Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
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September 6, 1989

EDE LTR #89-687

U.S. Nuclear Regulatory Commission
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Licensee Event Report #89-021-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

J Hotowit for
E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/jt

Enclosure

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

(0655k)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)	Docket Number (2)	Page (3)
Dresden Nuclear Power Station, Unit 2	0 5 0 0 0 2 3 7	1 of 0 3

Title (4)

Inadvertent Group V Primary Containment Isolation to Due Wire Lug Failure

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)
									NONE	0 5 0 0 0
0 8	0 9	8 9	8 9	0 2 1	0 0	0 9	0 6	8 9		0 5 0 0 0

OPERATING MODE (9): N

POWER LEVEL (10): 0 0 1

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

___ 20.402(b)	___ 20.405(c)	X 50.73(a)(2)(iv)	___ 73.71(b)
___ 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		TELEPHONE NUMBER	
		AREA CODE	
Scott Briley, Technical Staff System Engineer	Ext. 2526	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	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	E J	C O N	X X X X	N					

SUPPLEMENTAL REPORT EXPECTED (14)

___ Yes (If yes, complete EXPECTED SUBMISSION DATE) X NO

Expected Submission Date (15): Month | Day | Year

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

AT 0500 hours on August 9, 1989 with Unit 2 at 1% rated core thermal power, the Unit 2 Nuclear Station Operator (NSO) was preparing an equipment out of service (OOS) for the Main Steam Isolation Valves (MSIVs). As the NSO was moving lead wires behind control room panel 902-3 in order to read the labels for the MSIV control fuses being taken out of service, a wire lug connector inadvertently failed resulting in an open control power circuit for the Primary Containment Group I and Isolation Condenser isolation logic. The inboard MSIVs had been closed prior to this event; however, a half Primary Containment Group I isolation and a complete Primary Containment Group V isolation resulted from the open circuit. Because the Group V isolation resulted in automatic closure of the Isolation Condenser isolation valves, the Isolation Condenser was declared inoperable. The root cause of this event was determined to be component failure of the wire lug. The immediate corrective actions were to verify that actual Group V initiating conditions (Isolation Condenser line break) had not occurred and to initiate repair of the wire lug. Repairs were completed at 0630 hours on August 9, 1989 and the Isolation Condenser was then declared operable. Safety significance was minimal because the High Pressure Coolant Injection (HPCI) system and the relief valves were operable. This is believed to be the first occurrence of a spurious Primary Containment Group V isolation due to a broken wire lug.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					Page (3)		
		Year	///	Sequential Number	///	Revision Number			
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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:

Inadvertent Group V Primary Containment Isolation Due to Wire Lug Failure

A. CONDITIONS PRIOR TO EVENT:

Unit:	3	Event Date:	August 9, 1989	Event Time:	0050 hours
Reactor Mode:	N	Mode Name:	Run	Power Level:	1%

Reactor Coolant System (RCS) Pressure: 480 psig

B. DESCRIPTION OF EVENT:

On August 9, 1989 at 0050 hours with Unit 2 in hot standby at 1% rated core thermal power and the mode switch in startup, the Unit 2 Nuclear Station Operator (NSO) was preparing an equipment out of service (OOS) for the Main Steam Isolation Valves (MSIVs) [SB]. As the NSO was moving lead wires behand control room panel 902-3 in order to read the labels for the MSIV control circuitry fuses being taken out of service, a wire lug conductor for cable number 24086 inadvertently failed resulting in an open control power circuit for the Primary Containment Group I and Isolation Condenser [BL] isolation logic. Cable 24086 is common to Primary Containment Group I logic fuse 595-710A and Isolation Condenser Steam Line Break fuse 595-714A. Both fuses are physically located in fuse block AA. This resulted in a half Primary Containment Group I isolation signal and a complete Primary Containment Group V isolation. The half Primary Containment Group I isolation signal resulted only in a control room alarm and did not initiate automatic closure of the Group I isolation valves (which include the MSIVs, Main Steam Line drain valves, Recirculation system sample valves and the Isolation Condenser vent to main steam line valves). The inboard MSIVs had been closed prior to the event. Because the Primary Containment Group V isolation resulted in automatic isolation of the Isolation Condenser, the Isolation Condenser was declared inoperable and entered into the degraded equipment log (DEL).

Repairs were completed at 0630 hours on August 9, 1989 and the Group V Isolation was cleared; the Isolation Condenser was then removed from the DEL. No other systems or components which may have contributed to the root cause of this event were inoperable at the time of this event. Repairs to the wire lug connection were initiated immediately, and the Isolation Condenser was returned to operable status within six hours. This was within the time frame needed for completion of preparatory activities required for performing a HPCI operability surveillance. Therefore, in accordance with Technical Specification 3.5.E.2, the operability surveillances associated with an inoperable Isolation Condenser were not completed.

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).

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

The root cause of this event was determined to be component failure of the wire lug connector. The half Primary Containment Group I Isolation signal and the spurious Primary Containment Group V Isolation were verified to have been caused by this failure. A review of maintenance and history records indicates that this has not been an adverse trend.

D. SAFETY ANALYSIS OF EVENT:

The purpose of the Isolation Condenser is to control reactor pressure and/or remove decay heat from the reactor without the loss of 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 a hot standby condition with reactor pressure at 480 psig. Technical Specification Table 3.5.E.2 allows the Isolation Condenser to be inoperable for up to seven days provided that all active components of the HPCI system remain operable. Throughout the entire evolution of this event, all active components of the HPCI system were operable. The Isolation Condenser was inoperable for less than six hours. Had the Isolation Condenser isolated during normal operation, the consequences of a postulated accident could have been mitigated by the HPCI system or the Automatic Depressurization [SB] system in conjunction with the Low Pressure Coolant Injection [BO] and Core Spray [BM] systems.

Initiation of the half Primary Containment Group I isolation signal and complete Primary Containment Group V isolation demonstrated proper operation of the containment isolation system [JM]. Therefore, the safety significance of this event was considered to be minimal.

E. CORRECTIVE ACTION:

The immediate corrective action was to verify that an Isolation Condenser line break had not actually occurred to cause the Primary Containment Group V Isolation. After verifying that the isolation was due to the wire lug failure, Work Request 86605 was initiated requesting its repair. Repairs were completed on August 9, 1989 at 0630 hours. As this event has not been a recurring problem at Dresden Station, no further corrective actions were deemed necessary.

F. PREVIOUS EVENTS:

LER/Docket Numbers	Title
88-010/050237	Unexpected Group V Primary Containment Isolation During Maintenance Due to Management Deficiency This event occurred due to an inadequate implementation of an equipment OOS prior to maintenance on a flow check valve. The corrective action was to re-label the Isolation Condenser differential pressure switches and review the event with Station personnel.

G. COMPONENT FAILURE DATA:

Manufacturer	Nomenclature	Model Number	Mfg. Part Number
Amp Industries	Wire to terminal connector	N/A	35364

As this event was not reportable to the NPRDS, an industry-wide data base search was not performed.