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

October 24, 1990

EDE LTR #90-699

U.S. Nuclear Regulatory Commission
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Licensee Event Report #90-010-0, 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

(ZDVR/49)

IE22
1/1

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)

2B Core Spray Pump Automatic Start Due to Management 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)
									NONE	0 5 0 0 0
1 0	0 3	9 0	9 0	0 1 1 0	0 0	1 0	2 3	9 0	NONE	0 5 0 0 0

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
	AREA CODE
David B. Throne, Technical Staff System Engineer, Ext. 2513	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)

On October 3, 1990, with Unit 2 in the Refuel mode, a spurious automatic start of the 2B Core Spray pump occurred. Maintenance activities were underway on the Unit 2 Diesel Generator cubicle on electrical Bus 24-1. The Stationary Auxiliary Switch, which was being replaced, contains contacts which bypass the diesel sequencing timer and allows the 2B Core Spray pump to automatically start upon an initiation signal when the normal source of AC power is supplying the bus. It is hypothesized that an inadvertant ground occurred while installing the new switch. Corrective action implemented by the working department requires more in-depth reviews of affected circuits and interlocks by Maintenance and Operating Department personnel prior to commencement of work on energized circuitry. The safety significance of this event was minimal, because operability of the Core Spray and other Emergency Core Cooling Systems was unaffected. A previous event involving an unplanned Engineered Safety Feature actuation during electrical work was reported by LER 86-11/050249.

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:

2B Core Spray Pump Automatic Start Due to Management Deficiency

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: October 3, 1990 Event Time: 0622 Hours

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

Reactor Coolant System (RCS) Pressure: 0 psig

B. DESCRIPTION OF EVENT:

On October 3, 1990, with Unit 2 in the Refuel mode for the D2R12 Refueling Outage, a spurious automatic start of the 2B Core Spray [BM] pump occurred, with no Emergency Core Cooling System (ECCS) [BI] injection signal present. No water was injected into the reactor vessel [AC] as a result of the spurious actuation. The following Control Room [NA] annunciator alarms were received on Panel 902-3: Annunciator A-5, Core Spray [IB] Pump Running; Annunciator B-5, Core Spray Pump Trip; Annunciator H-5, 2B Spray Header Valve Leak; and H-13, Low Pressure Coolant Injection (LPCI)/Core Spray Pump at Pressure. The control switch for the 2B Core Spray pump was placed in the pull-to-lock position, and a Nuclear Station Operator (NSO) was assigned to stand-by at the switch. The plant status at the time of this event was Refuel. Control Room personnel verified that reactor water level was at a proper level in relation to plant status. No abnormalities were observed and also no ECCS initiation signals were present. The inboard core spray injection motor operated valve (MOV) 2-1402-25B was in the closed position. Fuel moves were in progress during the time period of this event. However, at the time of the actuation, a shift change was occurring, and no fuel moves were in progress at that particular time. Due to the actuation, fuel moves were temporarily halted while the event was being investigated.

To determine potential causes for the unplanned actuation of the pump, a review was performed by Operations Department personnel of current work that was in progress. This review revealed that preventative maintenance activities were underway by the Electrical Maintenance Department (EMD) via Work Request (WR) 95257. The scope of work involved planned preventative maintenance work on the Unit 2 Diesel Generator [EK] cubicle on electrical Bus 24-1. The work was being performed in accordance with Special Procedure (SP) 89-9-84, Inspection and Maintenance of General Electric MC-4.76 Horizontal Drawout Metal-Clad Switchgear. During implementation of the procedure, the Stationary Auxiliary Switch was replaced. This switch contains contacts 3 and 3T, which are labeled on drawing 12E2346 sheet 2 as Interlock Core Spray System II Auxiliary Power Monitor. These contacts bypass the ten second Diesel Generator sequencing timer and allows the 2B Core Spray pump to automatically start upon an initiation signal when the normal source of AC power is supplying the emergency electrical bus. During performance of the work, it is hypothesized that an inadvertent ground occurred during the process of determinating the leads on the in place switch, and the subsequent retermination of the leads on the new switch. Review of the work practices utilized by the Electricians, and their comprehension of the job

requirements showed good work habits and cognizance of job hazards. The required telephone notification was made per 10CFR50.72(b)(2)(ii) at 0945 hours by the Station Control Room Engineer (SCRE). Once the event was stabilized, and cause of the occurrence determined, work was again allowed to proceed on the Bus 24-1 cubicle, and fuel moves were reinitiated.

C. APPARENT CAUSE OF EVENT:

This report is submitted under the requirements of 10CFR50.73(a)(2)(iv) as an unplanned actuation of an Engineered Safety Feature (ESF).

The cause of this event was an inadvertent ground condition when transferring the leads for contacts 3 and 3T during replacement of the Stationary Auxiliary Switch in the Unit 2 Diesel Generator cubicle in Bus 24-1. During performance of the work the EMD employees utilized good work practices, and post job interviews by a station investigation team revealed that the personnel were cognizant of the requirements for working with energized electrical equipment. Rubber mats were employed to avoid grounding any leads to the cubicle walls and floor. The root cause of the event was determined to be management deficiency in the pre-job planning and package preparation by the EMD work analyst. Review of the drawings in the work package indicate that while accurate information was present in the documentation, and reviewed with Operations, it was not in a form easily discernable by subsequent reviewers. Review of the procedure SP 89-9-84 verified that the procedure was adequate and does not require revision. In fact, prior to the steps for replacement of the switch, a caution statement is present which warns the user to notify the Operations department if interlock circuits are affected.

D. SAFETY ANALYSIS OF EVENT:

The safety significance of this event is minimal, as Unit 2 was in a refueling outage at the time of the event. The reactor was in a cold shutdown condition, and no water was injected into the vessel as a result of the pump actuation. In addition, the Core Spray pump which started was still in an operable condition, as the leads were being lifted at the switch contacts in the cubicle, and the balance of the logic train was unaffected. The 2B Core Spray Pump minimum flow test return valve opened properly. The 2A Core Spray pump was also operable at the time of this event. No equipment damage occurred as a result of the actuation and no other safety system actuations resulted.

E. CORRECTIVE ACTIONS:

Corrective action to prevent reoccurrence of an event of this type is already in place. The EMD will provide a more in-depth review of affected circuits and interlocks when preparing work packages. This process will include reviewing the circuits which have a potential to affect plant equipment with the Operating Department personnel assigned to that Unit during the process of requesting permission to commence work. This action has already been implemented for all new work packages being created, and backfit for any packages which were prepared and waiting to be sent to the work group. The EM Department Head has verbally communicated this information to all Work Analysts and trained these individuals as to the expectations for future work package content (237-200-90-10501). No further actions are required to fulfill this item.

F. PREVIOUS EVENTS:

A review of recent previous events was conducted, and the following event has been determined to be similar in circumstances to this event.

LER/Docket Number	TITLE
86-11/050249	Automatic Start of Standby Gas Treatment Resulting from a Grounded Wire and Blown Fuse During Maintenance Activity

The EMD inadvertently grounded an energized wire while working on a limit switch for Air Operated Containment Vent and Purge System valve 3-1599-62. This caused a fuse to blow which isolated the Reactor Building [NG] ventilation [VA] system, and automatically started the Standby Gas Treatment (SBGT) [BH] system.

G. COMPONENT FAILURE DATA:

This section is not applicable, as no component failures resulted due to this event.