Commonwealth Edison
Dresden Nuclear Power Station
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March 18, 1994

GFSLTR 94-0083

U.S. Nuclear Regulatory Commission
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Washington, D. C. 20555

Licensee Event Report 94-001, Docket 50-249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(ii).

Sincerely,

Gary F. Spedl
Station Manager
Dresden Station

GFS/cfq

Enclosure

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

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IE22

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)	Docket Number (2)	Page (3)
Dresden Nuclear Power Station, Unit 3	0 5 0 0 0 2 4 9	1 of 0 4

Title (4)

Containment Atmosphere Monitor Check Valve 3-2499-28B Exceeded Technical Specification Leakage Limit of 0.6 L_a Due to Foreign Materials on Seat

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 2	2 6	9 4	9 4	0 0 1	0 0	0 3	2 1	9 4	N/A	
									N/A	

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIRMENTS OF 10CFR (Check one or more of the following) (11)									
POWER LEVEL (10)	0 6 4		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
			20.405(a)(1)(i)		50.36(c)(1)		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)	X	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)			

LICENSE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Michael Baron, System Engineer Ext.2414	8 1 5 9 4 2 - 2 9 2 0

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
B	I K	4 5	R 2 0 3	No					

SUPPLEMENTAL REPORT EXPECTED (14)			Expected Submission Date (15)	Month	Day	Year
X	Yes (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 8	2 2	9 4

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

At approximately 1330 hours on February 26, 1994 with Unit 3 in the Run mode at 64% power. While performing the operational Local Leak Rate Test (LLRT) Special Procedure (SP 93-8-73) of the 3-2499-28B (3-B H_2O_2 monitor return line lift check valve made by Rockwell International) leakage exceeded the capacity of the flowmeters by an undetermined amount. The Technical Specification leakage limit of 0.6 L_a was exceeded per Dresden Technical Specification 3.7.A.2.b(2)(a). Upon internal inspection of the check valve, black debris was found between the seating surfaces holding the seats open a sufficient amount to fail the leak rate test. The Mechanical Maintenance department cleaned the valve internals and made a final visual inspection. No physical damage to valve internals was found. The valve was closed and leak tested. Final leakage of zero was recorded. This is a reoccurring problem and redesign is being evaluated.

PLANT AND SYSTEM IDENTIFICATION:

General Electric-Boiling Water Reactor-2527 MWt rated core thermal power.

EVENT IDENTIFICATION:

Containment Atmosphere Monitor Check Valve 3-2499-28B Exceeded Technical Specification Leakage Limit of 0.6 L_a Due to Foreign Materials on Seat

A. CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: 02/26/94 Event Time: 1330 hrs.

Reactor Mode: N Mode Name: Run Power Level: 64%

Reactor Coolant System (RCS) Pressure: 1000 psig

B. DESCRIPTION OF EVENT:

At approximately 1330 hours, on February 26, 1994 with Unit 3 in the Run mode at (64% power) while performing the operational LLRT (SP 93-8-73) of the 3-2499-28B, 3B H_2O_2 monitor [IK] return line lift check valve (Rockwell International) leakage exceeded capacity of the flow meters by an undetermined amount. Therefore, the Technical Specification leakage limit of 0.6 L_a was exceeded per Dresden Technical Specification 3.7.A.2.b(2)(a). After the check valve failed its test, the valve was mechanically agitated and tested again for trouble shooting reasons but the leakage was still undetermined. At 15:45 the Shift Engineer received a Problem Identification Form and determined that a one hour ENS phone call per 10CFR50.72 (b)(1)(ii), be made, the call was made at 1626 CST (Central Standard Time). The H_2O_2 system was taken Out-of-Service and isolated. A work request was issued to the Mechanical Maintenance Department (WR# D20151) to disassemble the valve as needed for internal inspection.

With the valve open, a Dresden Administrative Procedure (DAP) 11-25, "Check Valve Inspection", was performed by the Dresden check valve coordinator. This inspection revealed black debris on the valve seats that enabled air leakage past the seat. The check valve seat was not physically degraded and had no scratches or dents. An independent inspection was performed by System Engineering with the same conclusions. Mechanical Maintenance was then instructed to clean all valve internals and assemble the valve for an informational test. The test passed and final assembly and valve seal welding was performed. On 3/4/93, a final LLRT was performed per Dresden Technical Surveillance (DTS) 1600-32 "Local Leak Rate Testing of Containment Atmosphere Monitoring Closed Loop Piping", with a stabilized and corrected flow reading of zero scfh. The system was then returned to service and declared operable.

This issue has become a frequent problem. Black debris that appears to be a corrosion product of the stainless steel line, a moist drywell atmosphere and pipe configuration appears to be the root cause of the check valve failure on both Units 2 and 3.

Previously the H_2O_2 suction inlet lines have experienced similar moisture problems. The problem was corrected on the suction side of

the system by reconfiguring the piping in such a manner that the angle of the pipe would allow any moisture to run back into containment. This coupled with heat tracing has corrected the problem on this side of the system. The return line is not heat traced and piping had not been reconfigured.

A Site Engineering services request 94-015 has been initiated for evaluation of the following items; redesign of the return piping, possible valve replacement and heat tracing. An NTS item has been issued to track this concern.

NOTE: On February 14, 1994, while this report was in progress the 2499-28B valve failed its local leak rate test per Dresden Technical Surveillance 1600-01 with a undetermined amount of leakage.

Root cause of this failure has also been attributed to corrosion products. The corrective action for the February 14, 1994 occurrence will be addressed by this LER corrective action.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(ii) which requires the reporting of any operation or condition prohibited by Technical Specifications.

The apparent cause of this event is stainless steel pipe corrosion produced by a damp drywell atmosphere and pipe configuration that is stagnant when the system is not in service thus promoting a moist corrosive atmosphere.

This corrosion flakes off the internals of the line and works its way down inside of the check valve inhibiting movement and increasing the risk of valve leakage.

D. SAFETY ANALYSIS OF EVENT:

The safety significance of the leakage past the 2499-28B valve is considered to be minimal since the as built piping configuration is a closed loop system. Any leakage passed the check valve would return to its point of origin inside primary containment. The closed loop piping is challenged per Dresden Technical Surveillance 1600-32 "Local Leak Rate Testing of Containment Atmosphere Monitoring Closed Loop Piping" and 1600-1 "Local Leak Rate Testing of Primary Containment Isolation Valves". These Surveillances are reviewed by the IST coordinator to verify integrity is maintained.

E. CORRECTIVE ACTIONS:

A supplemental report will be issued with corrective actions on August 22, 1994 pending a redesign evaluation.

F. PREVIOUS OCCURRENCES:

No previous LER's on file.

G. COMPONENT FAILURE DATA:

The failed check valve was manufactured by the Rockwell International Company.

A Nuclear Plant Reliability data system general report was issued with no records meeting the search conditions and no failure data available.