



**Commonwealth Edison**  
Dresden Nuclear Power Station  
6500 North Dresden Road  
Morris, Illinois 60450  
Telephone 815/942-2920

July 1, 1994

GFSLTR 94-0216

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

Licensee Event Report 94-016, Docket 05000249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10CFR50.73(a)(2)(iv).

Sincerely,

Gary F. Spedl  
Station Manager  
Dresden Station

GFS/EP:cfq

Enclosure

cc: J. Martin, Regional Administrator, Region III  
NRC Resident Inspector's Office  
File/NRC  
File/Numerical

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<b>NRC FORM 366</b> (5-92)			<b>U.S. NUCLEAR REGULATORY COMMISSION</b>			<b>APPROVED BY OMB NO. 3150-0104</b> <b>EXPIRES 5/31/95</b>											
<b>LICENSEE EVENT REPORT (LER)</b>									ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.								
<b>FACILITY NAME (1)</b> Dresden Nuclear Power Station, Unit 3						<b>DOCKET NUMBER (2)</b> 05000249			<b>PAGE (3)</b> 1 OF 4								
<b>TITLE (4)</b> Unplanned Partial Group II Primary Containment Isolation Due to Personnel Error																	
<b>EVENT DATE (5)</b>			<b>LER NUMBER (6)</b>			<b>REPORT DATE (7)</b>			<b>OTHER FACILITIES INVOLVED (8)</b>								
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME		DOCKET NUMBER						
06	06	94	94	-- 016 --	00	07	01	94	None								
									FACILITY NAME		DOCKET NUMBER						
<b>OPERATING MODE (9)</b>		N	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>														
<b>POWER LEVEL (10)</b> 000		20.2201(b)			20.2203(a)(3)(i)			50.73(a)(2)(iii)			73.71(b)						
		20.2203(a)(1)			20.2203(a)(3)(ii)			X 50.73(a)(2)(iv)			73.71(c)						
		20.2203(a)(2)(i)			20.2203(a)(4)			50.73(a)(2)(v)			OTHER						
		20.2203(a)(2)(ii)			50.36(c)(1)			50.73(a)(2)(vii)			(Specify in Abstract below and in Text, NRC Form 366A)						
		20.2203(a)(2)(iii)			50.36(c)(2)			50.73(a)(2)(viii)(A)									
		20.2203(a)(2)(iv)			50.73(a)(2)(i)			50.73(a)(2)(viii)(B)									
20.2203(a)(2)(v)			50.73(a)(2)(ii)			50.73(a)(2)(x)											
<b>LICENSEE CONTACT FOR THIS LER (12)</b>																	
<b>NAME</b> Ed Praninskas, System Engineer								<b>TELEPHONE NUMBER (Include Area Code)</b> Ext. 2304 (815) 942-2920									

<b>COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)</b>											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>						<b>EXPECTED SUBMISSION DATE (15)</b>		MONTH	DAY	YEAR	
YES (If yes, complete EXPECTED SUBMISSION DATE).				X NO							

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On June 6, 1994, with Unit 3 in refuel mode an unplanned partial Group II Primary Containment Isolation signal was received while attempting to open the Drywell and Torus Vent to Reactor Building Exhaust (3-1601-24) Valve. The partial isolation signal affected a total of fourteen Group II Primary Containment Isolation valves. Of the fourteen affected valves, four valves were observed to cycle to the isolated (closed) position. The remaining ten valves were closed and/or Out-of-Service at the time of the event. The cause of the event was determined to be a ground located on the spliced connection to the local pilot solenoid of valve 3-1601-24. The root cause of the event was attributed to personnel error while performing a maintenance activity. The safety significance of the event was considered minimal since Unit 3 was in the Refuel mode and primary containment integrity was not required. The damaged splice was repaired, Group II Primary Containment Isolation logic was reset, and valve 3-1601-24 was successfully tested.

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

# EVENT IDENTIFICATION:

Unplanned Partial Group II Primary Containment Isolation Due to a Ground

## A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 3                      Event Date: 6/6/94                      Event Time: 1733 hours

Reactor Mode: N              Mode Name: Refuel                      Power Level: 0

Reactor Coolant System Pressure: 0 psig

## B. DESCRIPTION OF EVENT:

On June 6, 1994, at 1733 hours with Unit 3 in the Refuel mode, an unplanned partial Group II Primary Containment Isolation (PCI) signal [JM] was received. At the time of the event, the Drywell and Torus Vent to Reactor Building Exhaust (3-1601-24) Valve [BB] was being opened to satisfy post maintenance testing under Work Request (WR) D19337. As the 3-1601-24 valve was given an 'open' signal from Control Room panel 903-3, light indication was lost for valves 3-1601-22, -24, -55, -58, -59, and -63, 3-8501-1B, -3B, and -5B, 3-9205B, 3-9206B, 3-9207B, and 3-9208B. Valves 3-8501-1B, 3-9205B, 3-9206B, and 3-9207B spuriously cycled to the 'closed' position.

Initial troubleshooting of the event found fuse 595-720 on panel 903-3 blown, and was subsequently replaced. A second attempt to open the 3-1601-24 valve from the 903-3 panel was made, and fuse 595-720 blew again.

## C. CAUSE OF EVENT:

This event is being reported in accordance with 10CFR50.73(a)(2)(iv) which requires the reporting of any unplanned Engineered Safety Feature (ESF) actuation.

Investigation into the cause of the blown fuse revealed that a lugged connection for the local pilot solenoid of Air Operated Valve (AOV) 3-1601-24 was grounded. The solenoid, which had been replaced under WR D19337 as part of preventative maintenance, is spliced to control power cable 33779. The location of the spliced connection is within a conduit C-fitting, which is connected directly to the pilot solenoid. Two screws are used to mount the C-fitting cover to the conduit. Upon removal of the cover, it was observed that one of the mounting screws had pierced the taped splice in the region of the lugged connection. This created a direct ground, from the control cable/solenoid splice through the conduit mounting screw, when the solenoid was energized to open valve 3-1601-24. Therefore, the root cause of the event is attributed to personnel error while performing maintenance on the valve.

Further investigation determined that 120 volts AC power is supplied to the control solenoid of valve 3-1601-24 by fuse 595-720, located on panel 903-3. The opening of this fuse created a partial Group II PCI, sending a 'close' signal to the following fourteen PCI valves: 3-1601-22, -24, -55, -57, -58, -59, and -63, 3-8501-1B, -3B, -5B, 3-9205B, 3-9206B, 3-9207B, and 3-9208B. In addition, the opening of the fuse caused a loss of light indication to the above

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mentioned valves, with the exception of motor-operated valve 3-1601-57 (this was the only affected valve that is motor-operated, and as such, does not have its light indication powered from the same circuit fed by fuse 595-720). Only valves 3-8501-1B, 3-9205B, 3-9206B, and 3-9207B were observed to cycle closed, since the other affected valves were in the closed position and/or Out-Of-Service (OOS) prior to the event.

#### D. SAFETY ANALYSIS:

The function of PCI valve 3-1601-24 is to provide a vent path from the Drywell, and/or Torus, to the Reactor building exhaust. The valve is required to be operable whenever Primary Containment is required (Reactor water temperature at or above 212 degrees F with fuel in the core), or if the Reactor is critical. The valve is interlocked such that it isolates (closes) upon receiving a Group II PCI signal, which is generated from the following conditions: low Reactor water level (+8 inches) or high Drywell pressure (+2 psig). The 3-1601-24 valve will also fail-safe to the isolated (closed) position upon loss of supply air pressure.

Since Unit 3 was in the Refuel mode at the time of the event with Reactor water temperature below 212 degrees F and all control rods inserted, primary containment integrity was not required. Therefore, no PCI valve was required to be operable, including valve 3-1601-24. Preventative maintenance activities on PCI valves are only performed during periods when the valves are not required to be operable. Therefore, this event would not have occurred during power operation when primary containment integrity is required.

For the reasons listed above, the safety significance of this event was considered minimal.

#### E. CORRECTIVE ACTIONS:

Immediate corrective action consisted of re-taping the damaged spliced connection for the local pilot solenoid of valve 3-1601-24. The splice was then replaced within the conduit C-fitting, such that no part of the splice occupied the area of the conduit required for the cover mounting screws. The cover for the C-fitting was then re-installed, Group II PCI logic was verified to be reset (fuse 595-720 had been replaced), and valve 3-1601-24 was successfully cycled from the 903-3 panel.

Additional corrective actions will consist of tailgating this event with all personnel in the Electrical Maintenance Department (EMD), in order to emphasize and heighten the awareness of the possibility of grounding/shorting electrical circuits when re-installing covers on any electrical enclosures. Also, individual counseling was performed to the person responsible for installing the cover.

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**F. PREVIOUS OCCURRENCES:**

<u>LER/Docket Numbers</u>	<u>Title</u>
PIR 12-2-93-084 (Non-Reportable)	M02-220-1 Would Not Close from Control Room.  One previous event, PIR 12-2-93-084 (non-reportable), was identified involving the failure of a PCI valve due to a pinched wire. In this event, the pinched wire created an open-circuit condition which prevented the valve from closing when given a close signal from the Control Room. The downstream isolation valve was then closed to provide Primary Containment, the pinched wire was then repaired, and the affected valve successfully tested and declared operable.

**G. COMPONENT FAILURE DATA:**

Since component failure was not identified as a contributor to the event, this section is not applicable.