

Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

January 28, 1992

CWS LTR #92-044

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

Licensee Event Report #91-008-1, Docket #050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv). This revised report provides further information concerning a Control Room indication light socket short which resulted in an unplanned Primary Containment Group V Isolation.

L. J. Gerner for 1/28/92

C. W. Schroeder
Station Manager
Dresden Nuclear Power Station

CWS/cfq

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

050000

9202030258 910927
PDR ADOCK 05000249
PDR
S

(ZDVR/311)

*IF 22
111*

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3
 Docket Number (2) 0 15 10 10 10 12 14 19
 Page (3) 1 of 0 5

Title (4) Unplanned Primary Containment Group V Isolation Due to a Blown Bulb

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 8	3 0	9 11	9 11	0 0 8	0 1	0 9	2 7	9 11	N/A	
									N/A	

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)											
POWER LEVEL (10)		N		20.402(b)		20.405(c)		X		50.73(a)(2)(iv)		73.71(b)	
0 1 0				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)	
				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 Mark Blakemore, Technical Staff System Engineer
 Ext. 2421
 TELEPHONE NUMBER
 AREA CODE 8 1 5 9 4 2 -2 9 2 10

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 L	I L	C 6 6 5						

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15)
 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 30, 1991, at 1503 hours with Unit 3 in the Run mode at 51% of rated core thermal power, while replacing a burned out light bulb on the Control Room position indication for Low Pressure Coolant Injection (LPCI) System inboard manual isolation valve 3-1501-26A, the light bulb caused a short circuit and caused fuse 595-714B to open. Simultaneously, a Primary Containment Group V Isolation was received, and the appropriate Isolation Condenser isolation valves closed as designed. The bulb and fuse were immediately replaced; subsequent replacement of the socket was completed under Work Request (WR) 03389. Inspection of the removed socket indicated that the root cause was a cracked housing. The safety significance of this event was minimal since the Isolation signal was reset and all active components of the High Pressure Coolant Injection (HPCI) system remained operable during the event. To prevent recurrence of this event, during the current Unit 3 refueling outage (D3R12) and the next Unit 2 refueling outage (D2R13) a minor plant modification will add two fuses in series to isolate the LPCI indication circuit from the isolation condenser isolation valve control circuitry. A previous event involving an unplanned Primary Containment Group V isolation was reported by LER 90-005 on Docket 0500237.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
Dresden Nuclear Power Station	0 5 0 0 0 2 4 9	9 1	-	0 0 8	-	0 1	0 2	OF	0 5	

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

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 Mwt rated core thermal power

Nuclear Tracking System (NTS) tracking code numbers are identified in the text as (XXX-XXX-XX-XXXXX)

EVENT IDENTIFICATION:

Unplanned Primary Containment Group V Isolation Due to a Blown Blub.

A. CONDITIONS PRIOR TO EVENT:

Unit: -3

Event Date: August 30, 1991

Event Time: 1503 Hours

Reactor Mode: N

Mode Name: Run

Power Level: 51%

Reactor Coolant System (RCS) Pressure: 1004 psig

B. DESCRIPTION OF EVENT:

On August 30, 1991 at 1503 hours with Unit 3 in the Run mode at 51% of rated core thermal power, it was observed that the light bulb on the Control Room position indication [JL] for Low Pressure Coolant Injection (LPCI) [B0] System inboard manual isolation valve 3-1501-26A was burned out. When the new bulb was inserted the Nuclear Station Operator (NSO) observed it flash, then extinguish. The low resistance flash in the light bulb apparently caused the opening of fuse 595-714B. Simultaneously with the light indication flash, a Primary Containment Group V Isolation [JM] signal was received and the Isolation Condenser [BL] 3-1301-1, -2, and -4 motor-operated (MO) and 3-1301-17 and -20 air-operated (AO) valves repositioned to the close position as designed. Fuse 595-714B is the supply power fuse for both the 3-1501-26A position indication and the Isolation Condenser Primary Containment Group V Isolation circuitry.

As an immediate corrective action, the supply power fuse was replaced and the Primary Containment Group V Isolation signal was reset. No other safety systems or components were inoperable at the time of this event which could have contributed to the event.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(iv), which requires the reporting of any event or condition that results in the manual or automatic actuation of any Engineered Safety Feature (ESF) [JE].

Replacement of the light assembly was subsequently completed under WR 03389. Inspection of the removed socket revealed that the root cause was a cracked housing. A history review indicates that damage to light socket housings of this type has not been a recurring adverse trend.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
Dresden Nuclear Power Station	0 5 0 0 0 2 4 9	9 1	-	0 0 8	-	0 1	0 3	OF	0 5	

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

D. SAFETY ANALYSIS OF EVENT:

The purpose of the Isolation Condenser is to control reactor pressure and/or remove decay heat from the reactor inventory during periods when the normal heat sink is unavailable. The Isolation Condenser can be manually or automatically initiated. An automatic initiation occurs when reactor pressure is sustained at greater than or equal to 1070 psig for 15 seconds. The primary Containment Group V isolation occurred with Unit 3 in the Run mode with reactor pressure at 1004 psig. Technical Specification (TS) Table 3.5.E.2 allows the Isolation Condenser to be inoperable for up to seven days provided that all active components of the High Pressure Coolant Injection (HPCI) [BJ] System remains operable. Throughout the entire evolution all active components of the HPCI system were operable. The Isolation Condenser was isolated for approximately 17 minutes. Had an event occurred at power with the Isolation Condenser in the isolated state, the consequences of a postulated accident could have been mitigated by the HPCI system or the Automatic Depressurization [SB] system in conjunction with LPCI and Core Spray [BM] systems.

Initiation of the Primary Containment Group V Isolation demonstrated proper operation of the Containment Isolation Valves. Therefore, the safety significance of this event was minimal.

E. CORRECTIVE ACTIONS:

As an immediate corrective action the light bulb and fuse were replaced. The Primary Containment Group V Isolation signal was reset.

The light socket was subsequently replaced under WR 03389, and the removed socket was inspected.

During the current Unit 3 refueling outage (D3R12), a Minor Plant Modification was completed to add two fuses in series (see attached Figure 1) to isolate the LPCI indication circuit from the isolation condenser isolation valve control circuitry. The fuses are coordinated with the upstream circuit breaker such that a similar short will not cause an unwanted Group V isolation. This modification is scheduled to be performed on Unit 2 during the next refueling outage (D2R13) (249-200-91-05803).

F. PREVIOUS OCCURENCES:

LER/Docket Numbers Title

90-005/050237 Unplanned Primary Containment Group V Isolation Due to Procedure Dificiency.

This event occurred while replacing a burned out light bulb on the Control Room position indication for the Low Pressure Coolant Injection (LPCI) System manual isolation valve 2-1501-26A. As a corrective action, improvements to administrative controls for issuance of replacement bulbs were implemented, and the bulb change-out procedure was revised.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
		Year	Sequential Number	Revision Number			
Dresden Nuclear Power Station	0 5 0 0 0 2 4 9	9 1 -	0 0 8 -	0 1	0 4	OF	0 5

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

LER/Docket Numbers Title

89-21/050237 Inadvertent Group V Primary Containment Isolation Due to Wire Lug Failure.

This event occurred as a result of breaking a wire lug connector while placing an Out-Of-Service Card. As a corrective action, the lug was replaced and relanded on the appropriate terminal.

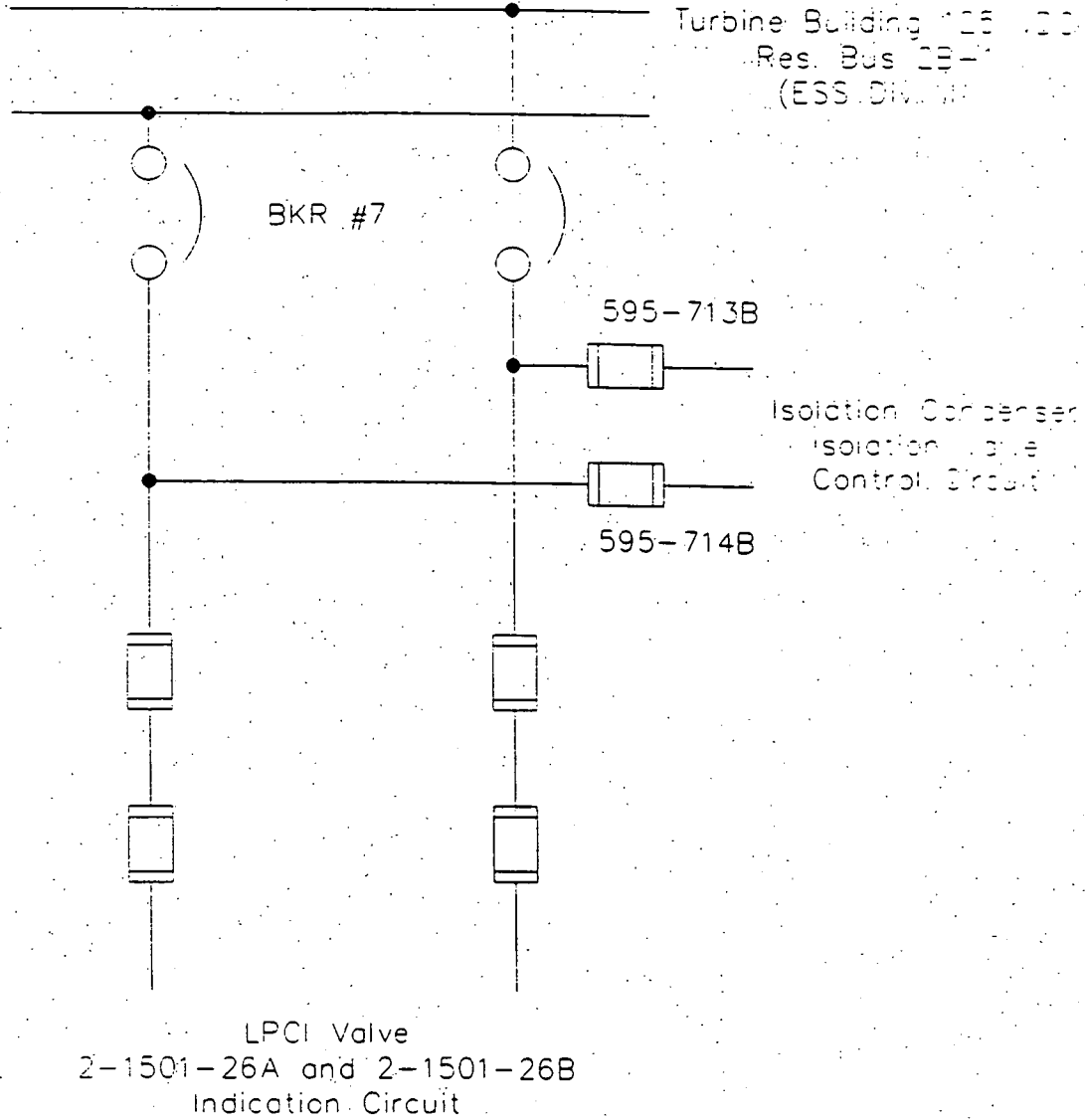
G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>MFG Part Number</u>
Crane Valve Co.	Light Indicator	783-UL	N/A

An industry-wide Nuclear Plant Reliability Data System (NPRDS) data base search revealed no reports of this nature.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
		Year	Sequential Number	Revision Number			
Dresden Nuclear Power Station	0 5 0 0 0 2 4 9	9 1 -	0 0 8	- 0 1	0 5	OF	0 5

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



Proposed Changes

Figure 1