

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 2					DOCKET NUMBER (2) 05000237		PAGE (3) 1 OF 4			
TITLE (4) Type B and C Leakage Limit Exceeded Due to Leaking Drywell Air Sample 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	DOCKET NUMBER
01	17	95	95	-- 002 --	01	07	31	95	None	
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						TELEPHONE NUMBER (Include Area Code) Ext. 2526 (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	IK	ISV	S212	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 1815, on January 17, 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 outboard Drywell Air Sample Valve 2-9205B 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 standard cubic feet per hour (scfh), being exceeded. The inboard Drywell Air Sample Valve 2-9205A was then challenged with a Local Leak Rate Test (LLRT), which yielded a leakage rate of 0.35 scfh. Drywell Air Sample Valve 2-9205B was declared inoperable and Drywell Air Sample Valves 2-9205A and 2-8599-669 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 the Drywell Air Sample Valve 2-9205B was considered to be minimal since the additional leakage out of containment, on a minimum pathway basis, was 0.35 scfh and would not cause the maximum off-site dose rates established in 10 CFR 100 to be exceeded. To date, the results of the investigation into the cause of the excessive leakage are inconclusive. This valve was repaired and an as-left LLRT yielded a leakage rate of 0.10 scfh.

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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 Leaking Drywell Air Sample Valve

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: 01/17/95 Event Time: 1815 hours
 Reactor Mode: N Mode Name: Run Power Level: 97%
 Reactor Coolant System Pressure: 1000 psig

B. DESCRIPTION OF EVENT:

At approximately 1815, on January 17, 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 outboard air-operated Drywell Air Sample [IK] Valve 2-9205B 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 0.6L (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 Drywell Air Sample Valve 2-9205B leaking excessively, manual valve 2-8599-669, which is located between the Drywell and Drywell Air Sample Valve 2-9205B, was closed and the leakage dropped to 0.10 scfh. This test demonstrated that the manual valve 2-8599-669 was leak tight. In order to verify Primary Containment could still be maintained, the inboard air-operated Drywell Air Sample Valve 2-9205A was then challenged with a Local Leak Rate Test which yielded a leakage rate of 0.35 scfh. 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 272.09 scfh. The Unit Supervisor was notified of the event, and an ENS phone notification was then made at 1949 Eastern Standard Time on Tuesday January 17, 1995 to report a degraded condition while operating.

Drywell Air Sample Valve 2-9205B was declared inoperable and Drywell Air Sample Valves 2-9205A and 2-8599-669 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 outboard Drywell Air Sample Valve. Since these are the isolation valves for one of three sample locations used in the measurement of Drywell atmosphere oxygen concentration, the isolation of this sample line did not result in entering a Limiting Condition for Operation.

C. CAUSE OF EVENT:

This LER is submitted in accordance with 10CFR50.73(a)(2)(ii) which requires the reporting of any event or condition that resulted in the condition of the

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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.

To date, the results of the investigation into the root cause of the excessive leakage past the outboard air-operated Drywell Air Sample Valve 2-9205B are inconclusive. The original valve actuator closing spring was tested to determine if there was any degradation (i.e. indication of weakening) that would have caused the valve to open at a low air pressure or not fully close. The spring was to have a spring constant of 275 lbs/in \pm 5% per manufacturer's specification. The testing showed the spring to have a spring constant of approximately 295.1 lbs/in which is above the 5% variance. The spring is stiffer than it was supposed to be; thus, the valve should have operated properly. For reference, a similar closing spring which had never been in operation was tested and had a spring constant of approximately 284.6 lbs/in. This value is within the \pm 5%. Based on this data, spring degradation is not the root cause of the valve failure.

There are ten Skinner air-operated sample valves per unit. Since 1983, there has been one failure from apparent closing spring relaxation.

D. SAFETY ANALYSIS:

The safety significance of the leakage past the outboard air-operated Drywell Air Sample Valve 2-9205B was considered to be minimal since the additional leakage out of containment, on a minimum pathway basis, was 0.35 scfh through the inboard air-operated Drywell Air Sample Valve 2-9205A. This would not cause the maximum off-site dose rates established in 10 CFR 100 to be exceeded.

E. CORRECTIVE ACTIONS:

Trouble shooting and repair of Drywell Air Sample Valve 2-9205B was performed under Work Request D29369. Trouble shooting determined that the valve was starting to open with 5 psig air pressure under the valve actuator diaphragm instead of at the required 20 psig air pressure. The closing spring setting was adjusted to the maximum attainable spring compression. The Drywell Air Sample Valve still started to open at a lower air pressure than the required 20 psig opening air pressure. The valve actuator diaphragm and spring were visually inspected and showed no physical signs of damage or degradation. A new spring and diaphragm were installed. The new valve actuator closing spring was set so that the valve would start to open at 20 psig air pressure under the actuator diaphragm. An as-left LLRT yielded a leakage rate of 0.10 scfh.

Drywell Air Sample Valve 2-9205B had been repaired during Refuel Outage D2R13 (May of 1993) under Work Request D16228. An as-found LLRT identified that the valve was leaking 4.74 scfh. The inspection found normal wear of valve internals to be the cause for the leakage. Repairs consisted of a skim cut to the valve plug, lapping of the plug to the seat, and replacement of the packing and the valve actuator diaphragm. An as-left LLRT yielded a leakage rate of 0.10 scfh. The valve actuator closing spring was set so that the valve would start to open at 20 psig air pressure under the actuator diaphragm. There has been no other repairs or failures of Drywell Air Sample Valve 2-9205B.

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A valve team has been established at Dresden in order to increase valve performance through diagnostic testing and preventive maintenance so as to minimize corrective maintenance. The Valve Team consists of Program Engineers who are tasked with developing and implementing plans for increasing the performance of a specific type of valve such as air-operated valves. A program for the performance of diagnostic testing in support of a preventive maintenance program will be established for Primary Containment Isolation Valves prior to commencement of the respective plant's next refueling outage. Diagnostic testing and inspection of Drywell Air Sample Valves will be performed during D2R14. Results will be reported in an LER supplement if conclusive root cause evidence is found concerning the LLRT failure of Drywell Air Sample Valve 2-9205B.

F. PREVIOUS OCCURRENCES:

<u>LER/Docket Numbers</u>	<u>Title</u>
92-031/0500237	Failure of the Outboard Drywell Air Sample Valve 2-8501-5B During its 24-Month Local Leak Rate Testing Surveillance Due to Improper Valve Seating
93-002/0500237	Type B and C Primary Containment Local Leak Rate Testing Limit Exceeded Due to Leakage Past Head Cooling Inlet Isolation Valve 2-205-2-4

G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Skinner Valve	Drywell Air Sample Valve 2-9205B	810	N/A

An industry - wide data base search revealed one failure of the Skinner Model 810 globe valve.