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 4

TITLE (4)
Reactor Water Cleanup High Differential Flow Isolation

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)
									NA	0 5 0 0 0
0 8	0 7	8 4	8 4	0 4 7	0 0	0 8	2 8	8 4		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(a)(1)	50.73(a)(2)(v)	73.71(c)
0 9 2		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
JoAnn M. Shields, extension 330	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	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
A	C E	0 0 0 0	0 0 0 0	N							
X	C E	V	Z Z Z Z	N							

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 August 7, 1984, at 2137, the Reactor Water Cleanup system isolated on high differential flow. After the filter isolated, fluids began to flow out of the precoat tank onto the surrounding floor.

The exact cause of the overflow, and hence the isolation, cannot be determined, however a vent valve was found open.

An inspection of the area and equipment found no major system malfunctions.

Safe plant conditions were maintained and controlled at all times. The health and safety of the public were maintained at all times.

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I. EVENT DESCRIPTION

On August 7, 1984, at 2137, the Reactor Water Cleanup System (CE) isolated on high differential flow (JM). Unit 1 was in Operating Mode 1, at 92% power.

Prior to the event, two Equipment Attendants (Non-Licensed Operators) were directed to perform some filter manipulations. The "A" and "C" filters were in service. The Operators were to take the "A" filter off line to be backwashed and re-precoated, and they were to put "B" filter on line.

A filter is taken off line by closing its effluent flow control valve via a thumb-wheel dial on the local control cabinet. As the Operator was taking the "A" filter off line and putting the "B" filter on line, the "A" filter flow indicator showed a gradual decrease, but was jumpy. As the flow through "A" filter decreased and flow through "B" increased, the Operator expected to have flow through "C" filter decrease. However, the "C" filter flow indication remained constant. The operator tapped the "C" indicator, and freed up the needle which had been stuck. He then saw the "C" filter flow indication drop sharply, as the "B" filter, which was a cleaner filter, took flow from "C" filter.

The Operator then waited a few moments to allow the system to stabilize before undertaking any further action.

The Nuclear Station Operator (Licensed Operator) then called to the local panel from the Control Room to inform the Equipment Attendant that he had received a differential flow isolation, to put the filters in hold mode, and to inspect the area for leaks. As the Non-Licensed Operator was returning to the panel, the filters had already automatically isolated, per design. While the Operator was inspecting the control panel to verify system status, fluid started slowly flowing out of the precoat tank onto the floor. The Operators then telephoned their supervisor to inform him of the latest system status. After a few seconds, the flow became more violent, and both water vapor and fluid ran out. The Operator proceeded to open the manual drain on the precoat tank to ease the overflow. The total amount of time that the tank was overflowing was approximately 15 minutes. The flow out the tank varied in volume, and near the end of the overflow the only effluent was water vapor.

As the "A" filter was being taken off line, the Operator heard some loud noises, as if a relief valve had lifted. Cycling of a relief valve lifting and setting could explain the erratic flow indication for the filter.

The two Non-Licensed Operators and the Shift Foreman became contaminated during the event. The back of the neck, palms, arms, and shoulder blades of the operators had from 2000 to 5000 dpm's, and were decontaminated with mild soap and water. The palms and shoulder blades of the Shift Foreman had from 4000 to 5000 dpm's, and were decontaminated with mild soap and water. All articles of clothing were contaminated and could not be decontaminated. Seven other individuals became contaminated during the clean-up activities, but all were decontaminated without undue difficulty. These dose rates are detailed in the Radiation Work Permit, described in the Probable Consequences section of this report.

II. CAUSE

Inspection of the pipe alley did not reveal any leaky relief valves. The piping itself was checked for thermal hot spots in an effort to determine if the vent had been a pathway for the water. No thermal hot spots were found.

A check of all the manual valves which are manipulated in the procedures was performed. Valve 1G33-Z001-29B, the plenum vent valve manual isolation, was found open. The downstream valve, 1G33-Z001-12B, an air operated ball valve, was closed. These A.O. valves have been repaired several times because of leakage past the seat. This vent header has a 150 psig setpoint relief valve, 1G33-Z001-67, which relieves to the precoat tank drain. It is possible that this was the relief that lifted when the Operator heard lots of noises while taking "A" filter off line. The precoat tank overflow line ties in the same drain header as the relief valve line. Excessive flow which could not go down the drain quickly enough may have backed up into the precoat tank, eventually overflowing it.

A check of the local control panel revealed dual indication (intermediate position) on 1G33-Z001-06A, one of the inlet isolation valves. The other inlet isolation valve, 1G33-Z001-32B, was verified closed.

A review of the outstanding Work Requests revealed no difficulties which could have contributed to the event.

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE

All the Reactor Water Cleanup filters isolated per design. An investigation of the system differential flow isolation did not reveal any leaks. Safe plant conditions were maintained at all times.

The Reactor Building area was contaminated by the precoat tank overflow. Under a Radiation Work Permit, Operating put the precoat pump in a recirculation mode to reduce the dose in the precoat piping. The tank was flushed to radwaste to also minimize the dose rate. Stationmen and Radiation Chemistry Technicians worked on the decontamination of the floor, piping and control panel. The doses to each work group working under the Radiation Work Permit were as follows: Non-Licensed Operators - 123 mR, Stationmen - 21 mR, and Radiation Chemistry Technicians - 128 mR. Dose rates incurred before the issuance of the Radiation Work Permit were under 10 mR per person.

The health and safety of the public were maintained at all times.

All valves found out of position were placed in their manual checklist positions.

IV. CORRECTIVE ACTIONS

The area was cleaned and de-contaminated in a timely manner, in observance of ALARA considerations.

Inspection of piping, valve positions, and outstanding Work Requests was made to determine the cause of the system isolation and precoat tank overflow.

The valve found mispositioned was the result of the manual stops on the valve being broken preventing positive valve positioning. The stops were repaired and signs were placed describing how to determine valve position by examining the valve stem if the manual stops were missing. Operating personnel were instructed how to determine the position of the ball valves by examining the valve stem.

V. PREVIOUS OCCURRENCE

Previous occurrences of isolations due to filter manipulations are detailed in the following reports:

373/84-043
373/84-045
374/84-036
374/84-037

There have been no previous occurrences of the precoat tank overflowing having an impact on a system isolation.

VI. NAME AND TELEPHONE NUMBER OF PREPARER

JoAnn Shields, 815/357-6761, extension 330.

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

August 28, 1984

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

Dear Sir:

Reportable Occurrence Report #84-047-00, Docket #050-373 is being submitted to your office in accordance with 10 CFR 50.73.

G. J. Diederich
Station Superintendent
LaSalle County Station

GJD/MLD/kg

Enclosure

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

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