NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
LaSalle County Station Unit 1	0 5 0 0 0 3 7 3	1 OF 0 3

TITLE (4)
Scram on Low Reactor Water Level

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 6	2 4	8 4	8 4	- 0 3 9	- 0 0	0 7	1 8	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 8 5	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	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, NRC Form 366A)
		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
R. D. Koenig, extension 499	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 NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
X	J B	I M O D	B 0 4 5	Y							

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On June 24, 1984, at 0820 hours, the Unit 1 Reactor scrammed on low vessel level. The unit was at 85% power. All indications show that the main steam flow signal to the Reactor Water Level Control (JB) logic was lost. This resulted in the feedwater flow going to zero. With feedwater flow shut down, vessel level dropped to 12.5 inches, producing a scram on low level. The loss of steam flow was linked to the steam flow summer or dynamic compensator. One of these devices stopped operating. This produced a zero steam flow signal to the Reactor Water Level Control logic (JB). The result was a zero feedwater flow demand. The cause of the momentary loss of signal could not be determined.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

I. EVENT DESCRIPTION

On June 24, 1984, at 0820 hours, the Unit 1 Reactor scrammed on low vessel water level. The unit was operating at 85% power when the feedwater system (FW, SJ) received a signal from its Reactor Water Level Control (RWLC, JB) logic to reduce flow rate to zero. This caused vessel level to drop, and at 12.5 inches produced a reactor scram (level dropped to -5 inches level).

II. CAUSE

The cause of the Unit 1 Reactor scram was attributed to the feedwater flow rate reducing to zero. This caused vessel level to decrease, finally scramming the unit due to low vessel level.

In normal operating conditions, the reactor water level control (RWLC) logic receives three parameters: main steam flow, feedwater flow, and vessel level (three elements). These three parameters are manipulated by the RWLC logic to produce a feedwater demand signal. Of the three elements, the main steam flow signal was lost, apparently due to a flow summer or dynamic compensator problem.

With steam flow essentially dropping to zero (as seen by the RWLC logic) the feedwater demand signal dropped to zero. Feedwater Turbine Driven Reactor Feed Pumps (TDRFP's) 1A and 1B saw a zero demand signal so feedwater flow was reduced accordingly. With feedwater flow reduced to nothing, vessel level began dropping (due to steam production). When vessel level reached the 12.5 inch level the reactor automatically scrammed.

It is surmised tht the output of either the flow summer or dynamic compensator used for monitoring steam flow in the RWLC logic dropped to zero. (The reason could not be determined.) This produced the false "zero" main steam flow signal. The reason for the summer or compensator problem could not be determined.

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE

The consequences of this event were minimal. With feedwater flow reduced to zero, and vessel level dropping to 12.5 inches, the low water level instrumentation initiated a reactor scram. Had the vessel water level continued to drop, the Emergency Core Cooling systems would have actuated, as required.

IV. CORRECTIVE ACTION

LaSalle Station Work Request L38185 was written to investigate this problem further. Since the time of this event, signals from the RWLC logic (steam flow transmitter output, steam flow summer output, dynamic compensator input, FW flow transmitter output, and A/B TDRFP flow) have been monitored. No major problems in the logic have been identified. The logic is operating, as required, with no problems encountered. LIP-FW-03 was performed on the steam flow transmitters, with no problems found.

The Unit 1 FW system was started up in single element. With no problems found, three-element operation is now being used.

V. PREVIOUS OCCURRENCES

No previous occurrences of this type have occurred as of this date.

VI. NAME AND TELEPHONE NUMBER OF PREPARER

R. D. Koenig, 815/357-6761, extension 499.

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

July 18, 1984

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

Dear Sir:

Reportable Occurrence Report #84-039-00, Docket #050-373 is being submitted to your office in accordance with 10 CFR 50.73.

C E Dargent
for G. J. Diederich
Superintendent
LaSalle County Station

GJD/MLD/kg

Enclosure

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

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