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Dresden Nuclear Power Station
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December 11, 1990

EDE LTR #90-770

U.S. Nuclear Regulatory Commission
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Licensee Event Report #90-012-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i).

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/dal

Enclosure

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

ZDVR/83

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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 15 10 10 10 12 13 17
 Page (3) 1 of 0 4

Title (4) Fuel Load Core Monitoring Requirements Violated 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)		
1	1	12	9	0	0	1	2	1	1	9	0	
									N/A	0	15	10
									N/A	0	15	10

OPERATING MODE (9) N

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

POWER LEVEL (10) 0 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input 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 checked="" type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 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)	<input type="checkbox"/> 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)	<input type="checkbox"/> Text)

LICENSEE CONTACT FOR THIS LER (12)

Name: J. Boyar Regulatory Assurance Engineer
 Telephone Number: AREA CODE 8 1 5 9 4 12 -12 19 12 10
 Ext. 2707

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	

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) _____

Yes (If yes, complete EXPECTED SUBMISSION DATE) NO

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

At 1440 hours on November 12, 1990, with Unit 2 in the refuel mode with core load activities in progress, it was discovered that Source Range Monitor (SRM) 22 was not fully inserted into the core while fuel load had proceeded in the SRM 22 quadrant, contrary to Technical Specification 3.10.B. The cause was found to be damage to the SRM 22 drive mechanism resulting from failure to remove platform covers from the drive mechanism access holes under the reactor vessel prior to performing an SRM response check surveillance. The root cause was attributed to an Instrument Maintenance management deficiency due to lack of adequate procedural control over the platform cover installation/removal process. Although this apparently resulted in the loading of a maximum of fourteen fuel bundles in the SRM 22 quadrant without full insertion of SRM 22, the safety significance of this event was minimal because a SRM in an adjacent quadrant was operable, and SRM 22 continued to exhibit proper neutron response to fuel loading near the detector location. Corrective actions will include development of procedural improvements. This was the first event involving violation of the SRM insertion requirements during fuel load caused by drive mechanism damage of this type.

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 Operators received permission from an IM Supervisor prior to driving the SRM detectors out of the core. The IM Supervisor who granted permission for SRM movement was under the impression that the covers had been removed because of his understanding of the memo concerning control of the covers and past experience with performing this activity. However, subsequent investigation revealed that the covers had not been removed following IM work under the reactor vessel on November 6, 1990, contrary to the requirements of the memo, due to conflicting guidance from another IM Supervisor.

Therefore, the proximate cause of the loading of fuel while SRM 22 was not fully inserted into the reactor core was erroneous information provided to Operations by IM Supervision concerning the status of the access hole covers. However, the following factors were concluded to contribute to an underlying root cause of management deficiency.

1. The work instructions for WR 95435 did not contain guidance for the installation and removal of the platform hole access covers.
2. DIS 700-30 was not used because of the change in SRM detector cable type.
3. Inadequate controls were provided concerning the cover installation/removal activity, and the informal memo was countermanded by IM supervision.

D. SAFETY ANALYSIS OF EVENT:

At 1440 hours, SRM 22 was discovered to be positioned about three feet below its normal fully-inserted position of 1.5 feet above the core midplane, which corresponds to a height of 4.5 feet above the core bottom. At the time of this discovery, the detector indicated about 33 counts per second (CPS), which is well above the required count rate of 3 CPS. A thorough review of the fuel load sequence and SRM response records by the Unit Qualified Nuclear Engineer and the Reactor Engineer indicated that SRM 22 exhibited a clearly observable increase in count rate as fuel was loaded near the detector location. This confirmed that SRM 22 was in fact functionally operable during the period in question, even though not inserted to its normal operating position. An adjacent-quadrant SRM was also operable during this entire period, as were a total of seven IRMs (including the two in the SRM 22 quadrant). There was a continuous fuel path to the operable SRMs and IRMs. These factors mitigated the significance of this event.

E. CORRECTIVE ACTIONS:

For the remainder of the Unit 2 fuel load, a Supervisor physically observed proper SRM drive unit operation. The SRM 22 drive unit was repaired and the remaining three SRM drive mechanisms were also inspected.

To prevent recurrence of this type of event, the IM Department will revise DIS 700-30 to address the new cables used for the SRMs and IRMs, and provide strict controls concerning the cover plates; this event will also be reviewed during an upcoming IMD tailgate session. These controls will require that the drives be taken Out of Service (OOS) when the plates are installed per this procedure. The IM Supervisor responsible for the completion of the procedure will also be responsible for physically verifying the removal of the plates prior to having the SRM and IRM drives returned to service (237-200-90-12701).

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Also, in order to address other potential situations involving use of the access hole covers, the following actions will be taken:

1. Dresden Fuel Handling Procedure (DFP) 800-1, Master Refueling Procedure, will be revised by the Technical Staff to require that a Supervisor physically verify that the access hole covers have been removed and that the platform is correctly oriented and pinned prior to commencing core alterations. The procedure will also be revised to prohibit entry to the area underneath the reactor vessel following completion of the verification unless specific permission is given by the Operations Shift Supervisor. If permission to work underneath the vessel is granted, Supervisory verification of the access hole cover removal and proper platform alignment will again be required upon completion of the work (237-200-90-12702).
2. Dresden Operating Procedure (DOP) 700-1, Source Range Monitor Operation (SRM), and DOP 700-2, Intermediate Range Monitor (IRM) Operation, will be revised by the Operations Staff to require verification that the area underneath the reactor vessel has been inspected and posted off-limits prior to withdrawing the SRMs or IRMs during periods when the primary containment drywell is accessible. If the area has not been inspected and posted, Supervisory physical verification of the access hole cover removal and proper platform alignment will be required prior to detector drive withdrawal (237-200-90-12703). Furthermore, the event described by this LER will be included as a training topic in an upcoming Licensed Operator continuing training cycle (237-200-90-12704).
3. DOS 800-3 will be revised by the Operations Staff to require verification that the area underneath the reactor vessel has been inspected and posted off-limits prior to performing an SRM response check using the detector withdrawal method during periods when the primary containment drywell is accessible. If the area has not been inspected and posted, Supervisory physical verification of the access hole cover removal and proper platform alignment will be required prior to performing the response check. In addition, the procedure will be clarified to require that neutron response be observed during both detector withdrawal and insertion (237-200-90-12705).

F. PREVIOUS OCCURENCES:

A previous event involving failure of an IRM detector drive is listed below. This event did not involve a Technical Specification violation.

<u>DVR Number</u>	<u>Title</u>
12-3-90-30	Intermediate Range Monitor Failures Due to Dirty Connector and Drive Tube Sprocket Disengagement.

This event involved an IRM drive failure caused by detector cable twisting. The cable twisting was attributed to the cable becoming entangled with the platform beneath the reactor vessel. The corrective action involved realigning the platform relative to the IRM cables thereby allowing the cable, to pass through freely upon detector withdrawal.

G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
General Electric	Drive Unit	112C314468	N/A

An industry wide NPRDS data base search revealed no similar events.