



Commonwealth Edison

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BBS Ltr. #380-75

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
June 20, 1975

Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operation-Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

SUBJECT: REPORT OF ABNORMAL OCCURRENCE PER SECTION 6.6.A OF THE TECHNICAL
SPECIFICATIONS
25 ROD SCRAM TEST

References: 1) Regulatory Guide 1.16 Rev. 1 Appendix A

- 2) Notification of Region III of U. S. Nuclear Regulatory Commission
Telephone: Mr. Knopf, 1700 hours on June 12, 1975
Telegram: Mr. Keppler, 1245 hours on June 13, 1975

Report Number: 50-237/75-40

Report Date: June 20, 1975

Occurrence Date: June 11, 1975

Facility: Dresden Nuclear Power Station, Morris, Illinois

IDENTIFICATION OF OCCURRENCE

On June 11, 1975 at 1715 hours, while performing 2 x 2 array tests following a scheduled 25 rod scram test, five arrays exhibited 5% scram times exceeding the Technical Specification limits in Section 3.3.C.1.

CONDITIONS PRIOR TO OCCURRENCE

Unit-2 was operating at a power level of 1383 MWt and 355 MWe.

DESCRIPTION OF OCCURRENCE

The 2 x 2 array scram tests were being performed to determine the cause of long 5% scram times on four control rod drives (H-7, G-10, K-7, F-13) which occurred during the 25 rod scram tests. Five 2 x 2 arrays showed excessive 5% scram times.

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DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Operator Error)

The cause of the slow 5% scram times was determined to be a high regulated pressure in the scram valve air header of approximately 88 psig. Normal scram valve air header pressure should be approximately 75 psig.

The two regulators which supply air to the header were found to be out of adjustment. This maladjustment caused oscillations of the header pressure as incoming instrument air pressure equalized, accounting for the inconsistent data. The high/low scram header pressure switch was improperly calibrated; consequently, the operating personnel were not alerted to an abnormal pressure condition. The higher pressure in the header increased the opening time of the scram air valves.

ANALYSIS OF OCCURRENCE

Although the above mentioned drives could not meet the 5% scram times, all other times were within the Technical Specification limits. In addition, upon subsequent retesting, all the drives were within the Technical Specification limits for 5% times.

Given these circumstances, it was concluded that the reactor was operating safely with sufficient scram time capability to shut down in case of a transient. The safety and health of plant personnel and the public were in no way jeopardized by this occurrence.

CORRECTIVE ACTION


Initial action was to retest the four drives which exhibited slow 5% times. This retest yielded times within the Technical Specification limits (see enclosed data sheet). To determine the reason for the slow initial times, a test was run to measure the time from drop out of the scram air pilot valves to the movement of the scram valves themselves. The test was designed to show deterioration of diaphragms on the scram pilot air valves which could cause a slow initial bleed off of air pressure and a consequent long scram time for 5% travel.

This test indicated times well within the specification of 270 milliseconds.

Further scram tests were performed on 2 x 2 arrays surrounding the four slow drives. These times were also slow (see attached sheet). This problem was finally traced to high pressure in the scram valve air header. The scram valve air header regulators were reset to the correct pressure of 75 psig. With the header pressure corrected, all four drives performed satisfactorily. The scram valve air header pressure switch was also recalibrated, with provisions for more frequent calibrations in the future. A procedural change has been initiated, requiring scram testing personnel to verify proper header pressure before testing. These corrective actions will be performed by July 15, 1975.

FAILURE DATA

Unit-3 control rod drives exhibited slow 5% and 20% times on March 2, 1975 (Report No. 75-13). This deficiency was attributed to worn seals.


B.B. Stephenson
Superintendent

BBS:SMP

File/NRC

CONTROL ROD DRIVE SCRAM TEST DATA SHEET

		5%	10%	20%	50%	90%	100%
25 Rod Scram Test							
6-10-75 Average Times		.38	.54	.80	1.65	2.82	3.42
25 Rod Scram Test							
6-10-75 Average Times							
After Retest of K-7, F-13,							
H-7, G-10		.357	.51	.77	1.61	2.79	3.39
Retest of Six Drives	(K-7)	.31	.45	.71	1.55	2.70	3.29
After Scram Valve Air	(F-13)	.33	.48	.76	1.65	2.88	3.47
Header Pressure Adjust-	(H-7)	.33	.48	.75	1.62	2.88	3.47
ment	(G-10)	.34	.47	.72	1.52	2.58	3.13
	(H-9)	.33	.48	.75	1.59	2.77	3.40
	(G-8)	.32	.45	.70	1.53	2.59	3.19
Technical Specification Limits		.375	---	.900	2.00	3.50	---

ADMINISTRATIVE DIRECTOR
Nuclear Operations

Emergency Commission

Telephone

Date

6-13-75

OF

12:45 p.m.

CE

12:10 p.m.

DC

By

amj

Emergency Commission

50237

Dresden Nuclear Power Station, Unit 2

confirm a conversation with MR KNOOP of

12 JUNE
has this date concerning LONG 5% PERCENT

INCREASED DURING SCRAM TESTING ON 11 JUNE 1975.
TESTING REVEALED SEVERAL 2x2 BARROWS WHICH
SCRAM TIMES IN EXCESS OF TECHNICAL SPECIFICATION
TESTING REVEALED HIGH SCRAM AIR WEDGE PRESSURE.
AD, ALL SCRAM TIMES RETURNED TO NORMAL

FAIL TO START OCCURRED ON DIESEL GENERATOR
ON OPERABILITY TEST 11 JUNE 1975. THIS IS
FAILURE AS PREVIOUSLY REPORTED AND IS REPEATED
FAILURE OCCURRING IN ABOUT ONE START IN TWO
CONTINUING INTO FAILURE

50-237
inquiry

(auto) - on 6
(auto)
11/11/71

Generator (copy)
Generator File (copy)
Generator File (original)

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