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ComEd

November 29, 1994

JSPLTR 94-0026

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

Attached please find Licensee Event Report 93-031-01, Docket 50-237.

This revised report is being submitted to provide an update of corrective actions and further clarifying information.

Sincerely,

J. Stephen Perry
Vice President
BWR Operations

JSP/JK:cfq

Enclosure

cc: J. Martin, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

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NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Dresden Nuclear Power Station, Unit 2	05000237	1 OF 4

TITLE (4)
Reactor Vessel Level Instrumentation Found Outside of Technical Specification Limits Due to Setpoint 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 NAME	DOCKET NUMBER
12	22	93	93	-- 031 --	01	12	01	94	None	
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N
POWER LEVEL (10)	099

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(3)(i)		50.73(a)(2)(iii)		73.71(b)
	20.2203(a)(1)		20.2203(a)(3)(ii)	X	50.73(a)(2)(iv)		73.71(c)
	20.2203(a)(2)(i)		20.2203(a)(4)		50.73(a)(2)(v)		OTHER
	20.2203(a)(2)(ii)		50.36(c)(1)		50.73(a)(2)(vii)		(Specify in Abstract below and in Text, NRC Form 366A)
	20.2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(viii)(A)		
	20.2203(a)(2)(iv)		50.73(a)(2)(i)		50.73(a)(2)(viii)(B)		
	20.2203(a)(2)(v)		50.73(a)(2)(ii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mark Churilla, System Engineering Ext. 2788	(815) 942-2920

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
X	AD	LIS	Y019	Y						

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 15 single-spaced typewritten lines) (16)

On December 22, 1993 at 0945 hours, with Unit 2 at 99% rated core thermal power, while performing Dresden Instrument Surveillance (DIS) 0500-03, Reactor Water Level ECCS Initiation Indicating Switch Calibration, 2-263-72C contact 5/6 was found outside of Technical Specification (TS) limits. Level Indicating Switch (LIS) 2-263-72C contact 5/6, is part of the High Pressure Coolant Injection (HPCI) and Low Pressure Coolant Injection (LPCI) Loop 1 -59 inch initiation one out of two/twice logic. LIS 2-263-72C was declared inoperable. The necessary redundant switches were available during this event allowing both systems to remain operable. The contacts were readjusted and tested satisfactorily using DIS 0500-03. The Safety Significance of this event is minimal since the redundant switches that make up the one out of two twice logic were available throughout this event. A previous event involving the failure of 2-263-72B, High Reactor Water Level HPCI Turbine Trip is documented in LER 93-019/050237.

EVENT IDENTIFICATION:

Reactor Vessel level Instrumentation Found Outside of Technical Specification Limits Due to Setpoint Drift.

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: 12/22/93 Event Time: 0945

Reactor Mode: N Mode Name: Run Power Level: 99%

Reactor Coolant System Pressure: 1009 psig

B. DESCRIPTION OF EVENT:

On December 22, 1993 at 0945 hours, with Unit 2 at 99% rated core thermal power, while performing Dresden Instrument Surveillance (DIS) 0500-03, Reactor Water Level ECCS Initiation Indicating Switch Calibration, 2-263-72C contact 5/6 was found outside of Technical Specification (TS) limits. Level Indicating Switch (LIS) 2-263-72C contact 5/6 is part of the High Pressure Coolant Injection (HPCI) and Low Pressure Coolant Injection (LPCI) Loop 1 -59 inch initiation one out of two twice logic. LIS 2-263-72C was declared inoperable. The necessary redundant switches were available during this event allowing HPCI and LPCI systems to remain operable. The contacts were readjusted and tested satisfactorily using DIS 0500-03. The Safety Significance of this event is minimal since the redundant switches that make up the one out of two twice logic were available throughout this event. A previous event involving the failure of 2-263-72B, High Reactor Water Level HPCI Turbine Trip is documented in LER 93-019/050237.

C. CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(v)(D), which requires the reporting of any event or condition that alone could have prevented fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. Although in this case this was a single setpoint drift, it is indicative of a generic problem that could have resulted in the failure of more than one switch and thereby cause one or more systems to fail to fulfill their safety function.

The HPCI and LPCI systems -59 inch reactor level initiation logic is made up of a one out of two twice logic array. The logic is such that a failure of one contact would not prevent the systems from receiving a -59 inch initiation signal.

In this event the 5/6 contacts on LIS 2-263-72C failed to operate within TS limits. The switch contacts tripped before reaching the -59 inch (+84 inch above top of active fuel) setting. The apparent cause of the switch tripping outside of Technical Specification limits is setpoint drift.

A history review indicated that LIS 2-263-72C was replaced during Unit 2 Refuel Outage D2R13 in 1993. Since the LIS replacement in April 1993, the switch has experienced several setpoint drift failures.

D. SAFETY ANALYSIS:

In this event the HPCI and LPCI Systems would have initiated automatically once the reactor level reached -59 inches. The failure mode of LIS 2-263-72C was in the conservative direction thus providing a half trip condition in the one out of two twice logic prior to Vessel level reaching -59 inches. Therefore, since the redundant switches were available and the trip point of LIS 2-263-72C was in the conservative direction the safety significance is considered minimal.

E. CORRECTIVE ACTIONS:

The immediate corrective action readjusted and tested LIS 2-263-72C per DIS 0500-03.

The switches for the Unit 3 -59 inch initiation logic 3-263-72A, 3-263-72B, 3-263-72C and 3-263-72D will not be replaced as previously committed in PIR 3-92-116 as a result of the apparent failure increase on the Unit 2 LIS that were replaced during D2R13.

Enhancements have been made to Dresden Instrument Surveillance (DIS) 0500-03 to improve the calibration techniques.

An ENC QE 40.1 (Chronology #012505) was written on February 17, 1994 to document the operability of the Reactor Water Level Instrumentation 2(3) 263-72A, B, C, and D. The specific trip functions evaluated at the time included the Low Low Level LPCI, HPCI, and Core Spray initiation, Diesel Generator Start and ADS permissive. The conclusions of the evaluation determined that the switches were operable with the following compensatory actions:

1) Continue monthly surveillances on Yarway ECCs initiation switches.
2) Develop drift optimization actions and incorporate in procedure DIS 0500-03.
3) Trend as found calibration data per Dresden Yarway Administrative Action Plan and perform corrective action in the plan.
4) Obtain setpoint tolerance Technical Specification change approval from NRC.
5) Implement setpoint change on Unit 3 Yarways and revise Administrative Action Plan.
6) Implement setpoint change on Unit 2 Yarways.

Due to the chronic failures of Yarway switches a Yarway Administrative Action Plan was developed to focus on the chronic setpoint drifts (237-225-94-R12-94019B).

Modifications have been approved for replacing the Yarways with Rosemount Trip Systems. Modification M12-2-94-002 will be installed on Unit 2 during the D2R14 refuel outage which is due to begin in June of 1994. Modification M12-3-94-002 will complete installation on Unit 3 during D3R14 refuel outage which is due to being in December 1995.

The Yarway Level Trip Setpoints have been changed from 84 (+4/-0) inches of water dp to $\geq$84 inches of water dp (237-225-94-R1294018E).

F. PREVIOUS OCCURRENCES:

LER/Docket Numbers	Title
93019/050237	HPCI Declared Inoperable Due to Failure of the High Reactor Level Trip Switch The HPCI high level trip was inadvertently disabled during maintenance activities.

G. COMPONENT FAILURE DATA:

Manufacturer	Nomenclature	Model Number	Mfg. Part Number
Yarway	Level Switch	4418C	DS551