



Commonwealth Edison

Dresden Nuclear Power Station

R.R. #1

Morris, Illinois 60450

Telephone 815/942-2920

February 6, 1991

EDE LTR #91-085

U.S. Nuclear Regulatory Commission
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Licensee Event Report #90-001-0, 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/ade

Enclosure

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

(ZDVR/133)

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TEER
11

Facility Name (1)

Dresden Nuclear Power Station, Unit 3

Docket Number (2)

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Page (3)

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Title (4) De-energization of Reactor Protection System Due to Procedural 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)				
0	1	14	9	1	9	1	0	2	0	6	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)																					
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.405(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	X	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(x)	73.71(b)	73.71(c)	Other (Specify in Abstract below and in Text)

LICENSEE CONTACT FOR THIS LER (12)

Name	Emory Johnson, Technical Staff System Engineer							Ext. 2603		TELEPHONE NUMBER			
										8 1 5 9 4 2 -12 19 12 10			

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)

Yes (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	Expected Submission Date (15)	Month	Day	Year
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ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)

At 1244 hours on January 14, 1991 with Unit 3 in Shutdown at 0% rated core thermal power, Dresden Technical Staff Surveillance (DTS) 500-2, Functional Testing of Reactor Protection System (RPS) Motor Generator (MG) Set and RPS Reserve Power Supply, was being performed. When the power feed to the B RPS was transferred from the MG Set to Unit 3 Bus 39-5, an unplanned reactor scram signal occurred. During the test a half scram would normally occur when this step is performed. However, the reactor was already under a full manual scram, and because the scram discharge volume (SDV) high water level RPS trips were bypassed, both channels of RPS produced a scram signal. The safety significance of this event was considered minimal because the reactor was already in Shutdown mode, with all control blades fully inserted, and a full scram signal was already inserted.

The cause attributed to the de-energization of both RPS channels is procedural deficiency. The procedure lacked sufficient constraints concerning performance of the surveillance under a preexistent scram condition. A revision to the functional testing procedure, DTS 500-2, will be made to include the steps necessary to adequately perform the surveillance. This was the first occurrence of this type.

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

Each SDV is vented by two air to open, spring to close, vent valves connected in series. Each SIV is drained by two air to open, spring to close, drain valves connected in series. These valves are normally open under normal operating conditions and the SDV and SIV should normally be empty. During a scram condition, the vent and drain valves close. The SIVs and SDVs fill with reactor water due to the displaced water from the over piston area and due to leakage past the CRD mechanism seals. Thus the SDVs and SIVs become an extension of the primary system.

The RPS circuitry consists of two independent channels containing two subchannels. The RPS circuitry is normally energized. During DTS 500-2 jumpers are installed over the condenser low vacuum and main steam line isolation valve closure circuit contacts on all four subchannels to prevent a full scram from occurring by de-energizing the RPS bus (A or B) at less than 600 psig reactor pressure (refer to Figure 1 attached). The reactor was in Shutdown mode and a manual scram had been initiated; therefore, the scram valves were open, the manual scram relays were de-energized, and the SDV volume was filled giving a SDV high water level indication and tripping open the SDV high water level contacts (590-100B and D). The SDV High Water Level Bypasses were energized, because the keylock switch on the 903-5 panel was in the "Bypass" position. The SDV Bypasses contain contacts common to both RPS trip channels. With the SDV high water level contacts dropped out and the Bypasses engaged, when the RPS B bus was de-energized the SDV Bypass circuit contacts common to both trip channel de-energized. This caused the unplanned scram signal.

C. APPARENT CAUSE OF EVENT:

This report is submitted in accordance with 10 CFR 50.73(a)(2)(iv) because an unplanned automatic actuation of the RPS occurred. With a manual scram already in place the SDV high water level contacts dropped out due to high water level in the SIVs. The SDV High Water Level Bypasses were energized by the Operator having placed the keylock switch to the "Bypass" position. When the power feed to the RPS was transferred from the B RPS MG Set to Unit 3 Bus 39-5, SDV High Water Level Bypass contacts common to both RPS buses de-energized, resulting in a full scram. De-energization of the RPS occurred because the procedure lacked sufficient procedural controls to perform the surveillance under a preexistent scram condition. Consequently, the cause of this event has been determined to be procedural deficiency.

D. SAFETY ANALYSIS OF EVENT:

At the time of the event, the reactor was shutdown with all control blades fully inserted, and RPS de-energized. The system performed appropriately, considering its configuration for the surveillance. Therefore, the significance of this event was considered minimal.

E. CORRECTIVE ACTIONS:

The procedure did not provide adequate controls to perform the surveillance with RPS de-energized due to a prior scram signal. A procedure revision will be implemented to DTS 500-2 by the System Engineer which will include the proper procedural constraints (249-200-91-00501). No further corrective action is deemed necessary at this time.

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

F. PREVIOUS OCCURENCES:

An unrelated event involving the SDV High Level Scram Bypass switch is listed below.

LER/Docket Numbers Title

88-010-0/05000237 Inadvertent Reactor Protection System Actuation Due to Personnel Error

After shutting down Unit 2 an unplanned scram signal was received because the SDV High Level Scram Bypass switch was not placed in "Bypass" position. The shutdown procedure did not specifically address the SDV High Level Bypass switch position. The shutdown procedure was revised.

G. COMPONENT FAILURE DATA:

None. There was no component failure identified with this event; therefore, this section is not applicable.

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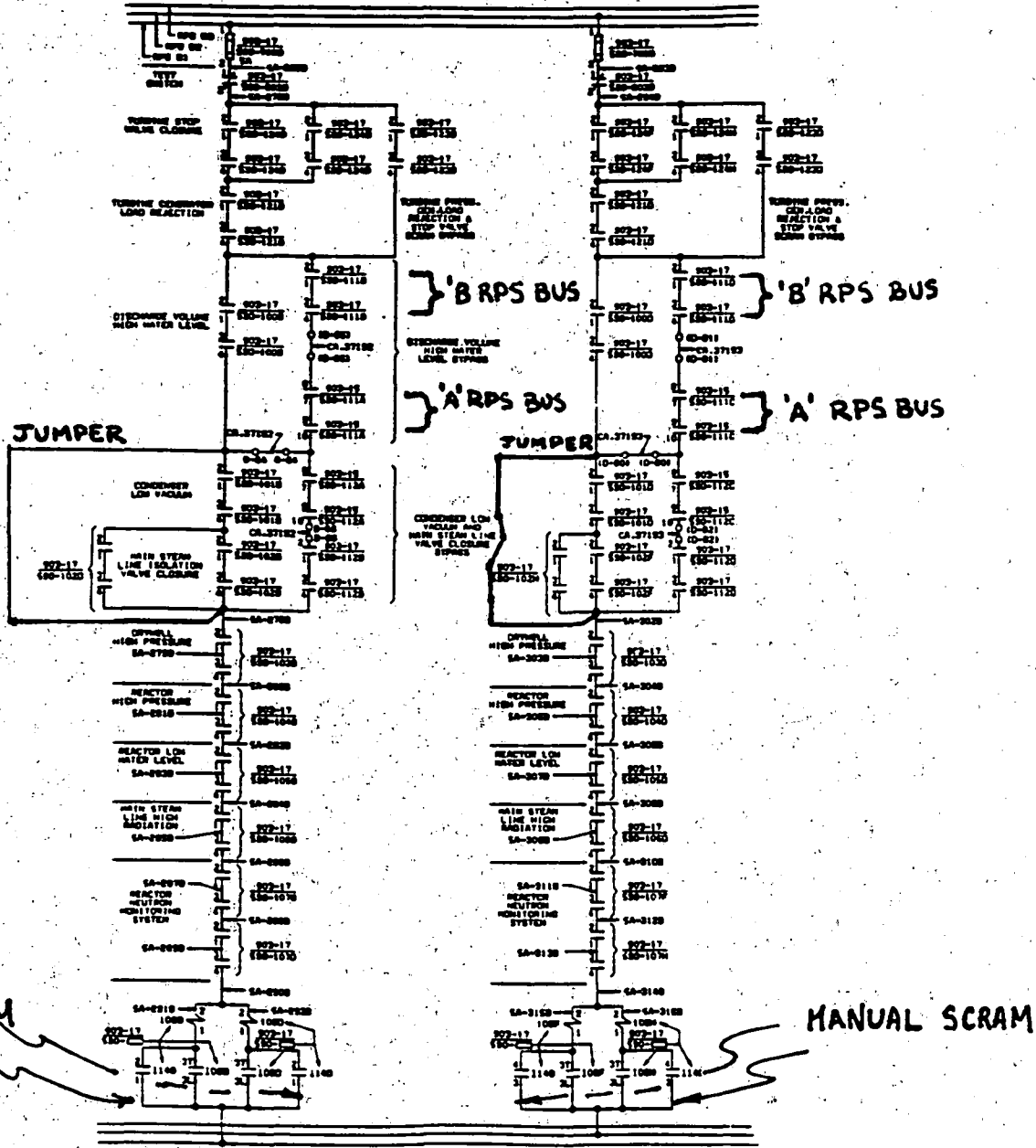


FIGURE 1

RPS B BUS SCRAM CIRCUITRY