



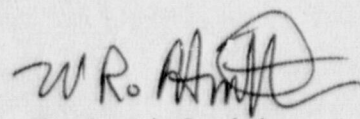
Commonwealth Edison
LaSalle County Nuclear Station
Rural Route #1, Box 220
Marseilles, Illinois 61341
Telephone 815/357-6761

June 13, 1989

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

Dear Sir:

Licensee Event Report #89-018-00, Docket #050-373 is being
submitted to your office in accordance with
10CFR50.73(a)(2)(iv).


for G. J. Diederich
Station Manager
LaSalle County Station

GJD/MTT/kg

Enclosure

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

8906210079 890613
PDR ADOCK 05000373
S FDC

IF22
11

LICENSEE EVENT REPORT (LER)

Form Rev. 2.0

Facility Name (1)

Docket Number (2)

Page (3)

LaSalle County Station Unit 1

0 | 5 | 0 | 0 | 0 | 3 | 7 | 3 | 1 | of | 0 | 4

Title (4)

Reactor Core Isolation Cooling Isolation During Warmup Due to Spurious High Steam Flow Signal

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	5	1	5	8	9	8	9	---	0	1	8	---	0	0	0	6	1	3	8	9		0 5 0 0 0 1 1
																				0 5 0 0 0 1 1		

OPERATING
MODE (9)

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR

(Check one or more of the following) (11)

POWER
LEVEL
(10)

0 | 8 | 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
<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)	in Abstract
<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)	below and in
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	Text)

LICENSEE CONTACT FOR THIS LER (12)

Name

TELEPHONE NUMBER

Michael Tennyson, Technical Staff Engineer, extension 2704

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	N		N					

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Month | Day | Year

Submission

Date (15)

X Yes (If yes, complete EXPECTED SUBMISSION DATE)

NO

1 | 0 | 1 | 5 | 8 | 9

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

On May 15, 1989, at 2156 hours, the Reactor Core Isolation Cooling System (RCIC) received a Division I and Division II (outboard and inboard) isolation on RCIC high steam line flow. Unit 1 was in Operational Condition 1 (Run) at 99% power.

At the time of the event, RCIC steam line was being warmed up following the completion of LIS-RI-301, "Unit 1 Steam Line High Flow RCIC Isolation Functional Test." RCIC was being returned to standby per procedure, LOP-RI-05, "Preparation for Standby of the RCIC System," when the outboard isolation valve (1E51-F008), and inboard isolation valves (1E51-F076 and 1E51-F063) isolated due to a spurious high steam flow signal.

The RCIC steam line isolation was not a valid high steam flow signal. Steam trapped between the inboard valves and the outboard valve was released into the piping downstream of the outboard valve when it was opened. The surge from this release was sufficient to exceed the trip setpoint of the high flow isolation switches.

When the isolation signal was received, the outboard isolation valve closed satisfactorily, RCIC System piping integrity was verified and the isolation logic was reset. Warming up of the RCIC System proceeded with no further incidents.

This event is reportable to the Nuclear Regulatory Commission as a Licensee Event Report in accordance with 10CFR50.73(a)(2)(iv) due to an Engineered Safety Feature actuation.

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 9	-	0 1 8	-	0 0	0 2	OF 0 4

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

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

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

A. CONDITION PRIOR TO EVENT

Unit(s): 1 Event Date: 5/15/89 Event Time: 2156 Hours

Reactor Mode(s): 1 Mode(s) Name: Run Power Level(s): 89%

B. DESCRIPTION OF EVENT

On May 15, 1989, at 2156 hours the Reactor Core Isolation Cooling System (RCIC, BN) received a Division I and Division II (inboard and outboard) isolation signal on RCIC high steam line flow. This event occurred while Unit 1 was in Operational Condition 1 (Run) at 89% power.

At the time of the event, RCIC steam line was being warmed up following the completion of LaSalle Instrument Surveillance, LIS-RI-301, "Unit 1 Steam Line Flow RCIC Isolation Functional Test." During this surveillance, the outboard RCIC steam isolation valve (1E51-F008) and the inboard steam isolation valves (1E51-F063 and 1E51-F076) were closed. Upon completion of the surveillance, RCIC was being returned to standby per LaSalle Operating Procedure, LOP-RI-05, "Preparation for Standby of RCIC System." The Control Room operator attempted several times to crack open the outboard isolation valve (1E51-F008), with the inboard valves closed.

Shortly after the outboard valve apparently lifted off of its seat, the Operator noticed a step increase in RCIC steamline pressure downstream of the outboard isolation valve and immediately closed the outboard valve. Within 3 seconds of the pressure increase the Division I outboard RCIC steam isolation valve (1E51-F008), and the Division II inboard RCIC steam isolation valves (1E51-F076 and 1E51-F063) received an isolation signal due to a high steam flow signal from the pressure differential switches 1E31-N013AA and 1E31-N013BA.

The inboard isolation valves were closed at the time of the isolation signal, and the outboard isolation valve had already closed due to the Operator's response. Subsequent to the isolation, the outboard valve was re-opened and the RCIC steamline was warmed in accordance with the same procedure, this time without incident.

The relays that isolate the inboard and outboard isolation valves for the RCIC steam line are time delayed to energize. The isolation time for each relay was checked and it was determined that they functioned satisfactorily.

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 9	- 0 1 8	-	0 0			0 3 OF	0 4				
TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [XX]													

B. DESCRIPTION OF EVENT (Continued)

The water which accumulated in the RCIC steam line piping between the inboard and outboard isolation valves during the surveillance appears to affect the differential pressure instruments when it is pushed past one tap of the flow elbow by the trapped steam. The flow elbow cannot accurately measure flow in these circumstances due to the difference of fluid density between the taps.

C. APPARENT CAUSE OF EVENT

The cause of the RCIC steam line isolation was a spurious high steam flow signal generated when steam was admitted to the RCIC steam line. Apparently steam was trapped downstream of the inboard isolation valves (1E51-F075 and 1E51-F063) and upstream of the outboard isolation valve (1E51-F008).

Upon re-opening of the outboard isolation valve, the trapped steam expanded into the downstream piping causing a surge of the steam/water mixture and isolated the system. The isolation logic for high RCIC steam line flow has a three second time delay built in it to prevent spurious isolation when fast starting RCIC. However, the basis for the flow measurements used in the isolation logic is that the elbows would sense steam, not a steam/water mixture. The isolation was reset satisfactorily after it occurred.

D. SAFETY ANALYSIS OF EVENT

Upon receiving the high steam line flow isolation signal, the RCIC steam line inboard and outboard isolation valves isolated satisfactorily. This action was conservative from the standpoint of Primary Containment (PC) [NH] integrity.

All the valves were already closed. (1E51-F008 was closed due to Operator action prior to the automatic closure signal.) Therefore the isolation function of these valves had been met.

Since the valves were already closed, the isolation signal did not cause any challenges to the valves or motor operators. RCIC was already inoperable due to surveillance testing. Satisfactory operation of the high flow differential pressure switches was observed during subsequent testing which showed that the pressure pulse(s) did not damage the switch diaphragms.

Consequences of this event were minimal since the High Pressure Core Spray (HP) [BG] and other emergency core cooling systems were fully operable.

E. CORRECTIVE ACTIONS

RCIC System piping integrity was verified and the isolation logic was reset. Warming up of the RCIC System proceeded with no further incidents, and RCIC was returned to standby per procedure, LOP-RI-05, "Preparation for Standby of the RCIC System," at 2245 on May 15, 1989.

Nuclear 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	9	-	0	1	6	-	0	0	0	4	OF	0	4
TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [XX]																							

E. CORRECTIVE ACTIONS (Continued)

LaSalle Special Test, LST-89-019 was written to simulate the actual conditions for a RCIC isolation during warm up. The test was performed to determine a course of action to prevent the occurrence of similar isolations. Actuation of one isolation switch was observed, but it was not of sufficient duration to energize the 3 second time delay required for isolation.

Ongoing investigations to prevent the RCIC System from further isolation during warmup will be performed and a supplement to this report will be issued. Action Item Record 373-200-89-04801 will track this investigation and supplemental report.

F. PREVIOUS EVENTS

LER Number	Title
373/85-022-00	RCIC Steam Line High Flow Isolation During Warmup
373/84-060-00	RCIC Steam Line Differential Pressure High Isolation
373/83-122/03L	RCIC Steam Line Isolation During Warmup

G. COMPONENT FAILURE DATA

None.