

LICENSEE EVENT REPORT (LER)

Facility Name (1) LaSalle County Station Unit 2										Docket Number (2) 0 5 0 0 0 3 7 4				Page (3) 1 of 0 4	
Title (4) High Pressure Core Spray Pump Minimum Flow Bypass Differential Pressure Switch Found Below Reject Limit															
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 4	1 2	8 8	8 8	0 0 5	0 0	0 5	1 0	8 8		0 5 0 0 0 3 7					
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)													
POWER LEVEL (10)		1		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(i)					
0 6 0				20.405(a)(1)(i)		50.36(c)(1)		X 50.73(a)(2)(v)		73.71(c)					
				20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		Other (Specify in Abstract below and in Text)					
				20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)							
				20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)							
				20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)							
LICENSEE CONTACT FOR THIS LER (12)															
Name								TELEPHONE NUMBER							
Alan J. McLaughlin, Technical Staff Engineer, extension 576								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	B G	I P S	S 3 8 2	Y											
SUPPLEMENTAL REPORT EXPECTED (14)										Expected Submission Date (15)					
X Yes (If yes, complete EXPECTED SUBMISSION DATE)										NO					
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)										0 8 2 9 8 8					

On April 12, 1988, at 0255 hours, during performance of routine surveillance, flow switch FS-2E22-N006 was found with a setpoint out-of-tolerance below the reject limit for its application. Unit 2 was in Operational Condition 1, Run, at 60% power.

This switch functions to provide minimum flow bypass for the High Pressure Core Spray System (HPCS) under low flow conditions. The Unit 2 HPCS was declared inoperable, at 0330 hours, in accordance with Technical Specification 3.5.1 and a 14 day timeclock entered. All other Emergency Core Cooling Systems were operable throughout the event.

The out-of-tolerance setpoint was caused by setpoint drift and did not interfere with the ability of this switch to properly perform that function. Since the Reject Limit had been exceeded, the subject flow switch was replaced with a new, qualified switch on April 14, 1988. The old switch was sent to its manufacturer for disassembly and inspection.

A replacement switch was installed, calibrated and functionally tested satisfactorily. HPCS was declared operable on April 14, 1988 at 1310 hours.

This event is reported to the Nuclear Regulatory Commission as a Licensee Event Report in compliance with 10CFR50.73(a)(2)(v) due to an Emergency Core Cooling System being declared inoperable and the requirements of I.E. Bulletin 86-02, "Static-O-Ring Differential Pressure Switches."

8905180159 880510
PDR ADOCK 05000374
S DCD

IE22
1/1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
LaSalle County Station Unit 2	0 5 0 0 0 3 7 4	8 8	-	0 0 5	-	0 0	0 2	OF	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): 2 Event Date: 4/12/88 Event Time: 0255 Hours
 Reactor Mode(s): 1 Mode(s) Name: Run Power Level(s): 60%

B. DESCRIPTION OF EVENT

Flow switch FS-2E22-N006 was found with its setpoint out-of-tolerance in excess of the Reject Limit for its application during the routine performance of LaSalle Instrument Surveillance LIS-HP-205, "Unit Two High Pressure Core Spray (HPCS, HP) [BG] Minimum Flow Bypass Calibration." This discovery was made on April 12, 1988 at 0255 hours while Unit 2 was in Operational Condition 1 (Run) at 60% power. Unit 2 HPCS was declared inoperable at 0330 hours. The Unit 2 HPCS system was declared inoperable in accordance with Technical Specification 3.5.1, Action Statement c.1; a 14 day timeclock was entered. All other Emergency Core Cooling Systems (ECCS) systems and Reactor Core Isolation Cooling (RCIC) [BN] were operable throughout the event. Work Request L79433 was written to replace FS-2E22-N006. The replacement flow switch was installed, calibrated and functionally tested. The out-of-service was cleared and HPCS declared operable on April 14, 1988 at 1310 hours.

Flow switch FS-2E22-N006 functions to open the HPCS pump minimum flow bypass valve, 2E22-F012, when HPCS flow drops to the point that the flow switch senses 23.0 inches of water column ("WC) differential pressure. This function is performed only if pump discharge pressure indicates the HPCS pump, 2E22-C001, is running.

The switch was found with a setpoint of 18.5 inches Water Column ("WC), while its desired setpoint is 23.0 "WC with a calibration tolerance of plus or minus 0.6 "WC, action limits of plus or minus 1.7 "WC, and reject limits of plus or minus 3.0 "WC. The Technical Specification nominal setpoint is 9.7 "WC and the Technical Specification Limiting Condition for Operation (LCO), is 7.85 "WC. The setpoint and limits for this switch were set grossly conservative to accommodate the static shift and repeatability characteristics of Static-0-Ring (SOR) differential pressure switches.

Per LaSalle Special Test LST-86-141, it was determined that the downward shift in actuation differential pressure for Flow Switch FS-2E22-N006, at maximum operating pressure, is 9.08 "WC. Therefore, the actual "as found" setpoint for operating limits for this switch was 18.5 "WC minus 9.08 "WC or 9.42 "WC. This corrected setpoint value does not exceed the Technical Specification LCO of 7.85 "WC, for FS-2E22-N006.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

B. DESCRIPTION OF EVENT (Continued)

No manual or automatic safety functions occurred or were required to occur. The actions taken by station personnel were timely and appropriate. No inoperable or out-of-service equipment contributed to this occurrence in any way.

This event is reported to the Nuclear Regulatory Commission as a Licensee Event Report in accordance with 10CFR50.73(a)(2)(v) due to an ECCS being declared inoperable and the requirements of I.E. Bulletin 86-02, "Static-0-Ring Differential Pressure Switches."

C. APPARENT CAUSE OF EVENT

The out-of-tolerance condition was caused by setpoint drift.

The exact mechanism of this setpoint drift is not known, but differential pressure switches of the same manufacturer (SOR) as the subject switch have exhibited setpoint drift in the past. This particular switch had shown a steadily increasing rate of upward setpoint drift since April 10, 1987. On January 11, 1988 it was found to have drifted into the upper action required range and was recalibrated to 22.6 "WC. In compliance with the LaSalle SOR calibration plan, the intervals between calibrations were reduced from quarterly to monthly at this point. On February 10, 1988 the switch was found to have again drifted upward, however it was still within the calibration limits and was recalibrated to 23.0 "WC. The calibration frequency was then increased to 2 months and was next performed on April 12, 1988. At this time the setpoint was found to have drastically dropped down to 18.5 "WC. This behavior suggests a sudden change in the switch setpoint drift characteristics.

D. SAFETY ANALYSIS OF EVENT

The safety consequences of this event were minimized by:

1. Operations were at all times within the LCO's given in Technical Specifications.
 - a. As discussed in section B, Description of Event, the LCO setpoint for the flow switch, 7.85 "WC, was not exceeded.
 - b. The Technical Specification LCO (3.5.2) of not less than 2 Emergency Core Cooling systems operable was not exceeded during this event.
2. Had the Unit 2 HPCS been required to operate at any time with the subject switch at its out-of-tolerance setpoint, it would have properly performed its design functions.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

E. CORRECTIVE ACTIONS

Flow switch, FS-2E22-N006, was declared inoperable and rejected from further service.

The Unit 2 HPCS system was declared inoperable at 0330 hours on April 12, 1988, in accordance with Technical Specification 3.5.1, Action Statement c.1; a 14 day timeclock was entered. All other ECCS systems and RCIC were operable throughout the event.

Work Request L79433 was written to replace the flow switch, FS-2E22-N006.

A replacement for the rejected switch was obtained and certified for use in accordance with LaSalle Instrument Procedures, LIS-GM-952, "Static-0-Ring Differential Pressure Switch Operability Test," and LIP-GM-956, "Analysis of Static-0-Ring Differential Pressure Switch Data."

The new switch was installed on April 14, 1988, with an initial setpoint of 22.6 "WC, within the allowable tolerance. This switch will be calibrated monthly until it has been demonstrated that longer calibration intervals are appropriate. The tracking of this effort will be done under the SOR calibration plan.

The Unit 2 HPCS system was declared operable on April 14, 1988 at 1310 hours.

Because the reject limit had been exceeded, this switch will be disassembled and inspected by SOR, Inc. The findings of this inspection will be included in a supplement to this Licensee Event Report and tracked by Action Item Record 374-200-88-02201.

F. PREVIOUS EVENTS

LER Number	Title
373/86-019-00	Reactor Vessel Low Level Confirmed ADS Permissive Switch Out of Tolerance Due to Setpoint Drift
373/87-010-00	Automatic Depressurization System Low Level Confirmed Switch Setpoint Found Out of Tolerance Due to Setpoint Drift
374/87-011-00	Residual Heat Removal Pump Minimum Flow Bypass Differential Pressure Switch Found Out of Tolerance Due to Setpoint Drift

G. COMPONENT FAILURE DATA

Manufacturer	Nomenclature	Model Number	MFG Part Number
SOR, Inc.	Differential Pressure Switch	103AS-8202-NX-C1A-JJTX6	N/A



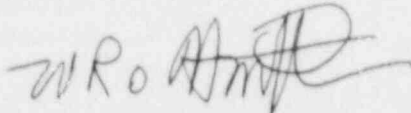
Commonwealth Edison
LaSalle County Nuclear Station
Rural Route #1, Box 220
Marseilles, Illinois 61341
Telephone 815/357-6761

May 10, 1988

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

Dear Sir:

Licensee Event Report #88-005-00, Docket #050-374 is being submitted to your office in accordance with 10CFR50.73(a)(2)(v) due to an Emergency Core Cooling System Inoperable and the requirements of I.E. Bulletin 86-02, "Static-O-Ring Differential Pressure Switches."


for G. J. Diederich
Station Manager
LaSalle County Station

GJD/AJM/kg

Enclosure

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

IE22
||