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Dresden Nuclear Power Station
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March 1, 1990

EDE LTR #90-170

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

Licensee Event Report #90-003-0, Docket #050249 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/jmt

Enclosure

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

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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 3	0 5 0 0 0 2 4 9	1 of 0 4

Title (4) Partial Group II Primary Containment Isolation and Standby Gas Treatment Initiation Due to Personnel Error

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 5 0 0 0
0 2	0 4	9 0	9 0	—	0 0 3	— 0 0	0 3	0 1	9 0		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	
	___ 20.405(a)(1)(iii)	___ 50.73(a)(2)(i)	___ 50.73(a)(2)(viii)(A)	in Abstract	
	___ 20.405(a)(1)(iv)	___ 50.73(a)(2)(ii)	___ 50.73(a)(2)(viii)(B)	below and in	
	___ 20.405(a)(1)(v)	___ 50.73(a)(2)(iii)	___ 50.73(a)(2)(x)	Text)	

LICENSEE CONTACT FOR THIS LER (12)

Name	TELEPHONE NUMBER
	AREA CODE
Dave Fisher, Technical Staff System Engineer Ext. 2485	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 February 4, 1990 at 1835 hours, with Unit 3 shutdown for refueling, a Nuclear Station Operator (NSO) removed fuse 595-718 in accordance with Outage Request III-460. Upon removal of the fuse, a partial Group II Primary Containment Isolation occurred, initiating an automatic actuation of the Standby Gas Treatment System and isolation of the Reactor Building Ventilation System.

The NSO immediately replaced the fuse and reset the Group II Isolation. The root cause of this event was determined to be personnel error on the part of Operations personnel who did not perform a thorough enough final review of the electrical drawings. Contributing to this event was a less than thorough preliminary review of the drawings by the Electrical Maintenance Work Analyst. The necessary electrical drawings were available and were correct; however, the personnel involved failed to review the individual relay descriptions provided on the drawings. Corrective action to prevent recurrence of this type of event includes providing training to all Senior Reactor Operators (SROs) and Work Analysts on the importance of reviewing the detail information supplied on drawings for individual components. In addition, SROs and Work Analysts will be reminded of the importance of taking adequate time in reviewing drawings associated with outage requests. There was one previous occurrence of a Group II Isolation involving personnel error that was recorded by Deviation Report #12-2-88-154. The root cause of the event was due to lack of independent verification of changes made to Equipment Outage Checklist.

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:

Partial Group II Primary Containment Isolation and Standby Gas Treatment Initiation Due to Personnel Error

A. CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: February 4, 1990 Event Time: 1835 hours

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

Reactor Coolant System (RCS) Pressure: 0 psig

B. DESCRIPTION OF EVENT:

At 1835 hours on February 4, 1990 with Unit 3 shutdown for refueling, the unit Nuclear Station Operator (NSO) was in the process of performing Outage Request III-460. Outage Request III-460 was submitted by the Electrical Maintenance Department for the removal of fuse 595-718 to allow replacement of a broken terminal point at NN-104 on panel 903-4 per Work Request 90128. The Outage Request had been reviewed and approved by two Senior Reactor Operators (SROs) in accordance with Dresden Administrative Procedure (DAP) 3-5, Out-Of-Service and Personnel Protection Cards. The NSO received assistance from the Operations Outage Supervisor in locating fuse 595-718. After correctly identifying the fuse in terminal block LL of Panel 903-4 in the Main Control Room, the NSO removed fuse 595-718 in accordance with the Outage Request.

Upon removal of the fuse, a partial Group II Primary Containment Isolation [JM] occurred, initiating an automatic actuation of the Standby Gas Treatment System [BH] and isolation of the Reactor Building Ventilation System [VA]. The NSO immediately replaced the fuse and actuated the switch labeled "GROUP 2 & 3 ISOL RESET" located on the 903-5 panel. This switch, which was the Group I Isolation reset switch and was later determined to be mislabeled, failed to reset the Group II Isolation. The NSO then actuated the switch "GROUP I ISOL RESET". This switch, which was the Group II/III Isolation reset switch and was also determined to be mislabeled, reset the Group II Isolation. The Reactor Building Ventilation System was restarted, and the Standby Gas Treatment System was secured.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with the requirements of 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).

The root cause of the partial Primary Containment Group II Isolation was due to personnel error on the part of the two SROs that resulted from a less than thorough review of the electrical drawings. Electrical drawings 12E-3510 Sheet 1, 12E-3506 Sheet 2, and 12E-3510B were reviewed by both Electrical Maintenance and Operations personnel to determine the equipment that would be affected by removing fuse 595-718. Following review of the electrical drawings, the Electrical Maintenance Work Analyst, the Shift Supervisor and the Operations Outage Supervisor erroneously determined that only drywell pneumatics [LD] and sump drain [WP] valves would be affected by the outage. The electrical prints, however, correctly indicate that relays 595-134 and 595-135 would deenergize upon removal of fuse 595-718 and result in actuation of the Standby Gas Treatment System.

In addition, the 595-134 and 595-135 relays are clearly shown on the drawings and are labeled as part of the Standby Gas Treatment System. However, the main heading below the relays is titled "Drywell Isolation Valve Control and Seal-In". The personnel involved in the drawing review read only the main heading and did not notice the labels on the Standby Gas Treatment relays.

In determining the root cause of the Group II Isolation reset problem, it was found that the labels on the Group I and the Group II/III Isolation reset switches had been reversed. The labels had been installed in accordance with the front elevation sketch of the 903-5 panel developed for the DCRDR project. The label locations shown on the sketch for these two switches was wrong. The sketch of the 903-5 panel had been drawn as a mirror image of the corresponding sketch used for the Unit 2 DCRDR project. In the process of developing the 903-5 panel sketch, the contracted engineering firm failed to reverse the positions of the Group I and Group II/III Isolation reset switches.

Immediately following this event, the Group I and Group II/III Isolation reset switch labels were changed to the correct position. NSO personnel conducted a review of all labels replaced on the Unit 2 and Unit 3 control panels as part of DCRDR for similar deficiencies. No labeling discrepancies were found. All control switches operated properly according to their labeled function.

D. SAFETY ANALYSIS OF EVENT:

The purpose of a Group II Primary Containment Isolation is to prevent the release of radioactive materials to the environs following a Design Basis Accident (DBA). A Group II Primary Containment Isolation is initiated by a low reactor water level signal (+8"), a high drywell pressure signal (+2 psig) or a high drywell radiation signal (100R/hr). None of these conditions actually occurred. All systems performed as designed and the affected systems were immediately returned to their normal lineups; therefore, the safety significance of this event is considered minimal.

E. CORRECTIVE ACTIONS:

Upon initiation of the Group II Isolation, the Operations Department immediately reinstalled fuse 595-718 and secured the Standby Gas Treatment System. The Reactor Building Ventilation System was immediately started and action was taken to relocate the Group I and Group II/III Isolation reset switch labels (249-200-90-02201). The NSOs performed a review of all labels installed as part of the DCRDR project on both Unit 2 and Unit 3 and found no discrepancies (249-200-90-02205).

Other corrective actions will be taken and include the following items:

1. All SROs will receive additional training in the continuing training program on the importance of reviewing the detail information supplied on drawings for individual components, in lieu of relying only on main heading titles (249-200-90-02202).

2. This event will be reviewed with Work Analysts to stress the importance of reading all information supplied on drawings with respect to individual components (249-200-90-02203).

3. All SROs and Work Analysts will be reminded of the importance of taking an adequate amount of time to review drawings associated with outage requests (249-200-90-02204).

4. The Standby Gas Treatment System initiation logic will be reviewed to determine possible improvements to circuits with single-fuse initiation capability (249-200-90-02206).

F. PREVIOUS EVENTS:

LER/Docket Numbers	Title
88-023/050237	Group II Primary Containment Isolation and Standby Gas Treatment Initiation Due to Personnel Error

This event was caused by the lack of independent verification of changes made to the Equipment Outage Checklist. The corrective action was to instruct all Operating personnel on the need for independent verification in the processing of outage requests.

88-011/050249	Group II Primary Containment Isolation Due to Procedural Inadequacy.

This event was caused by an improper out-of-service due to a procedural deficiency. The corrective action was to review the out-of-service procedure.

G. COMPONENT FAILURE DATA:

The Standby Gas Treatment System and the Reactor Building Ventilation System functioned as designed when Fuse 595-718 was removed. No component failures occurred, therefore an NPRDS data base search was not required.