Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

DCD
IE22

June 4, 1992

CWS LTR #92-316

U.S. Nuclear Regulatory Commission
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Licensee Event Report 92-16, Docket 050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i)(B).

L. F. Gerner for 6/4/92
Charles W. Schroeder
Station Manager
Dresden Nuclear Power Station

CWS/omf

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

100060

(ZDVR/629)

IE22 1/1

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)	Docket Number (2)	Page (3)
Dresden Nuclear Power Station, Unit 2	0 5 0 0 0 2 3 7	1 of 0 5

Title (4) Unchallenged Primary Containment Boundary Due to Management Deficiency

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 5	1 4	9 2	9 2	0 1 6	0 0	0 6	0 4	9 2	Dresden Unit 3	0 5 0 0 0 2 4 9
									N/A	

OPERATING MODE (9)	N
POWER LEVEL (10)	0 9 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

___ 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
___ 20.405(a)(1)(iii)	X 50.73(a)(2)(i)	___ 50.73(a)(2)(viii)(A)	in Abstract
___ 20.405(a)(1)(iv)	___ 50.73(a)(2)(ii)	___ 50.73(a)(2)(viii)(B)	below and in
___ 20.405(a)(1)(v)	___ 50.73(a)(2)(iii)	___ 50.73(a)(2)(x)	Text)

LICENSEE CONTACT FOR THIS LER (12)

Name	TELEPHONE NUMBER
	AREA CODE
M. Andjelic, Local Leak Rate Test Coordinator Ext. 2366	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	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

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 fifteen single-space typewritten lines) (16)

At approximately 0935 hours, on May 14, 1992, with Unit 2 at 89.9% power and Unit 3 shutdown, a review of Local Leak Rate Testing surveillance procedure DTS 1600-01 was being performed. Post-accident operation of the Containment Atmosphere Monitoring (CAM) system was identified as being challenged by Primary Containment atmosphere in post accident conditions. It was determined that the piping outside of the system isolation valves should be subjected to a Local Leak Rate Test in accordance with 10CFR50, Appendix J. The systems were taken out of service by closing and electrically disabling the inlet isolation valves which isolated the untested boundary. With both the A and B trains of CAM inoperable, Unit 2 entered a 30 day Limiting Condition of Operation (LCO) in accordance with Technical Specification Section 3.6.E. No LCO was entered on Unit 3 because the unit was shutdown at the time. The root cause was identified to be management deficiency. A Special Procedure was written and performed to test the previously untested volumes. The test results for both CAM trains were satisfactory on both units. The largest identified leakage was 3.59 scfh. The Unit 3 CAM system was returned to service on May 16, 1992 in support of Unit startup. The A loop of Unit 2 CAM was returned to service on May 20, 1992 terminating the LCO. The safety significance of the event is minimal due to the small leakage discovered. Corrective actions include a multi-disciplinary review of all containment penetrations and test methods. Previous events involving untested primary containment boundaries were reported by LER 90-004/050237 and LER 89-031/050237.

PLANT AND SYSTEM IDENTIFICATION:

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

Nuclear Tracking System (NTS) tracking code numbers are identified in the text as (XXX-XXX-XX-XXXXX)

EVENT IDENTIFICATION:

Unchallenged Primary Containment Boundary Due to Management Deficiency.

A. CONDITIONS PRIOR TO EVENT:

Unit(s): 2(3) Event Date: May 14, 1992 Event Time: 0935 Hours

Reactor Mode(s): N(N) Mode Name(s): Run(Shutdown) Power Level(s): 89.9%(0%)

Reactor Coolant System (RCS) Pressure(s): 989.5(0) psig

B. DESCRIPTION OF EVENT:

At approximately 0935 hours on May 14, 1992, with Unit 2 at 89.9% power and Unit 3 shutdown, a routine procedure update review of the Dresden Technical Staff Surveillance (DTS) for Local Leak Rate Testing (DTS 1600-01) was being performed. The procedure provided for the performance of Local Leak Rate Testing (LLRT) of the following volumes in the Containment Atmosphere Monitoring (CAM) system [IK], in accordance with 10CFR50 Appendix J:

SO 2(3)-2499-1A and SO 2(3)-2499-2A
SO 2(3)-2499-3A and SO 2(3)-2499-4A
2(3)-2499-28A and 2(3)-2499-29A

SO 2(3)-2499-1B and SO 2(3)-2499-2B
SO 2(3)-2499-3B and SO 2(3)-2499-4B
2(3)-2499-28B and 2(3)-2499-29B

A review of system operating conditions was performed and it was identified that in post accident conditions (high drywell pressure or low-low reactor water level) the CAM system becomes energized and will begin sampling the containment atmosphere subjecting the entire closed loop to drywell pressures. At that time it was determined that the loop outside of the isolation valves listed above (including the H2/02 analyzer cabinet) should be subjected to an LLRT in order to meet the requirements set forth in 10CFR50, Appendix J. The loop outside of the isolation valves had not previously been subjected to a LLRT.

An ENS 24 hour red phone notification was made under Unit 2 Technical Specification License Condition 2G, at 1035 hours on May 14, 1992. At 1115 hours the Unit 2 H2/02 monitor inlet isolation valves were taken out of service in the closed position to isolate the untested volume. This action rendered both trains of CAM inoperable and a 30 day Limiting Condition for Operation (LCO) was entered in accordance with Technical Specification Section 3.6.E. The same actions were performed for Unit 3 but no LCO was required because the Unit 3 reactor was in cold shutdown.

The A train of Unit 2 CAM was operable at the time of discovery, and was taken out of service. A Special Procedure (SP 92-5-83) was initiated to test the unchallenged loop of the CAM system. The untested volume received an LLRT on May 19, 1992 with a resulting leakage of 1.01 scfh. Upon completion of the LLRT a calibration of the monitor was performed in accordance with Dresden Instrument Surveillance procedure (DIS) 2400-01. The system was returned to service and the LCO was terminated on May 20, 1989.

At the time of the discovery, the Instrument Maintenance Department (IMD) was in the process of performing DIS 2400-02, Post LOCA Containment Hydrogen and Oxygen Analyzer 18 Month Calibration and Maintenance Inspection, on the Unit 2 B CAM train. This procedure was discontinued and all work on the CAM system was temporarily suspended to perform an LLRT. Procedure DIS 2400-02 requires fittings in the H2/02 cabinet to be disconnected, thus opening the Primary Containment boundary. The procedure was terminated prior to any of these steps so that an As-Found LLRT could be performed. The As-Found LLRT was completed in accordance with SP 92-5-83 and the leakage was found to be 0.6 scfh. The system was then returned to the IMD for performance of DIS 2400-02. Upon completion of that surveillance, another LLRT was performed with a resulting leakage of 0.6 scfh.

On May 15, 1992 the A and B trains of Unit 3 CAM systems were satisfactorily local leak rate tested in accordance with SP 92-5-83 with leakage rates of 0.6 scfh and 3.59 scfh respectively. A functional calibration was performed after the LLRT in accordance with DIS 2400-1 and the Unit 3 CAM system was returned to service on May 16, 1992.

C. APPARENT CAUSE OF EVENT:

This event is submitted in accordance with 10CFR50.73(a)(2)(i)(B), which requires the reporting of any event or condition prohibited by the Technical Specifications.

The cause of this event has been attributed to management deficiency. The investigation process included the review of a containment testing study performed by the Production Services Department. This study had been performed subsequent to a 1989 self-assesment which had identified differences in LLRT testing policy between the Commonwealth Edison sites. The containment study did identify the outboard loop of CAM as one that requires Type C testing in accordance with Appendix J. However, this study had not been formally approved at the Station. Further, the requirement for Type C testing of the outboard loop was not recognized during preliminary review of the study by the Station.

D. SAFETY ANALYSIS OF EVENT:

The safety significance of this event is minimal in consideration of the following:

1. The As-Found LLRT results for all four trains were small with the largest measured leakage being 3.59 scfh. With the results of these tests incorporated, the current total Type B and C leakage for Unit 2 is 335.14 scfh, and Unit 3 is 285.74 scfh. Both of these leakage totals are well below the maximum allowable of 488.45 scfh.

2. Although no Appendix J testing of this volume had been performed a pneumatic leak test is performed on the H2/02 cabinet each time a component is replaced. Dresden Instrument Procedure (DIP) 2400-01, Post-LOCA Containment Hydrogen and Oxygen Analyzer Pneumatic Leak Test, requires a 50 psig pneumatic test be performed when a component in the cabinet is replaced or suspected of leakage. This test utilizes a soap bubble solution to detect leakage on replaced components. In addition to the 50 psig test, DIP 2400-01 provides for a 90 psig test to be performed every 5 years after the 5 year maintenance inspection. The 90 psig test is a pressure decay test that requires a minimum hold time of 10 minutes and is limited to a decay in pressure, over the course of the test, of 1 psi.

E. CORRECTIVE ACTIONS:

The immediate corrective actions included closing and electrically disabling the CAM system inlet isolation valves which isolated the untested portion of CAM from the containment atmosphere. The valves that were utilized as isolation valves had received LLRTs. Another immediate corrective action was the development and performance of a special procedure for an LLRT of the previously untested loop in accordance with Appendix J. A Lessons Learned Initial Notification was also issued to inform other Commonwealth Edison plants of this condition.

In addition to the immediate corrective actions a multi-disciplined review of all containment penetrations was performed. This review involved individuals from the Operations Department (Shift Engineer), Technical Staff (Station LLRT Coordinator) and Production Services (Corporate Leak Rate Testing Specialist). The main focus of this review was the consideration of post accident system responses in the determination of Primary Containment Boundaries and the adequacy of current testing methods. This review identified no further deficiencies.

Additional corrective actions include the following:

1. The LLRT Coordinator will submit the containment study performed by the Production Services Department to the On-Site Review Committee, who will formally review the study by September 1, 1992 (237-200-92-09301).

2. The color coded P&IDs that depict the scope of Integrated and Local Leak Rate Testing will be updated by the LLRT Coordinator by June 25, 1992 to include the CAM loops outside of the isolation valves as a primary containment boundary (237-200-92-09302).

3. A letter will be issued by the LLRT Coordinator by June 29,1992 to Operations and Maintenance personnel detailing the isolation and testing requirements for work performed on the CAM loops, particularly the H2/02 cabinet (237-200-92-09303).

4. Special Procedure SP 92-5-83 will be converted by the LLRT Coordinator into a permanent procedure to provide for Local Leak Rate Testing of the CAM loops by December 31, 1992 (237-200-92-09304).

5. Dresden Administrative Procedure (DAP) 14-5 will be updated by the LLRT Coordinator to include the CAM loops and to ensure that the leakage from these loops is included in the total Type B and Type C test leakage by December 31,1992 (237-200-92-09305).

6. Instrument Maintenance Procedures for the CAM system will be reviewed and updated, as required, by the LLRT Coordinator and the Instrument Maintenance Staff by December 29, 1992 to ensure that appropriate leak rate testing is performed on the CAM system after maintenance is performed (237-200-92-09306).

F: PREVIOUS OCCURRENCES:

LER/Docket Numbers	Title
90-004/050237	Additional Volumes Added Type B and C Local Leak Rate Testing Program Due to Self-Assessment Initiative.

This event involved the discovery of three systems that penetrate primary containment but were not Local Leak Rate Tested properly. It was determined that the Reactor Building Closed Cooling Water [CC] system was not correctly challenged due to system configuration, and that the Control Rod Drive [AA] to Reactor Recirculation [AD] Pump Seal hydrostatic test line and a Unit 2 Suppression Chamber level instrument flange were not included in the LLRT program. Corrective action included implementation of the proper test configurations.

89-031/050237	Additional Volumes Added Type B and C Local Leak Rate Testing Program Due to Self-Assessment Initiative.

This event involved the discovery of three systems that penetrate primary containment not currently included in the Local Leak Rate Testing program. The three volumes (Clean Demineralized Water [KJ] to the Drywell, Service Air [LF] to the Drywell, and Oxygen Sampling [IK]) were added as an enhancement to the LLRT program.

G: COMPONENT FAILURE DATA:

Manufacturer	Nomenclature	Model Number	Mfg. Part Number

This section is not applicable because no component failure occurred.