

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) LaSalle County Station Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 7 3 1	PAGE (3) 1 OF 3
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TITLE (4)  
Main Turbine Control Valve Fast Closure Circuits

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (3)																																																
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)																																														
12	27	84	84	094	00	02	07	85	NA		0 5 0 0 0																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (8)</td> <td style="width:15%;">1</td> <td colspan="10">THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)</td> </tr> <tr> <td rowspan="6">POWER LEVEL (10)</td> <td>0.85</td> <td>20.402(b)</td> <td>20.406(a)</td> <td>80.73(a)(2)(iv)</td> <td>73.71(b)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(i)</td> <td>80.38(a)(1)</td> <td>80.73(a)(2)(v)</td> <td>73.71(a)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(ii)</td> <td>80.38(a)(2)</td> <td>80.73(a)(2)(vi)</td> <td rowspan="4">X OTHER (Specify in Abstract below and in Text, NRC Form 305A)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(iii)</td> <td>80.73(a)(2)(i)</td> <td>80.73(a)(2)(vii)(A)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(iv)</td> <td>80.73(a)(2)(ii)</td> <td>80.73(a)(2)(vii)(B)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(v)</td> <td>80.73(a)(2)(iii)</td> <td>80.73(a)(2)(ix)</td> </tr> <tr> <td colspan="6" style="text-align: center;">VOLUNTARY</td> </tr> </table>												OPERATING MODE (8)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										POWER LEVEL (10)	0.85	20.402(b)	20.406(a)	80.73(a)(2)(iv)	73.71(b)		20.406(a)(1)(i)	80.38(a)(1)	80.73(a)(2)(v)	73.71(a)		20.406(a)(1)(ii)	80.38(a)(2)	80.73(a)(2)(vi)	X OTHER (Specify in Abstract below and in Text, NRC Form 305A)		20.406(a)(1)(iii)	80.73(a)(2)(i)	80.73(a)(2)(vii)(A)		20.406(a)(1)(iv)	80.73(a)(2)(ii)	80.73(a)(2)(vii)(B)		20.406(a)(1)(v)	80.73(a)(2)(iii)	80.73(a)(2)(ix)	VOLUNTARY					
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VOLUNTARY																																																									

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Kenneth J. Kalmon, extension 325	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	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS
B	JJ	ZIS	NO 07	N					
X	JJ	ZIS	NO 07	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
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 12/27/84, during Turbine Control Monthly Surveillances, Turbine Control Valves (TCV) #2 and 4 would not fast close the last 10% of travel. The TCV fast closure trips to RPS and RPT were declared inoperable, and the RPS and RPT systems were placed in the tripped condition.

The limit switch at TCV #2 was found to be degraded due to a combination of heat and moisture. Inspection of the limit switch at TCV #4 found the lever arm on CVTS-4 to have fallen off. A tolerance problem at the manufacturer, Namco Controls, resulted in the release of some lever arms that had splined holes with too large an inside diameter.

The limit switches that were found inoperable provide valve test functions only. TCV #2 and TCV #4 would have fast closed per design, and applicable RPS and RPT trips would have occurred on fast closure of the TCV's.

The limit switches were repaired and tested satisfactorily on 12/28/84. A hold was placed on remaining lever arms in stock. Namco lever arms installed prior to the hold date are being inspected to insure that splined hole diameters conform to the manufacturer's specifications.

This report is being submitted voluntarily due to potential for a generic problem.

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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 388A's) (17)

I. EVENT DESCRIPTION

On December 27, 1984, with LaSalle Unit 1 at 85% power, Turbine Control Valves (TA, TCV) Number 2 and Number 4 would not fast close the last 10% of travel during the performance of LOS-RP-M4, Turbine Control Monthly Surveillances. A TCV fast closure is needed to generate Reactor Protection System (RPS), (JC) and Recirculation Pump (AD) Trip (RPT) trip signals. The TCV fast closure trips to RPS channels B1 (TCV #2) and B2 (TCV #4) and RPT system were declared inoperable. In accordance with Technical Specification 3.3.1, the inoperable RPS and RPT trip systems were placed in the tripped condition. Work Requests L44802 and L44803 were written to investigate the problem. This report is being submitted voluntarily due to potential for a generic problem.

II. CAUSE

Troubleshooting under Work Requests L44802 and L44803 isolated the problem to limit switches CVTS-2 and CVTS-4 of TCV #2 and TCV #4, respectively.

Personnel inspecting the limit switch at TCV #2 found that the lever arm on CVTS-2 could not be moved manually. Limit switch CVTS-2 was removed and replaced with a new limit switch. Inspection of the faulty limit switch after removal showed that the switch had degraded due to a combination of heat and moisture.

Personnel inspecting the limit switch at TCV #4 found that the lever arm on CVTS-4 had fallen off. Limit switch CVTS-4 had just been replaced on November 26, 1984. Electrical Maintenance personnel indicated that they had securely tightened the limit switch lever arm when the new switch was installed on November 26. The tapered set screw that expands the limit switch's splined shaft to form a compression connection holding the lever arm in place was found to be securely tightened and the lever arm still fell off. Discussion of the problem with the manufacturer, Namco Controls, revealed that the company had experienced a tolerance problem with limit switch lever arm model #EL01053338 (S.I. #506H09). The problem was that some lever arms were released that had splined holes with too large of an inside diameter.

Because of the tolerance problem the lever arm worked loose and fell off limit switch CVTS-4.

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE

The CVTS limit switches on the control valves are set so that contacts are closed from the 0 to 10% open valve position. When the control valve is in test and the CVTS limit switch contacts close, the valve's fast closure solenoid energizes, porting off control fluid and fast closing the TCV. The reduction of control fluid pressure at the TCV causes a pressure switch to actuate which in turn causes RPS and RPT trips.

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		8 4	- 0 9 4	- 0 0 0	3	OF 0 3

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

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE (Continued)

The probable consequences of this occurrence are minimal because the limit switches that were found inoperable provide valve test functions only. The fast closure solenoid of both TCV #2 and TCV #4 were operable. If there was an actual turbine trip condition or a power load unbalance, TCV #2 and TCV #4 would have fast closed per design. Control oil pressure switches that supply signals to RPS and RPT logic were operable at all times. Applicable RPS and RPT trips would have occurred on fast closure of TCV #2 or TCV #4. Safe plant operation was maintained at all times.

IV. CORRECTIVE ACTIONS

Limit switch CVTS-2 for TCV #2 was replaced under Work Request L44802. Under Work Request L44803 the arm on limit switch CVTS-4 for TCV #4 was replaced with a new lever arm and was fastened securely. LOS-RP-M4, Turbine Control Monthly Surveillances, was completed satisfactorily at 1200 hours on December 28, 1984.

A hold was placed on the remaining lever arms (S.I. #506H09) in stock under Discrepancy Record #01-85-031. Action Item Record #01-85-67003 was written to determine where Namco lever arms #ELO1053338 (S.I. #506H09) have been installed as replacement parts prior to the hold date (1-11-85), to inspect the installed lever arms, and insure the inside diameter of the splined hole on the lever arms meets current manufacturer's specifications.

V. PREVIOUS OCCURRENCES

This is the first time that a problem with control valve limit switch arms falling off was reported. It is also the first time that a Turbine Control Valve limit switch failure due to heat and moisture degradation was reported.

VI. NAME AND TELEPHONE NUMBER OF PREPARER

Kenneth J. Kalmon, 815/357-6761, extension 325.



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

February 7, 1985

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

Dear Sir:

Reportable Occurrence Report #84-094-00, Docket #050-373 is being submitted to your office in accordance with 10CFR 50.73.

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

GJD/MLD/kg

Enclosure

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

*IE22*  
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