Spurious Armonia Detection Trip Due to Design Deficiency in the Chemcassette Tape Mechanism
- 373/87-012-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/87-004-00 Jammed Chemcassette Tape in Armonia Detector Causes ESF Actuation

- 373/86-027-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/86-018-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/86-014-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/86-004-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape

- 373/85-050-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/85-038-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/85-091-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/85-078-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape

- 373/84-066-00 Spurious Armonia Detector Trip Due to Broken Chemcassette Tape

- 373/82-060-03L Spurious Armonia Detector Trip Due to Broken Chemcassette Tape
- 373/82-157-03L Spurious Armonia Detector Trip Due to Broken Chemcassette Tape

G. COMPONENT FAILURE DATA

Manufacturer	Nomenclature	Model Number	MFG Part Number
MDA Scientific Company	Chemcassette	7060-FAN	706005
MDA Scientific Company	Motor, Drive Assembly	7060-FAN	700113
MDA Scientific Company	Capstan, Rubber Roller	7060-FAN	700121



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

September 20, 1988

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Dear Sir:

Licensee Event Report #88-017-00, Docket #050-373 is being
submitted to your office in accordance with
10CFR50.73(a)(2)(iv).

WRD
for 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



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

September 20, 1988

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Dear Sir:

Licensee Event Report #88-017-00, Docket #050-373 is being submitted to your office in accordance with 10CFR50.73(a)(2)(iv).

WRO
for 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

IE22
||