



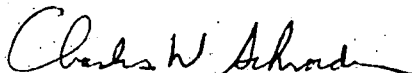
Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

April 30, 1992

CWS LTR #92-240

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

Licensee Event Report #92-11, Docket #050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i)(A).


Charles W. Schroeder 5/8/92
Station Manager
Dresden Nuclear Power Station

CWS/slp

Enclosure

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

ZDVR/586

9205130115 920430
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Handwritten initials/signature

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3 Docket Number (2) 0 5 10 10 10 2 4 9 Page (3) 1 of 0 4

Title (4) High Pressure Coolant Injection Operability Surveillance Interval Exceeded Due to Turbine Oil Leakage

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	4	0	9	2	0	1	1	0	0	0	4	3	0	9	2	None	

OPERATING MODE (9) N

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

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> Other (Specify
<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	in Abstract
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	below and in
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	Text)

LICENSEE CONTACT FOR THIS LER (12)

Name: Mark Churilla, Technical Staff System Engineer Ext. 2788

TELEPHONE NUMBER: AREA CODE 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
X	B J	T R B	G 0 8 0	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) X | NO

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

On April 8, 1992 at 2300 hours, with Unit 3 at 10% rated core thermal power, while performing Dresden Operating Surveillance 2300-2, High Pressure Coolant Injection Overspeed Test, mechanical difficulties developed forcing the postponement of the procedure. The mechanical difficulties included a Turbine oil leak and several steam leaks from the Gland Seal Condenser (GSC) System. After a review of the problems, it was determined that the 12 hour test window, Technical Specification (TS) 3.5.c.2.b, could not be met. An Unusual Event was declared at 0130 hours and Reactor pressure was lowered below 150 pounds at 0430 hours. The oil leak on the Turbine's Outboard Oil Deflector was caused by sealant on the vent path which inhibited venting during operation. The steam leaks developed when the cooling water was secured to the GSC and Lube Oil Cooler (LOC) in order to maintain oil temperatures. The steam in the condenser then caused the water in the cooling water line to flash to steam. Subsequently, when the cooling water was restored, a water hammer occurred causing minor cooling water line support damage. The sealant on the deflector and cooling water supports were repaired and DOS 2300-2 was successfully performed on April 12, 1992. The Safety Significance of this event is minimal in that the HPCI System is functionally inoperable during the performance of this test, with all other Emergency Core Cooling Systems required by TS 3.5.C.2.a operable.

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TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]										

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:

High Pressure Coolant Injection (HPCI) [BJ] Operability Surveillance Interval Exceeded Due to Turbine Oil Leakage.

A. CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: April 8, 1992 Event Time: 2300 Hours
 Reactor Mode: N Mode Name: Startup Power Level: 10%
 Reactor Coolant System (RCS) Pressure: 310 psig

B. DESCRIPTION OF EVENT:

While performing Dresden Operating Surveillance 2300-2, High Pressure Coolant Injection Overspeed Test, mechanical difficulties developed which caused the procedure to be terminated. The mechanical difficulties included a Turbine oil leak and several steam leaks from the Gland Seal Condenser (GSC) System. After a review of the problems it was determined that the 12 hour test window, Technical Specification (TS) 3.5.c.2.b, could not be met. An Unusual Event was declared based on Emergency Action Level (EAL) 3.a at 0130 hours and Reactor pressure was lowered below 150 pounds at 0430 hours. The bearing housing was disassembled and inspected. The inspection of the oil deflectors revealed no problems. After reassembly it was determined that the oil leakage was caused by sealant around the oil deflector. The sealant had prevented proper venting during the operation of the turbine. The steam leaks on the GSC system were caused by securing cooling water to the GSC. The cooling water for the GSC and Lube Oil Cooler (LOC) had been secured during the surveillance in order to maintain oil temperatures. The steam in the GSC flashed the water in the cooling water line to steam. Subsequently, when the cooling water was restored a water hammer occurred causing minor cooling water line support damage. A walkdown of the remaining supports and piping was conducted to identify any concerns. An Engineering Evaluation was also conducted. Following the analysis the necessary inspections and repairs were completed. In addition, the sealant on the oil deflector was removed to provide proper venting. DOS 2300-2 was revised to insure that cooling water is supplied to the GSC at all times during the surveillance. With these complete DOS 2300-2 was successfully completed on April 12, 1992.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(i)(A), which requires reporting the completion of a shutdown required by the Technical Specifications.

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TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

The Turbine Bearing Housing consists of an inboard and outboard Oil Deflector. The deflectors seal the oil within the Turbine bearing/Turning Gear housing during turbine operation. During the performance of DOS 2300-2 the outboard seal was observed to be leaking significantly. The bearing housing was disassembled and the oil deflectors inspected. The inspection showed no problems with the deflectors. It was noted that the turbine shaft sleeve may not be in the optimal position in regards to the oil deflector. The shaft sleeve prevents excess oil from entering the labyrinth seal of the oil deflector. If the sleeve was positioned closed to the deflector the oil flow would be further reduced. It should be noted that these types of seals normally leak to some degree. The sealant was applied to further limit leakage but, it inadvertently plugged the vent path for the deflector. The sealant had been applied, under General Electric supervision, following maintenance to the oil deflectors and turning gear.

During the performance of DOS 2300-2 it was also noted that several steam leaks on the GSC system had developed during the operation of the turbine. While the turbine is uncoupled for the overspeed test the Auxiliary Cooling Water (ACW) Pump is the only means of cooling water to the GSC and LOC. Investigation into the cause of the steam leaks revealed that the Unit Operator had secured the ACW Pump during the surveillance. This was done to maintain the required oil temperatures for the system. Consequently, without cooling water the steam in the GSC formed a steam bubble in the cooling water line. Therefore, when the cooling water was restored to the GSC a water hammer occurred in the cooling water line causing support damage. This support damage was not detected until after the unit was shutdown. DOS 2300-2 did not define the needed steps to reduce cooling water to the LOC while maintaining sufficient flow to the GSC.

Therefore, because the repairs to the oil and steam leaks could not be completed within the 12 hour TS 3.5.C.2.b limit an orderly shutdown was initiated.

A history review indicated that one of the supports which was damaged during this event had been replaced prior to startup during the recent D3R12 refuel outage. In addition, a review of both Units Cooling water lines indicated that this type of event may have occurred in the past during similar circumstances.

D. SAFETY ANALYSIS OF EVENT:

During the performance of DOS 2300-2 the HPCI Turbine is uncoupled from the pumps as a preplanned maintenance activity in accordance with the Technical Specifications. This renders the system inoperable while conducting this test. The necessary Emergency Core Cooling Systems required by TS 3.5.c.2.a were operable throughout this event. However, TS 3.5.c.2.b requires that once adequate reactor pressure is reached the HPCI system must be tested successfully within 12 hours. Since this condition could not be met an orderly Unit shutdown was promptly implemented. Reactor pressure was brought below 150 psig within 5 1/2 hours, well within the 24 hours specified by TS 3.5.C.3.

E. CORRECTIVE ACTIONS:

A walkdown of the GSC cooling water line supports was conducted along with an Engineering Evaluation to determine if the piping or the supports were over stressed. The analysis detailed the necessary repairs and inspections on the associated piping and supports. The following inspections and repairs were completed:

SUPPORT

DISPOSITION

M-1187D-551

Strut paddle was broken. Work request 08429 replaced paddle.

M-1187D-552

This support is acceptable as-is.

M-1187D-116

This support is acceptable as-is.

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TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

- M-1187D-114 Analysis determined that the baseplate be shimmed to within 1/32". Work Request 08448 shimmed baseplate.
- M-1187D-557 U-bolt on support broken. Work Request 08430 replaced U-bolt.
- M-1187D-115 This support is acceptable as-is.
- SKB-2314-3 This support is not required for qualification of line and is acceptable as-is.
- 3-2314-5 This support is not required for qualification of pipe and need not be reinstalled.

WELD

DISPOSITION

- A3 MT examination acceptable
- C12A MT examination acceptable
- C10B MT examination acceptable
- C09B MT examination acceptable

With the successful examination and implementation of the aforementioned items the system was declared operable (249-200-92-05701).

DOS 2300-2 will be revised by the Operations Department to include the necessary steps to maintain cooling water flow during an Overspeed Test. This will be accomplished by throttling closed 2(3)-2314-500, LOC discharge valve, and monitoring oil temperatures locally and in the Control Room (249-200-92-05702).

The Mechanical Maintenance Department will determine if during the next Unit 3 Refuel outage the shaft sleeve can be relocated when the HPCI Turbine is overhauled (249-200-92-05703).

Engineering evaluation of the Unit 3 cooling water line piping/supports involved in this event indicates that design basis FSAR criteria was not violated. Review of the similar Unit 2 HPCI components is also underway and will be reported via LER 92-13/050237.

F. PREVIOUS OCCURENCES:

Non-Reportable Event No. Title

12-2-92-24 HPCI System Exceeded 12 hour Test Window During Startup Due to Misadjusted Turbine Speed Controls

During the performance of DOS 2300-3 HPCI Operability Verification, the HPCI System would not meet the necessary flow and pressure requirements. It was determined that the Motor Gear Unit and Motor Speed Changer limits were improperly set following maintenance. The limits were readjusted and the system tested satisfactorily.

G. COMPONENT FAILURE DATA:

N/A.