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Dresden Nuclear Power Station
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August 24, 1990

EDE LTR #90-561

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Licensee Event Report #90-005-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/ade

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
File/NRC
File/Numerical

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 2	Docket Number (2) 0 5 0 0 0 2 3 17	Page (3) 1 of 0 4
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Title (4)
Unplanned Primary Containment Group V Isolation Due to Procedure Deficiency

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	7	3 0 9 0	9 0	0 0 5	0 0	0	8	2 4 9 0	None	0 5 0 0 0	

OPERATING MODE (9) N

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> Other (Specify
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	in Abstract
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	below and in
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	Text)

LICENSEE CONTACT FOR THIS LER (12)

Name Joseph Welch, Technical Staff System Engineer	TELEPHONE NUMBER Ext. 2666
	AREA CODE 8 1 5 9 4 2 - 2 9 2 0

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	

SUPPLEMENTAL REPORT EXPECTED (14)

Yes (If yes, complete EXPECTED SUBMISSION DATE) NO

Expected Submission Date (15)	Month	Day	Year

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

On July 30, 1990 at 1653 hours with Unit 2 in the Run mode at 84% 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 2-1501-26A, the light bulb caused a short circuit and caused supply power 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 cause of this event was attributed to inadvertent installation of a bulb of improper voltage rating due to procedure deficiency. The safety significance of this event was minimal since the Isolation signal was reset in approximately 17 minutes and all active components of the High Pressure Coolant Injection (HPCI) System remained operable during the event. To prevent recurrence of this event, improvements to administrative controls for issuance of replacement bulbs were implemented, and the bulb change-out procedure was revised. A previous event involving an unplanned Primary Containment Group V Isolation was reported by LER 89-021 on Docket 050237.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

The proximate cause of the event was attributed to inadvertent improper installation of a low voltage bulb. The two types of light bulbs normally used in the Control Room control panels are rated for 155 volts and 30 volts. The light bulbs are identical in shape and differ only in their markings. The 30 volt bulbs are used solely on the 902(3)-5 panel for the neutron monitoring [IG] indications which are powered from the 24 vDC power [EJ] system. The NSO had not been previously made aware of these concerns due to a procedure deficiency; DOP 040-4 was inadequate in that it contained no precautions to prevent this type of event. The bulb difference had been informally communicated to the Control Room staff four years earlier through an Operations Department Memorandum; however, the NSO involved had assumed Control Room duties within the past six months. In addition, the investigation found 30 and 155 volt light bulbs mixed in the same containers at various locations throughout the Control Room.

The light indication for the 1501-26A valve is powered by the 125 vDC [EJ] system. When the low voltage bulb was installed, the lower internal bulb resistance resulted in a large inrush of current, the bulb burning out, and supply power fuse 595-714B opening.

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 2 in the Run mode with reactor pressure at 995 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 the 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 socket was thoroughly cleaned, the fuse was replaced and the light bulb was replaced with one of proper voltage. The Primary Containment Group V Isolation signal reset (237-200-90-07401). As a long term corrective action, a separate storage area has been provided at the Station Control Room Engineer's (SCRE) desk where only 30 volt bulbs will be kept and issued (237-200-90-07402). Placards have also been placed on the Control Room supply cabinet to prohibit the storage of 30 volt bulbs (237-200-90-07403). DOP 040-4 has been revised to caution the Operator on replacement bulb selection (237-200-90-07404). Also, Operations Department Memorandum #19 has been formally issued to explain the proper use of the 30 volt bulbs (237-200-90-07405). In addition, during the investigation it was noted that due to the circuitry design, it is possible to cause a Primary Containment Group V Isolation upon de-energizing the 1501-26A or 26B valve position indicating circuit on either Unit. The System Engineer has initiated a Drawing Change Request to clarify this circuitry interaction (237-200-90-07406). The Nuclear Engineering Department is also investigating to determine if separation of this circuitry is appropriate (237-200-90-07407).

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F. PREVIOUS EVENTS:

LER Number 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.

89-10/050237 Unexpected Group V Primary Containment Isolation During Maintenance Due to Management Deficiency.

This event occurred due to an inadequate implementation of an equipment Out-Of-Service evolution prior to maintenance on a flow check valve. The corrective action involved labeling improvements to the Isolation Condenser differential pressure switches and review of the event with Station personnel.

89-009/050237 Group V Primary Containment Isolation Initiation During Surveillance Testing.

It was hypothesized that personnel performing surveillance testing at the instrument rack where the Group V Primary Containment Isolation initiating switches are located may have inadvertently caused the Isolation.

G. COMPONENT FAILURE DATA:

As this event was not precipitated by component failure, this section is not applicable.