

Commonwealth Edison Company
Dresden Generating Station
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August 27, 1996

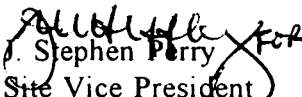
JSPLTR #96-0145

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

Enclosed is Licensee Event Report 96-010, Docket 50-249 which is being submitted pursuant to 10CFR50.73(a)(2)(i)(B), which requires the reporting of any condition prohibited by the Technical Specifications.

This correspondence does not contain additional regulatory commitments.

Sincerely,


Stephen Perry
Site Vice President
Dresden Station

Enclosure

cc: A. W. Beach, Regional Administrator, Region III
NRC Resident Inspector's Office
Illinois Department of Nuclear Safety

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NRC FORM 366 (5-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95
LICENSEE EVENT REPORT (LER)		
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.		

FACILITY NAME (1) Dresden Nuclear Power Station, Unit 3	DOCKET NUMBER (2) 05000249	PAGE (3) 1 OF 5
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TITLE (4)
Electromatic Relief Valves 3-0203-3B and E Pressure Switches Found Out of Tolerance 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
07	30	96	96	-- 010 --	00	08	27	96	None	
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	000	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)			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)			X 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 Craig Lowetz	TELEPHONE NUMBER (Include Area Code) Ext. 2694 (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	SB	63	B070	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)

While performing Dresden Instrument Surveillance (DIS) 0250-03, "Electromatic Relief Valve/Target Rock Valve Pressure Switches Calibration," with Unit 3 in the Shutdown mode for a forced outage, pressure switch setpoints for Electromatic Relief Valve (ERV) 3-0203-3B and E were identified with setpoints below the Technical Specification Electromatic Relief Valve (ERV) Actuation Setpoint/Tolerance of $\pm 1\frac{1}{2}$ of the setpoint value. The cause was attributed to setpoint drift. The drift resulted from an extended refueling outage that increased the time between calibration surveillances.

The safety significance of this event is minimal since the "As Found" setpoint was toward the lower Technical Specification limit which is in a conservative direction. Setpoint drift toward the lower Technical Specification limit does not pose a challenge to reactor vessel pressure limits. Instead, it results in a reduced margin to normal operating pressure. Corrective Actions include calibration of the pressure switches and a modification to allow calibration of the switches at an increased frequency.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

PLANT AND SYSTEM IDENTIFICATION

Dresden Unit three is a General Electric - boiling water reactor - 2527 Mwt rated core thermal power.

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

EVENT IDENTIFICATION:

Electromatic Relief Valves 3-0203-3B and E Pressure Switches Found Out of Tolerance due to Setpoint Drift.

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: July 30, 1996 Event Time: 1900 Hours
 Reactor Mode: N Mode Name: Shutdown Power Level: 0%
 Reactor Coolant System Pressure: 0 psig

B. DESCRIPTION OF EVENT:

This event is being reported as required by 10CFR50.73(a)(2)(i)(b) which requires the reporting of any condition prohibited by the Technical Specifications. Specifically the pressure switch setpoints for Electromatic Relief Valves (ERV) 3-0203-3B and E were identified with setpoints below the Technical Specification 4.6.e ERV Actuation Setpoint\Tolerance of $\pm 1\%$ of the setpoint value.

On July 30, 1996 at 1900 with Unit 3 in the Shutdown mode for a forced outage, while performing Dresden Instrument Surveillance (DIS) 0250-03, Electromatic Relief Valve/Target Rock Valve Pressure Switches Calibration, the pressure switch setpoints for ERV 3-0203-3B and E were identified with setpoints below Technical Specification 4.6.e ERV Actuation Setpoint\Tolerance of $\pm 1\%$ of the setpoint value.

The pressure switches for Electromatic Relief Valves 3-0203-3B, and 3-0203-3E were then calibrated satisfactorily in accordance with DIS 0250-03. DIS 0250-03 instructs the Instrument Maintenance Department personnel to isolate the pressure controller being tested and then obtain the "As Found" trip and reset setpoints. This revealed the out of tolerance trip settings. The procedure then instructs the Instrument Maintenance Department to calibrate the pressure switches and repeat the "As Found" trip test to obtain the "As Left" trip and reset setpoints. The out of tolerance switches were then returned to specification in accordance with DIS 0250-03.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

The "As Found" setpoint of the ERV pressure switches follows:

Relief Valve	Tech Spec Setpoint	T.S. Required +1% Tolerance	As Found*	As Left*
ERV 3-0203-3A	1124 PSIG	1113-1135 PSIG	1130.5 PSIG	1124.5 PSIG
ERV 3-0203-3B	1101 PSIG	1090-1112 PSIG	1073.6 PSIG	1100.6 PSIG
ERV 3-0203-3C	1101 PSIG	1090-1112 PSIG	1098.5 PSIG	1100.5 PSIG
ERV 3-0203-3D	1124 PSIG	1113-1135 PSIG	1117.6 PSIG	1123.6 PSIG
ERV 3-0203-3E	1124 PSIG	1113-1135 PSIG	1111.6 PSIG	1123.6 PSIG

* Calibration values less head correction.

At the time of the event, no systems or components were inoperable which could have contributed to the event. In addition, no manual or automatic engineered safety feature (ESF) [JE] actuation occurred as a result of this event.

C. CAUSE OF EVENT:

On April 1, 1996, a preliminary review of Unit 2 surveillance data was performed for the investigation for LER 2-96-005 (96005/05000237). The review determined that the ERV pressure switches were suffering from setpoint drift problems. The switches drifted in the conservative direction of the lower Technical Specification limit. A review of Unit 3 data did not show significant levels of drift. The instrument loop calculation, which includes Unit 2 and Unit 3, will be revised as a corrective action from LER 2-96-005 (96005/05000237). The revised calculation will determine the calibration frequency required to keep instrument drift from causing the pressure switches to exceed the Technical Specification criteria. With this increased calibration frequency, pressure switch performance should remain within the Technical Specification values with a 95% probability.

The root cause of the pressure switches, ERV 3-0203-3B and E out of tolerance was attributed to setpoint drift. The magnitude of the drift resulted from an extended refueling outage that increased the time between calibration surveillances. Technical Specifications require the calibration each refueling outage. Normally, the surveillance frequency of "Refuel" checks the instrument at approximately 18 month intervals. The time between surveillances in this instance was 24 months.

The corrective actions from LER 2-96-005 (96005/05000237) included adding test tap (pre-pressurization) valves to the instrument lines of the pressure switches on both units. The surveillance (DIS 0250-03) that identified this out of tolerance was performed following the installation of the test tap valves on Unit 3.

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D. SAFETY ANALYSIS:

The ERVs are electrically actuated pressure relief devices. The pressure switches consist of a bourdon tube type pressure sensing element which actuates a snap-action dual control limit switch, which in turn energizes a heavy duty relay to switch the solenoid load. The pressure switch, in conjunction with the control switch and the Automatic Depressurization System (ADS) [SB] logic contacts, supplies 125V DC electrical power to the solenoid assembly in order to operate the pilot valve. The pilot valve in turn controls the opening and closing of the relief valve.

The ERVs are the functioning components of the Automatic Depressurization System (ADS). ADS is a backup for the High Pressure Coolant Injection (HPCI) [BJ] system for depressurization of the reactor pressure vessel during a postulated design basis loss of coolant accident involving small area breaks within primary system piping. Automatic actuation of the ADS for line breaks inside secondary containment requires coincident occurrence of reactor water low-low level and drywell high pressure signals sustained for a period of two minutes. Automatic actuation of the ADS for line breaks outside secondary containment requires only the occurrence of reactor water low-low level sustained for 8.5 minutes. If the HPCI system failed to restore reactor inventory above the low-low reactor water level setpoint within the time delay period, automatic initiation of ADS would open the ERVs and depressurize the reactor to provide for automatic injection of the Low Pressure Coolant Injection (LPCI) [BD] and Core Spray [BM] systems in order to restore reactor inventory. The ERV pressure setpoint discrepancies would have had no affect on proper operation of the ADS function.

In this case, the instrument drift in the direction of the lower Technical Specification Limit does not pose a challenge to reactor vessel pressure limits. Instead, it results in a reduced margin to normal operating pressure. The "As Found" pressure of the "B" switch was about 68 psi above a normal operating pressure of 1005 psia, and the "E" switch about 106 psi above normal operating pressure. This margin to normal operating pressure did not pose a significant safety risk. For this reason, the safety significance of this event can be considered minimal.

Technical Specification Upgrade Project justified removal of the lower Technical Specification limit for the ERV pressure switches. Implementation will occur when both Unit 2 and 3 are above 30% power.

E. CORRECTIVE ACTIONS:

ERV 3-0203-3B and E were calibrated to within their Technical Specification limits in accordance with DIS 0250-03.

The pressure switch calibration frequency will be increased for Unit 2 and 3 (2371809600502D/E).

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F. PREVIOUS OCCURRENCES:

LER/Docket Number

89-007/050000237 Unsatisfactory Main Steam Relief Valve Pressure Setpoints Due To Instrument Drift and Limit Switch Failure.

Corrective actions included calibration of 2-0203-3A, E. The faulty limit switch on 2-0203-3C was corrected by replacement of the pressure switch.

LER/Docket Number

90-019/050000237 Electromatic Relief Valve Pressure Switch Outside Technical Specification Due to Instrument Setpoint Drift.

Corrective actions included replacing the Bourdon Tube that had an abnormally wide pressure rating and checked others for wide pressure rating. No other abnormal bourdon tubes were found.

96-005/050000237 Electromatic Relief Valve 2-0203-3A,B,D and E Pressure Switches Found Outside of Technical Specification Tolerance Due to Setpoint Drift

Corrective actions included calibration of ERV 2-0203-3A, B, D and E to within their Technical Specification limits; complete a design change to either add test tap valves or replace the pressure switches with improved equipment; change pressure switch calibration surveillance frequency; replace pressure switch 2-0203-3A; and revise the instrument loop calculation to reflect the increased surveillance frequency.

G. COMPONENT FAILURE DATA:

Manufacturer	Nomenclature	Model Number
Barksdale Controls	PRESSURE SWITCH	B2S-H12, B2T-M12

An industry wide NPRDS data base search was performed on Barksdale Control Division Models B2T-M12, B2T-H12, B2S-M12 and B2S-H12 pressure switches. A total of 84 events were identified, of which 73 events were associated with instrument setpoint drift. A majority of the 73 events were reported from a single station. Five of these events were reported for Dresden Station, although not on the Electromatic Relief Valve pressure switches.