

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
LaSalle County Station Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 7 4 1 OF 0 5

PAGE 13

TITLE (4)

Reactor Water Cleanup Vent High Differential Temperature (Pump Room)

EVENT DATE (6)			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	3	1	2	8	4	8	4	0	1	0	0																														
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OPERATING MODE (8)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)																																						
4			<table border="1"><tr><td>20.402(b)</td><td>20.408(a)</td><td>Y</td><td>90.73(a)(2)(iv)</td><td>73.71(b)</td></tr><tr><td>20.408(a)(1)(i)</td><td>90.38(a)(1)</td><td></td><td>90.73(a)(2)(v)</td><td>73.71(a)</td></tr><tr><td>20.408(a)(1)(ii)</td><td>90.38(a)(2)</td><td></td><td>90.73(a)(2)(vi)</td><td>OTHER (Specify in Abstract below and in Text, NRC Form 305A)</td></tr><tr><td>20.408(a)(1)(iii)</td><td>90.73(a)(2)(i)</td><td></td><td>90.73(a)(2)(vii)(A)</td><td></td></tr><tr><td>20.408(a)(1)(iv)</td><td>90.73(a)(2)(ii)</td><td></td><td>90.73(a)(2)(vii)(B)</td><td></td></tr><tr><td>20.408(a)(1)(v)</td><td>90.73(a)(2)(iii)</td><td></td><td>90.73(a)(2)(x)</td><td></td></tr></table>									20.402(b)	20.408(a)	Y	90.73(a)(2)(iv)	73.71(b)	20.408(a)(1)(i)	90.38(a)(1)		90.73(a)(2)(v)	73.71(a)	20.408(a)(1)(ii)	90.38(a)(2)		90.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 305A)	20.408(a)(1)(iii)	90.73(a)(2)(i)		90.73(a)(2)(vii)(A)		20.408(a)(1)(iv)	90.73(a)(2)(ii)		90.73(a)(2)(vii)(B)		20.408(a)(1)(v)	90.73(a)(2)(iii)		90.73(a)(2)(x)	
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POWER LEVEL (10)			0 0 0																																						

LICENSEE CONTACT FOR THIS LER (12)

NAME

J. B. Reis, extension 640

TELEPHONE NUMBER

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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
B	I J	O T I S R	2 7 9	N	B	V I A	O O F I S	P I 3 2 1	N
B	V I A	O D M P A	3 4 0	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)

At 0600 on 3/12/84 and 0818 on 3/13/84 the Unit 2 RWC System isolated on a Pump Room Ventilation Differential Temperature High. At the time of both trips, the Unit 2 Reactor was in cold shutdown, Operating Condition 4. The cause of the RWC isolations appears to be the result of a normal operating temperature gradient across the Pump Room due to cold reactor building air blasting the inlet temperature elements via the room gravity damper. AIR's 1-84-67030, 1-84-67038 and Work Request L34337 have been generated to investigate the Unit 2 RWC Pump Room ventilation problem with recommendations to move or shield the affected inlet temperature elements to modify the gravity dampers to manual adjust, and to repair the Unit 2 Reactor Building HVAC flow sensing equipment to allow the blast coils to energize per design.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
LaSalle County Station Unit 2	05000374	84	010	00	02	OF 05

TEXT (If more space is required, use additional NRC Form 388A's (1/77))

I. EVENT DESCRIPTION

At 0600 on 3/12/84, the Unit 2 Reactor Water Cleanup System (RWCU, CE) isolated on a "B" Pump Room Ventilation Differential Temperature (Delta T) High Trip. ESS Division I Valve 2G33-F004 closed and the B Pump tripped. The Unit 2 "B" RWCU Pump Room Division I Differential Temperature Switch is 2E31-N600C. At the time of the isolation, "B" RWCU Pump was operating alone and the Unit 2 Reactor was in Cold Shutdown, Operating Condition 4. At the time of the trip, the "B" Pump Room Switch, 2E31-N600C, was found to be actuated with a reading of 10 degrees F Differential Temperature, which is within its 13 +0/-3 degree F setpoint. At 0625 on 3/12/84, the 2E31-N600C actuated alarm cleared. The system isolation logic was reset and the "B" RWCU Pump was restarted.

At 0818 on 3/13/84 the Unit 2 Reactor Water Cleanup (RWCU, CE) System again isolated on a RWCU Pump Room delta T high. The RWCU Leak Detection (LD, JM) System was then bypassed (as allowed by the Technical Specifications for Condition 4) via the keylock switches 2E31A-S1A and 2E31A-S1B (being taken to test) at 2H13-P632 and 2H13-P642 respectively; the isolation logic was reset, and the RWCU System was restarted. At the time of the second trip, the Leak Detection bypass and subsequent restarting of the RWCU System, the Unit 2 Reactor was in Cold Shutdown, Operating Condition 4. In this condition the Leak Detection System is not required. The bypassing of the RWCU Leak Detection System was recorded in the Degraded Equipment Log.

II. CAUSE

The cause of the RWCU System trip on ventilation delta T high is due to a normal operating temperature gradient between the inlet and outlet delta T temperature elements, with the following inlet temperature elements receiving a cold blast of Reactor Building air via the pump room inlet gravity dampers (VR, VA):

- 2E31-N001B in the 2A CE Pump Room
- 2E31-N001C in the 2B CE Pump Room
- 2E31-n001E in the 2C CE Pump Room

Opening a door to the Main Steam Line Tunnel further compounds the condition. Such an action places a large hole in the return ducts from the RWCU Pump Rooms, effectively destroying the return ventilation from the rooms, allowing the region surrounding the pumps/motors (and outlet temperature elements) to heat up, further increasing the delta T across the Pump Rooms. As specified in the Event Description, the Main Steam Line Tunnel door was cycling open for contractor access (during the time of the RWCU System isolation/trip).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

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EXPIRES: 8/31/95

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LaSalle County Station Unit 2	05060374	84	010	00	93	OF	05

TEXT (If more space is required, use additional NRC Form 366A-1 (17))

III. PROBABLE CONSEQUENCE OF THE OCCURRENCE

The RWCU Leak Detection System operates in the following manner.

Along with a single loss of power contact, one Delta T and one Ambient High Temperature switch from each Pump Room and Non Regen Heat Exchanger Room is wired in series to make up the "A" Leak Detection string (ESS Division I):

2E31-N600A, "A" CE Pump Room delta T Switch
2E31-N601A, "A" CE Pump Room Hi Ambient Temperature Switch
2E31-N600C, "B" CE Pump Room delta T Switch
2E31-N601C, "B" CE Pump Room Hi Ambient Temperature Switch
2E31-N600E, "C" CE Pump Room delta T Switch
2E31-N601E, "C" CE Pump Room Hi Ambient Temperature Switch
2E31-N600G, "A" CE Non Regen Hx Room delta T Switch
2E31-N601G, "A" CE Non Regen Hx Room High Ambient Temperature Switch
2E31-N600J, "B" CE Non Regen Hx Room delta T Switch
2E31-N601J, "B" CE Non Regen Hx Room High Ambient Temperature Switch
K7A(T1/M1), Power Failure

If any one of these 11 contacts open, the RWCU isolation ESS Division 1 Channel trips, closing the RWCU Outboard Isolation Valve 2G33-F004, and tripping the RWCU Pumps 2G33-C001A, B and C (if running).

A Redundant RWCU Leak Detection System exists and operates in the following manner.

Along with a single loss of power contact, one delta T and one Ambient High Temperature switch from each Pump Room and Non Regen Heat Exchanger Room is wired in series to make up the "B" Leak Detection string (ESS Division II):

2E31-N600B, "A" CE Pump Room delta T Switch
2E31-N601B, "A" CE Pump Room High Ambient Temperature Switch
2E31-N600D, "B" CE Pump Room delta T Switch
2E31-N601D, "B" CE Pump Room High Ambient Temperature Switch
2E31-N600F, "C" CE Pump Room delta T Switch
2E31-N601F, "C" CE Pump Room High Ambient Temperature Switch
2E31-N600H, "A" CE Non Regen Hx Room delta T Switch
2E31-N601H, "A" CE Non Regen Hx Room High Ambient Temperature Switch
2E31-N600K, "B" CE Non Regen Hx Room delta T Switch
2E31-N600K, "B" CE Non Regen Hx Room High Ambient Temperature Switch
K7B(T1/M1), Power Failure

If any one of these 11 contacts open, the RWCU Isolation ESS Division II Channel trips, closing the RWCU Inboard Isolation Valve 2G33-F001, and tripping the RWCU Pumps 2G33-C001A, B and C (if running).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/86

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
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LaSalle County Station Unit 2	0500037484	—	0110	—	010	04 OF 05

TEXT (If more space is required, use additional NRC Form 385A's) (17)

III. PROBABLE CONSEQUENCE OF THE OCCURRENCE (Continued)

The associated trip points and LCO limits for the delta T and High Ambient are as follows:

Pump A, B and C Room delta T: 2E31-N600A, B, C, D, E and F trip point 13 +0/-3 degrees F, LCO limit less than or equal to 19 degrees F.

Pump A, B and C Room High Ambient: 2E31-N601A, B, C, D, E and F trip point 116 +0/-6 degrees F, LCO limit less than or equal to 122 degrees F.

HX A and B Room delta T: 2E31-N600G, H, J and K trip point 85 +0/-3 degrees F, LCO limit less than or equal to 91 degrees F.

HX A and B Room High Ambient: 2E31-N601G, H, J and K trip point 181 +0/-6 degrees F, LCO limit less than or equal to 187 degrees F.

(Refer to Unit 2 Technical Specification Table 3.3.2-2 and LIS-RT-203.)

The Division I Pump and HX Room delta T switches are wired in parallel and alarm at 2H13-P601, window C311. The Division I Pump and HX Room High Ambient Temperature switches are wired in parallel and alarm at 2H13-P601, window C211. The Division I Power Failure and Test Bypass alarms are wired in parallel and alarm at 2H13-P601, window C309. The Division II Pump and HX Room delta T switches are wired in parallel and alarm at 2H13-P601, window B506. The Division II Pump and HX Room High Ambient Temperature switches are wired in parallel and alarm at 2H13-P601, window B505. The Division II Power Failure and Test Bypass alarms are wired in parallel and alarm at 2H13-P601, window B504. In addition, each Division I delta T and Ambient Temperature switch has an individual alarm at 2H13-P632 (which auto resets), and each Division II delta T and Ambient Temperature switch has an individual alarm at 2H13-P642 (which auto resets).

At the time of the RWCU Isolation/trips, the Unit 2 Reactor was in Cold Shutdown (Operating Condition 4). Unit 2 Technical Specification Table 3.3.2-1, Trip Function 3.e (RWCU Isolation) "Pump Area Ventilation delta T-High" requires the trip system to be operable only in Operating Conditions (1) Power Operation, (2) Startup, and (3) Hot Shutdown. Upon an actuation of a RWCU Leak Detection delta T switch, a Group 5 isolation and RWCU Pump trip were received, signifying all components operated per design. Since the plant was in Operating Condition 4, the act of bypassing the Leak Detection RWCU Division I and II channels, and restarting the RWCU Pump did not affect Technical Specifications. Though their tripping function has been bypassed, the Division I and Division II status of the Unit 2 RWCU Leak Detection pump and Non Regenerative Heat Exchange Room delta T and High Ambient Temperature Switches may be monitored by their respective 2H13-P601, P632 and P642 Control Room alarms. Safe plant conditions were maintained at all times.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

FACILITY NAME (1) LaSalle County Station Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 7 4	LER NUMBER (5)			PAGE (3)		
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		84	0110	010	05	OF	05

TEXT (If more space is required, use additional NRC Form 38A's) (17)

IV. CORRECTIVE ACTION

The following actions have been taken:

1. The Unit 2 Reactor Building Ventilation (VR, VA) Test Engineer has been notified of the ventilation problem in the RWCU Pump Rooms and is currently investigating (with Station Nuclear Engineering Department and Sargent and Lundy assistance) as to what balancing corrections are to be made.
2. AIR's 1-84-67030 and 1-84-67038 have been generated to investigate the Unit 2 RWCU Pump Room ventilation problem with the following recommendations:
 - a. To consider moving 2E31-N001B in the 2A RWCU Pump Room to a location similar to that in Unit 1.
 - b. To consider moving 2E31-N001C and 2E31-N001E to locations out of the air stream coming through 2VR051Y.
 - c. To consider shielding for 2E31-N100B, N100C and N100E.
 - d. The Unit 2 VR blast coils will not energize. The problem is that airflow switch 2FS-VR026 and relay 2FSY-VR026X are not permitting solenoids 2TSV-VR029 to energize and turn on the blast coils. Work Request L34337 has been generated to check the calibration on 2FS-VR026 and to try using high pressure Nitrogen to blow out the high and low sides of the supply air flow element 2FE-VR026. This may increase the delta P seen at flow switch 2FS-VR026.

V. PREVIOUS OCCURRENCES

The previous occurrences associated with the RWCU Leak Detection System are as follows:

LER 84-007-00 Docket 50-374
LER 84-006-00 Docket 50-374

These LER's are based on Reactor Building HVAC (VA) problems.

The RWCU Leak Detection delta T and Ambient Temperature valves will be recorded for the various test conditions during the Unit 2 performance of LOD-15.

VI. NAME AND TELEPHONE NUMBER OF PREPARER

John Reis, extension 640.



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

April 10, 1984

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

Dear Sir:

Reportable Occurrence Report #84-010-00, Docket #050-374 is being submitted to your office in accordance with 10 CFR 50.73.

G. J. Diederich
Superintendent
LaSalle County Station

GJD/MLD/kg

Enclosure

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

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