NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION (4-95)						ON	APPROVED BY OMB NO. 3150-0104 EXPIRES 04/30/98						
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NRC FORM 366A COMMISSION (4-95)

U.S. NUCLEAR REGULATORY

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	I	LER NUMBER (6	Ŋ	PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Dresden Nuclear Power Station, Unit 3	05000249	98	001	00	2 OF 4
TEXT (If more space is required, use additional copies of NRC Form 366A) (17)					

PLANT AND SYSTEM IDENTIFICATION:

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

Energy Industry Identification System (EIIS) Codes are identified in the text as [XX] and are obtained from IEEE Standard 805-1984, IEEE Recommended Practice for System Identification in Nuclear Power Plants and Related Facilities.

EVENT IDENTIFICATION:

High Pressure Coolant Injection System Declared Inoperable Due to Gland Seal Leak Off Condenser Hotwell Level Control Malfunction Caused by A Loose Lug On The Drain Pump Automatic Start Relay

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 3	Event Date: 2/19/98	Event Time: 0413 CST
Reactor Mode: 1	Mode Name: Run	Power Level: 99

Reactor Coolant System Pressure: 1002 psig

No systems or components were inoperable or out of service at the start of this event which contributed to the event.

B. DESCRIPTION OF EVENT:

This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(v)(D) which requires the reporting of any event or condition that alone could have prevented the fulfillment of the safety function of a system required to mitigate the consequence of an accident.

On February 19, 1998, at 0413, while performing Dresden Operating Surveillance (DOS) 2300-03, High Pressure Coolant Injection (HPCI)[BJ] System Operability Verification, the Gland Seal Leak Off (GSLO) Condenser hotwell level control system did not maintain proper level in the GSLO hotwell. The failure to control level in the GSLO Condenser hotwell has the potential, upon HPCI initiation, to result in a high level in the GSLO condenser hotwell, which renders HPCI inoperable.

On February 19, 1998, at approximately 0044, DOS 2300-03 was initiated. The GSLO drain pump was started, per procedure, and verified to automatically stop on low level. The level control system for the GSLO condenser provides an automatic start of the drain pump due to high level in the GSLO condenser with a signal from a high level switch or by a manual operation of the control switch. The pump then automatically stops on low level in the GSLO condenser with a signal provided by a low level switch. There is also a high level alarm which alarms above the pump start level switch and a low level alarm which alarms on low level below the pump stop level switch.

At 0359 the HPCI steam chest warm-up commenced and by 0412 the HPCI turbine was rolled up to 2500 revolutions per minute (RPM) and the stop valve was closed per station procedure. Following the turbine roll up, the GSLO Condenser high level alarm was received in the Control Room. In response to this alarm, the Nuclear Station Operator (NSO) (Licensed Reactor Operator) manually started the GSLO condenser drain pump per station annunciator Procedure, and the HPCI turbine stop valve was opened. At approximately 0415 the GSLO condenser level returned to normal.

At approximately 0429, a second GSLO condenser high level alarm was received in the Control Room. The NSO manually started the GSLO Condenser drain pump per procedure, and the pump discharge was verified locally to be as expected, approximately 50 psig. At approximately 0431, the GSLO condenser level returned to normal.

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S. NUCLEAR REGULATORY

LICENSEE EVENT REPORT (LER)

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Dresden Nuclear Power Station, Unit 3	05000249	98	001	00	3 OF 4
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At approximately 0456, a third GSLO condenser high level alarm was received in the Control Room. At this time the NSO identified that the GSLO Condenser drain pump had automatically started on high level. The pump was verified not to be air bound, and the GSLO condenser level returned to normal at approximately 0500. Because the drain pump was on and the high level alarm was annunciating, it was believed that the GSLO condenser could not maintain the proper level. Thus, at 0508 the HPCI turbine stop valve was tripped closed from the Control Room and DOS 2300-03 was exited. The HPCI system was declared inoperable effective at 0413, and LCO action was entered. An ENS notification was performed at 0617 EST.

An event investigation team was formed at 0830 on February 19, 1998, to determine the cause of the failure. During troubleshooting of the event, a loose lug on the automatic start relay of the GSLO condenser drain pump was found. The loose lug showed indication of arcing, but in a condition satisfactory for use, the lug was then tightened. The findings of the investigation team were approved by Senior Station management on February 21, 1998, at 1630. The HPCI operability verification was completed and the HPCI system exited the LCO action statement at 2220.

C. CAUSE OF EVENT:

The root cause of this event was an original installation deficiency of the automatic start relay's wire hold down lug (NRC Cause Code B). The lug for the relay power wire was found loose, with indication of arcing. Additionally, the lug showed no "smearing" of the lug material, which would be expected if the lug had originally been tightened (because the lug is of a softer metal that the nut). Thus, indicating that the lug did not loosen over time. The intermittent performance of the GSLO drain pump is consistent with this type of failure.

SAFETY ANALYSIS D.

The HPCI system is designed to provide make up coolant to the reactor in the event of a small break Loss Of Coolant Accident. If the HPCI System was to initiate, leakoff collected by the HPCI turbine gland seal system is drawn to the GSLO condenser. The condensate is then returned to the HPCI pump suction via the GSLO condenser drain pump. If the GSLO condenser hotwell level control system fails to maintain a normal level in the hotwell, then the GSLO condenser can flood and steam will no longer be drawn off of the turbine shaft glands, stop valve stem, or control valve stems. Initially, this occurrence alone would not prevent the HPCI system from functioning during a design basis accident. Continued steam leakage into the HPCI room could result in a HPCI system isolation (Group IV) due to high room temperature, rendering the system inoperable. The safety significance of this event was minimal since all other emergency core cooling systems were available during the time that the HPCI system was inoperable.

CORRECTIVE ACTIONS: E.

The GSLO condenser drain pump automatic start relay wire lug was tightened. (Complete)

The HPCI system was successfully tested following the tightening of the loose lug. (Complete)

A Policy has been implemented to create a troubleshooting group called a High Impact Team (HIT) and a Troubleshooting Board, in order to provide for more focus and effectiveness regarding troubleshooting activities of significant recurring materiel condition issues. (Complete)

The Unit 2 GSLO condenser level control system will be tested and inspected, similar to the testing and inspections performed on Unit 3 following the reportable event. (249-180-98-00101)

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S. NUCLEAR REGULATORY

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	8	LER NUMBER (3)	PAGE (3)
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			NUMBER	NUMBER	
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In light of other recent events concerning the GSLO condenser level control (LERs 97-013 docket number 05000237 and 97-009 & 97-014 docket number 05000249), the station will perform further actions... These actions will provide an additional opportunity to assure that the GSLO condenser level control system is performing properly. The Station is confident that the current level control system is adequate, but the additional actions are the conservative approach to address the recent GSLO condenser level control events.

A weekly surveillance will be performed on the GSLO condenser level control system. This will allow performance data to be collected for trending purposes and to assure that the GSLO condenser level control system is performing properly. (249-180-98-00102)

The performance frequency of the surveillance cited in action 249-180-98-00102 will be evaluated to determine if the frequency should be adjusted or if discontinuation of the surveillance is appropriate. (249-180-98-00103)

The preventive maintenance program for the GSLO condenser equipment will be reviewed to verify proper system maintenance, revisions to the program will be made as necessary. (249-180-98-00104)

Evaluate alternative level switches and level switch elevations for the HPCI GSLO condenser hotwell level control and alarms. (249-180-97-01406)

F. **PREVIOUS OCCURRENCES:**

None.

COMPONENT FAILURE DATA: G.

None.