

Commonwealth Edison Company
Dresden Generating Station
6500 North Dresden Road
Morris, IL 60450
Tel 815-942-2920

ComEd

February 23, 1995

TPJLTR 95-0022

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

Licensee Event Report 95-005, Docket 50-237 is being
submitted as required by Technical Specification 6.6, NUREG
1022 and 10CFR50.73(a)(2)(ii).

Sincerely,



Thomas P. Joyce
Site Vice President

TPJ/:bk

Enclosure

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

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MRC 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 (MNB 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 2								DOCKET NUMBER (2) 05000237		PAGE (3) 1 OF 4		
TITLE (4) Type B and C Leakage Limit Exceeded Due to Leakage Past Atmospheric Containment Atmosphere Dilution (ACAD) System Check Valve												
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 None		DOCKET NUMBER	
01	24	95	95	-- 005 --	00	02	23	95	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) 097		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)			50.73(a)(2)(i)			50.73(a)(2)(viii)(B)				
20.2203(a)(2)(v)			X 50.73(a)(2)(ii)			50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)												
NAME M. McGivern, Site Engineer								Ext. 2526				TELEPHONE NUMBER (Include Area Code) (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	BB	ISV	H037	YES								
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)

At approximately 1800, on January 24, 1995 with Unit 2 operating at 97% power, the performance of Dresden Technical Surveillance (DTS) 1600-01, Local Leak Rate Testing of Primary Containment Isolation Valves, identified the Atmospheric Containment Atmosphere Dilution (ACAD) [BB] System Check Valve 2-2599-24B to be leaking an undetermined amount. This value when added to the existing maximum pathway leakage rate resulted in the maximum pathway special administrative leakage rate limit for Type B and C primary containment leakage, 390.76 scfh, being exceeded. The inboard ACAD System isolation valve 2-2599-3B was then challenged with a Local Leak Rate Test (LLRT) which yielded a leakage rate of 6.20 scfh. Valve 2-2599-24B was declared inoperable and valves 2-2599-3B and 2-2599-7B were taken Out-of-Service in the closed position in order to regain Primary Containment Integrity and continue reactor operation. The safety significance of the leakage past valve 2-2599-24B was considered to be minimal since the additional leakage out of containment, on a minimum pathway basis, was 6.20 scfh and would not cause the maximum off-site dose rates established in 10 CFR 100 to be exceeded. Maintenance to replace the lift-type check valve with a swing-type check valve was completed under Work Request D27204. An as-left LLRT yielded a leakage rate of 0.16 scfh. The "B" loop of the ACAD System was returned to service on February 23, 1995.

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

EVENT IDENTIFICATION:

Type B and C Leakage Limit Exceeded Due to Leakage Past Atmospheric Containment Atmosphere Dilution (ACAD) System Check Valve

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: 01/24/95 Event Time: 1800 hrs

Reactor Mode: N Mode Name: Run Power Level: 97%

Reactor Coolant System Pressure: 1000 psig

B. DESCRIPTION OF EVENT:

At approximately 1800, on January 24, 1995 with Unit 2 operating at 97% power, the performance of Dresden Technical Surveillance (DTS) 1600-01, Local Leak Rate Testing of Primary Containment Isolation Valves, identified the Atmospheric Containment Atmosphere Dilution (ACAD) [BB] System to Suppression Pool Check Valve 2-2599-24B to be leaking an undetermined amount. This value when added to the existing maximum pathway leakage rate resulted in the maximum pathway special administrative leakage rate limit for Type B and C primary containment leakage, 390.76 scfh, being exceeded.

Dresden Station Unit 2 is presently operating with a special administrative Type B and C leakage limit of 80% of 0.6L₁ (390.76 scfh) which was established as a condition of being granted a scheduler exemption (by NRR) from the testing interval required by 10 CFR 50, Appendix J.

With ACAD Check Valve 2-2599-24B leaking excessively, manual valve 2-2599-7B was closed and the leakage dropped to 6.20 scfh. This leakage was attributed to the inboard air-operated ACAD System primary containment isolation valve 2-2599-3B. The new sum of this pathway's leakage rate when added to the current sum of Type B and C leakage resulted in the maximum pathway leakage being 285.41 scfh, which is less than 80% of 0.6L₁. The Unit Supervisor was notified of the event, and an ENS phone notification was then made at 1934 Eastern Standard Time on Tuesday January 24, 1995 to report a degraded condition while operating.

ACAD Check Valve 2-2599-24B was declared inoperable and valves 2-2599-3B and 2-2599-7B were taken Out-of-Service in the closed position. This ensured that Primary Containment Integrity could be maintained by preventing the inadvertent opening of the inboard air-operated ACAD valve.

C. CAUSE OF EVENT:

This LER is submitted in accordance with 10 CFR 50.73(a)(2)(ii) which requires the reporting of any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded or that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant.

The ACAD System check valves to the Drywell 2(3)-2599-23A(B) and check valves to the Suppression Pool 2(3)-2599-24A(B) have had 13 LLRT failures since 1985.

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These failures have been attributed to one of two failure modes. Either the seating surfaces have been fouled by piping corrosion products not allowing the valve to completely seat or the lift-type check valve plug has corroded to the plug guide and not been able to close. The cause of the corrosion is from moist air originating from the Drywell, Suppression Pool or ACAD Air Compressor condensing in the line. Neither the check valves nor the system piping is heat traced.

There was one previous failure of check valve 2-2599-24B found during testing in December of 1992. The failure was due to the valve plug being corroded to the plug guide. In addition, the seating surfaces were found to be corroded and covered with piping corrosion products.

After the check valve was removed from the system, it was disassembled and inspected to find the cause of the LLRT failure. The seating surface of the check valve was covered with fine sand-like piping corrosion products which had not allowed the valve to seat tightly.

D. SAFETY ANALYSIS:

The safety significance of the leakage past valve 2-2599-24B was considered to be minimal since the additional leakage out of containment, on a minimum pathway basis, was 6.20 scfh and would not cause the maximum off-site dose rates established in 10 CFR 100 to be exceeded.

E. CORRECTIVE ACTIONS:

Maintenance to replace the lift-type check valve with a swing-type check valve was completed on February 22, 1995 under Work Request D27204. An as-left LLRT yielded a leakage rate of 0.16 scfh. The "B" loop of the ACAD System was returned to service on February 23, 1995.

During Refuel Outage D3R13, a modification was completed which replaced the lift-type check valves with a swing-type check valve. The swing-type check valve is better suited for this application since the hinge assembly, which maintains the proper seat to disk orientation, is less susceptible to corrosion than the lift-type check valve plug and guide assembly. These swing-type check valves have a soft seating surface to allow for less fouling problems due to piping corrosion products on the seating surfaces. The remaining Unit 2 ACAD check valves will be replaced during Refuel Outage D2R14.

Dresden's as-found containment leakage has exceeded the Technical Specification leakage limit for 3 out of the last 4 refuel outages. This condition indicates that Dresden's Primary Containment Isolation Valves have degraded abnormally during the operating cycles. This as-found condition has required accelerated surveillance intervals for Type A (ILRT) testing.

Due to this, Station Management has established a Valve Team tasked to identify and evaluate work scopes from a safety/operability standpoint and to identify required maintenance or modification work in order to assure continued component reliability. The valve team has established an accelerated LLRT schedule and Check Valve inspection plan in order to verify the success of the corrective

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actions under taken in reducing the ACAD primary containment isolation check valve LLRT failures.

F. PREVIOUS OCCURRENCES:

<u>LER/Docket Numbers</u>	<u>Title</u>
93-016/0500249	Type B and C Primary Containment Local Leak Rate Testing Limit of 0.6L, Exceeded Due to Leakage Past Atmospheric Containment Atmosphere Dilution (ACAD) System Check Valve 3-2599-23A
92-031/0500237	Failure of the Outboard Air Sample Valve 2-8501-5B During its 24-Month Local Leak Rate Testing Surveillance Due to Improper Valve Seating

G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Hancock	ACAD Torus Air Purge Inlet Header Check Valve 2-2599-24B	5580W	N/A

An industry - wide data base search revealed 33 failures for the Hancock Model 5580W lift-type check valve. Sixteen failures were attributed to debris and corrosion products fouling valve internals and not allowing the valve to close.