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

January 21, 1991

EDE LTR #91-045

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

Licensee Event Report #90-022-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10CFR 50.73(a)(2)(iv). It should be noted that this report is being submitted after the 30 day issuance period due to a difficulty in interpreting the reportability of events of this type. We apologize for any inconvenience this has caused.

E. D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/ade

Enclosure

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

IE22
1/1

(ZDVR/125)

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 4

Title (4) Unexpected Closure of 11 Containment Isolation Valves During Surveillance Testing 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)
									N/A	
1 2	0 8	9 0	9 0	0 2 2	0 0	0 1	2 1	9 1	N/A	

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
N	___ 20.402(b)	___ 20.405(c)	X 50.73(a)(2)(iv)	___ 73.71(b)	
POWER LEVEL (10) 0 0 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	TELEPHONE NUMBER
J. Jasnosz, Technical Staff Engineer Ext. 2604	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)

		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 0626 hours on December 8, 1990, with Unit 2 in the Shutdown Mode, 11 of 44 Group II primary containment isolation valves went closed while an Electrician was performing an Environmental Qualification (EQ) Surveillance on the 2A Main Steam Isolation Valve (MSIV) solenoids. The Electrician inadvertently removed a jumper interrupting control power to several seal-in relays causing the 11 isolation valves to close. No Group II Isolation alarm was received. The Electrician immediately relanded the lead and terminated the surveillance. The Unit 2 Operator reopened the 11 valves and initiated an investigation. The root cause is being attributed to a procedure deficiency which failed to identify a wiring configuration discrepancy in control room panel 902-3. The event had no safety significance as all safety system functions were unaffected. Corrective actions included a field verification of the surveillance and correction of identified wiring configuration discrepancies both on Unit 2 and Unit 3. Two previous events found involving unplanned actuation of Engineered Safety Features components are reported on LER 90-10/1050237 and LER 90-11/1050237.

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:

Unexpected Closure of 11 Containment Isolation Valves During Surveillance Testing Due to Procedure Deficiency

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: December 8, 1990 Event Time: 0626 Hours

Reactor Mode: N Mode Name: Shutdown Power Level: 0%

Reactor Coolant System (RCS) Pressure: 0 psig

B. DESCRIPTION OF EVENT:

On December 8, 1990, Unit 2 was shutdown for a scheduled refueling outage. An Electrician was in the main control room performing an Environmental Qualification (EQ) surveillance on the 2A Main Steam Isolation Valve (MSIV) [SB] solenoids in accordance with Dresden Electrical Surveillance (DES) 0200-39, MSIV Electrical Maintenance. Step I.12 of this surveillance called for the determination and electrical testing of the MSIV solenoids at panel 902-3. At 0626 hours, the AC solenoid cable was lifted from terminal FF-43 in accordance with the surveillance procedure and 11 out of 44 air operated valved associated with a Group II Primary Containment Isolation [JM] unexpectedly went closed. The valves were as follows: 8501-1B, 8501-3B, 8501-5B, 1601-24, 1601-55, 9205A, 9205B, 9206A, 9206B, 9207A, and 9208A. No Group II Isolation alarm was received. The Electrician immediately relanded the cable on terminal FF-43 and informed the Unit 2 Operator that he saw the wire spark when he lifted it and simultanously heard several relays actuate. The Unit 2 Operator promptly reset all alarms and reopened the 11 valves within 2 minutes of the event. The Electrician terminated the surveillance. Operations immediately initiated a preliminary investigation and determined that the event was a direct result of the EQ surveillance in progress and not the result of an actual Group II Isolation signal.

C. APPARENT CAUSE OF EVENT:

A detailed investigation revealed that the seal-in relays associated with the 11 valves that went closed were de-energized when an electrical jumper wire was inadvertently removed in panel 902-3 during the EQ surveillance. When the AC solenoid cable was removed per step I.12 of DES 0200-39, an electrical jumper wire between terminals FF-43 and FF-45 was also lifted at FF-43. This jumper provides the 120 volt AC neutral power feed to 7 air operated solenoids, 8 pilot lamps, and 18 seal-in relays. Although wiring diagram 12E-2697 shows the jumper on the component (left) side of the terminal block FF, it was actually installed on the cable (right) side. When the procedure step I.12 removed the solenoid wire from FF-43, the jumper was also lifted.

The root cause of the event is attributed to a procedural deficiency within DES 0200-39. Although the procedure was followed as written by an experienced Electrician, it did not account for the wiring configuration deficiency. The procedure had been previously executed on Unit 3 during the last refuel outage without incident. It was noted, however, that lifting the jumper only affects isolation valves that are open at the time of the test. A field verification of DES 0200-39 was performed by Electrical Maintenance and the same jumper configuration discrepancy was identified on Unit 3. No other wiring problems were found. It is believed that these configuration discrepancies occurred at the time of original plant construction and were inadvertently missed during preparation and pre-approval field verification of DES 0200-39.

Because this event did not directly challenge the Group II Isolation circuitry, this event was initially classified as non-reportable and no 10CFR 50.72 notification was performed. However, further subsequent review with the site Resident Inspectors concluded that an LER should be submitted in accordance with 10CFR 50.73(a)(2)(iv), which requires the reporting of any unplanned Engineered Safety Feature (ESF) actuation.

D. SAFETY ANALYSIS OF EVENT:

Although 11 of 44 valves associated with a Group II Containment Isolation went unexpectedly closed, the actuation was due to an inadvertent interruption of control power to the seal-in circuitry for the affected valves and did not in any way affect the ESF logic or the ability of any system to fully perform its safety function. Had a Group II isolation signal been received, all required valves would have gone closed as designed. For these reasons, this event had no safety significance.

E. CORRECTIVE ACTIONS:

The following corrective actions were initiated to prevent reoccurence of this event.

1. DES 0200-39 was re-reviewed and re-field verified for both Units 2 and 3. A similar configuration discrepancy was found in Unit 3 panel 903-3. This activity is complete.

2. The electrical wiring discrepancy was corrected on Unit 2 panel 902-3 on work request (WR) 97056 and an appropriate wiring diagram revision was initiated. WR 97055 has been written to correct the wiring discrepancy in Unit 3 panel 903-3. Work will be completed during the next Unit 3 refueling outage scheduled for mid 1991; an appropriate wiring diagram change for Unit 3 will also be completed (237-200-90-14701).

3. This event will be included in an upcoming Station Tailgate meeting to stress the importance performing effective field verifications of procedures (237-200-90-14702).

F. PREVIOUS OCCURENCES:

Two previous events involving an unplanned ESF equipment actuation are listed below.

LER/Docket Numbers	Title
90-10/050237	2B Core Spray [BM] Pump Automatic Start Due to Management Deficiency

This event involved an unplanned start of the 2B Core Spray pump during maintenance activity on a Unit 2 Diesel Generator (DG) cubicle on 4KV bus 24-1. This did not result in injection to the reactor vessel, and is believed to have resulted from inadvertent grounding of a contact set during the maintenance activity. Corrective action included review of the event with Electrical Maintenance Work Analysts in order to clarify the need for highlighting the potential for this type of event.

LER/Docket Numbers	Title
90-11/050237	Unplanned Automatic Start of the Unit 2/3 Diesel Generator (DG) [EK] Due to Procedure Deficiency

This event involved the automatic start of the Unit 2/3 DG while Operations was taking the 4 KV buses 23 and 23-1 [EA] out-of-service (OOS). OOS instructions failed to identify a knife switch required to prevent the automatic start. Corrective actions included development of improved procedures, clarification of policy concerning technical assistance, and labeling improvements.

G. COMPONENT FAILURE DATA:

This section is not applicable because this event did not involve component failure.