



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

February 11, 1993

CWS PMLTR 93-0080

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

Licensee Event Report 93-001, Docket 050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(v).

W. Schroeder for 2-11-93

Charles W. Schroeder
Station Manager
Dresden Station

CWS/slb

enclosure

cc: A. Bert Davis, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3 Docket Number (2) 0 15 10 10 10 12 14 19 Page (3) 1 of 0 5

Title (4) Emergency Core Cooling Level Indicating Switch Out of Calibration Due to Instrument Drift

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)	
01	11	39	39	0101	00	02	09	93		0151010101	

OPERATING MODE (9) N

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

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	X 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: Nicos P. Digrindakis, Technical Staff Engineer Ext. 3584

TELEPHONE NUMBER: AREA CODE 815 942-2920

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
X	J	E	L	I	S	Y	1010	Y	

SUPPLEMENTAL REPORT EXPECTED (14)

X Yes (If yes, complete EXPECTED SUBMISSION DATE) | NO

Expected Submission Date (15) 063093

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

On January 13, 1993 at 0110 hours with Unit 3 at 100 percent rated core thermal power, while performing Dresden Instrument Surveillance (DIS) 500-3, Reactor Low Low Water Level Emergency Core Cooling System (ECCS) Initiation Indicating Switch Calibration and Functional Test the Instrument Maintenance Department (IMD) found Level Indicating Switch (LIS) 3-263-72A outside the required Technical Specification range. Contacts [5-6] were found to trip at 114.9 inches of water dP which corresponds to 83.1 inches above the top of active fuel. Contacts [7-8] were also found to trip at 114.9 inches of water dP which corresponds to 83.1 inches above the top of active fuel. At 0200 hours January 13, 1993 (50 minutes following the testing of LIS 3-263-72A) the IMD found LIS 3-263-72B outside the required Tech. Spec. range. Contacts [5-6] were found to trip at 114.8 inches of water dP which corresponds to 83.3 inches above the top of active fuel. Both switches were immediately recalibrated to within acceptable range. An ENS phone call was made at 0922 hours January 13, 1993. The root cause to these switches failing to actuate at the ideal tolerances specified has been attributed to instrument drift. Unit 3 Low Pressure Coolant Injection (LPCI) would not have initiated at -59 inches reactor level as required by Technical Specifications but would have initiated at -59.9 inches reactor level. Since the LPCI initiation would have occurred at a reactor level 0.9 inches less than the level required by Technical Specifications the safety significance of this event is minimal. Failure to make the ENS phone call within the required time period has been attributed to management deficiency.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Dresden Nuclear Power Station	0 5 0 0 0 2 4 9	9 3	-	0 0 1	-	0 0	0 3	OF	0 5	

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

C. APPARENT CAUSE OF EVENT

This report is submitted in accordance with 10 CFR 50.73 (a)(2)(v) which requires the reporting of any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

The Instrument Maintenance Department inspection of LIS 3-2663-72A and LIS 3-263-72B revealed no abnormalities. The root cause to these switches failing to actuate at the ideal tolerances specified has been attributed to instrument drift.

The cause of the failure to make the ENS phone call within the four hour period following the discovery of the degraded condition is due to management deficiency. As a result of a similar occurrence involving instrument drift of Yarway level indicating switches, Dresden Operating Department Technical Specification Interpretation (T.S.I.) number 17 was written. This T.S.I. was written to provide Operations Department Personnel with a swift and accurate method of determining availability of the Emergency Core Cooling Systems and reportability requirements when certain initiating level switch contact pairs are found non-conservatively set. This T.S.I. was approved on December 18, 1992, but there was no formal training on this T.S.I. nor was there any notification to shift personnel of its existence. A PIF was written on January 22, 1993, stating that there is no procedural guidance to ensure that appropriate personnel are notified of new T.S.I.'s nor is there procedural guidance for Operations personnel to ensure that the requirements of T.S.I. 17 are performed. Another contributing factor was the length of time it took the second Problem Identification Form to reach the Operations Department.

D. SAFETY ANALYSIS OF EVENT

The reactor low low water level logic consists of four level switches, LIS 3-263-72A, 72B, 72C, and 72D, that are designed to initiate the Emergency Core Cooling Systems upon sensing reactor vessel low low water level. LIS 3-263-72A and 72B also have logic that is designed to trip the High Pressure Coolant Injection (HPCI) turbine on reactor vessel high water level. LIS 3-263-72A provides the following initiation or trip signals as listed below:

Contacts [3-4] - HPCI turbine trip.

Contacts [5-6] - LPCI subsystem I initiation and HPCI initiation.

Contacts [7-8] - Corespray subsystem I initiation and input to Auto Blowdown logic.

LIS 3-263-72B provides the following initiation or trip signals as listed below:

Contacts [3-4] - HPCI turbine trip.

Contacts [5-6] - LPCI subsystem 2 initiation and HPCI initiation.

Contacts [7-8] - Corespray subsystem 2 initiation and input to Auto Blowdown logic.

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For the ECCS logic initiation signals, Technical Specification Tables 3.2.1. and 3.2.2. require that the number of operable instrument channels per trip system be a minimum of two and the trip level setting be 84 (+4/-0) inches above the top of active fuel. The reactor vessel low low water level initiation switches are arranged in one out of two twice logic, and as long as one switch in each leg of the circuit is functional, the circuit will still perform as designed. However, during this event two contacts within the same leg of the one out of two twice logic circuitry were out of calibration in the non-conservative direction. Unit 3 Low Pressure Coolant Injection (LPCI) would not have initiated at ≤ -59 inches reactor level as required by Technical Specifications but would have initiated at -59.9 inches reactor level. Since the LPCI initiation would have occurred at a reactor level 0.9 inches less than the level required by Technical Specifications the safety significance of this event is minimal.

E. CORRECTIVE ACTIONS

The immediate corrective actions taken by the IMD were to recalibrate LIS 3-263-72A contacts [5-6] and [7-8] and LIS 3-263-72B contacts [5-6]. Due to the continuing problems with the Yarway level indication switches and their becoming obsolete, reduced parts availability, and reduced vendor support, the Station has proceeded to investigate possible alternatives to the Yarway switches. The IMD has instituted an accelerated surveillance frequency of twice per month for these instruments. Presently, a feasibility study is under way to evaluate replacement of these switches. This feasibility study will be complete by 6/01/93 (NTS# 2491809300101). A revision to the Technical Specification Table 3.2.2., required setpoint tolerance bands, has also been submitted. This revision proposes to remove the +4 inches upper tolerance limit and facilitates implementation of conservative setpoints within the repeatability capabilities of this instrumentation (NTS# 2372008902203). The Instrument Maintenance Department has also retained a vendor representative during previous refuel outages to assist with inspection and rebuild of this equipment.

A PIF was written on January 22, 1993, stating that there is no procedural guidance to ensure that appropriate personnel are notified of new T.S.I.'s nor is there procedural guidance for Operations personnel to ensure that the requirements of T.S.I. 17 are performed. Corrective actions to address this will be followed by NTS# 237-201-93-04900 and the results will be discussed in a supplement to this LER to be submitted by June 30, 1993. Additionally, in the interim the Instrument Maintenance Department will hold a Supervisors' counseling session which will cover the information surrounding this event as well as the importance of forwarding PIF's to the Operations Department in a timely manner and the proper way to notify the Operations Department of the discovery of non-conservative level switch contacts and how to assist in evaluating the logic diagrams. This training will be completed by March 8, 1993 (NTS# 2491809300102).

F. PREVIOUS EVENTS:

Five previous events are listed below:

<u>DVR Number</u>	<u>Title</u>
12-3-92-46	Emergency Core Cooling Level Indicating Switch Out of Calibration Due to Instrument Drift
12-2-92-73	Emergency Core Cooling Level Indicating Switch Out of Calibration Due to Instrument Drift
12-3-92-86	Emergency Core Cooling Level Indicating Switch Out of Calibration Due to Instrument Drift
12-2-92-97	Emergency Core Cooling Level Indicating Switch Out of Calibration Due to Instrument Drift
12-2-92-103	Emergency Core Cooling Level Indicating Switch Out of Calibration Due to Instrument Drift

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G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Yarway Co.	Level Indicating Switch	4418C	N/A

An industry wide NPRDS data base search revealed 129 failures of this type of switch due to instrument drift or instrument failure.