

Exelon Generation Company, LLC
Dresden Nuclear Power Station
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10 CFR 50.73

SVPLTR # 07-0042

September 24, 2007

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Dresden Nuclear Power Station, Unit 2
Renewed Facility Operating License No. DPR-19
NRC Docket No. 50-237

Subject: Licensee Event Report 237/2007-003-00, "Unit 2 High Pressure Coolant Injection System Declared Inoperable"

Enclosed is Licensee Event Report 237/2007-003-00, "Unit 2 High Pressure Coolant Injection System Declared Inoperable," for Dresden Nuclear Power Station, Unit 2. This event is being reported in accordance with 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

Should you have any questions concerning this report, please contact Mr. James Ellis, Regulatory Assurance Manager, at (815) 416-2800.

Respectfully,



Danny G. Bost
Site Vice President
Dresden Nuclear Power Station

Enclosure

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

JE22

NRR

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME Dresden Nuclear Power Station, Unit 2	2. DOCKET NUMBER 05000237	3. PAGE 1 OF 4
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4. TITLE
Unit 2 High Pressure Coolant Injection System Declared Inoperable

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	26	2007	2007	- 003 -	00	09	24	2007	N/A	N/A
									N/A	N/A

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)		Specify in Abstract below or in NRC Form 366A					

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME Dresden Nuclear Power Station – George Papanic Jr.	TELEPHONE NUMBER (Include Area Code) (815) 416-2815
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
NA					NA				

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO			

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On July 26, 2007, at 1706 hours (CDT), with Unit 2 at approximately 98 percent power, Dresden Nuclear Power Station control room personnel were notified of a very small through-wall leak on a Unit 2 High Pressure Coolant Injection System Inlet Drain Pot line elbow. To repair the leaking location, the associated piping was required to be isolated which resulted in the isolation of the Unit 2 High Pressure Coolant Injection System. The Unit 2 High Pressure Coolant Injection System was declared inoperable and Technical Specification 3.5.1, "ECCS Operating," was entered. The elbow was replaced and the Unit 2 High Pressure Coolant Injection System was declared operable on July 27, 2007, at 1809 hours (CDT).

The apparent cause of the through wall leak was liquid impingement erosion of the exterior curve of the 90 degree elbow. Corrective actions include the performance of non-destructive testing inspections of piping components in the Unit 2 and 3 High Pressure Coolant Injection System Inlet Drain Pot drain lines, and evaluation of modifying the material or design of the line to reduce the susceptibility to liquid impingement erosion.

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

droplet impact angle was the highest. This HPCI line carries a steam/condensate mixture from the approximately 400°F/1000 psig conditions in the drain pot to the vacuum conditions in the condenser. Due to the pressure drop, the two-phase mixture accelerates as the condenser is approached. Liquid impingement erosion occurs when the impacts from the high velocity water droplets are high enough to damage the pipe surface. Velocity and impact angle are two factors that can affect the erosion.

DNPS has scheduled non-destructive testing inspections on the piping components in the Unit 2 and 3 HPCI Drain Pot drain lines that have the highest susceptibility to impingement erosion (i.e., elbows, valves, orifices and piping immediately downstream of these components). DNPS will upgrade the A335 P11 Chrome Moly alloy steel elbow to Inconel material and modify the design of the line to reduce susceptibility to liquid impingement erosion or initiate preventive maintenance monitoring. Additionally, DNPS will evaluate other high-pressure safety piping which is not included in the FAC Program for susceptible areas for impingement erosion.

D. Safety Analysis:

The safety significance of the event is minimal. TS 3.5.1 allows Unit 2 to remain at power for 14 days with an inoperable HPCI if the Isolation Condenser System (IC) is operable. Unit 2 was in compliance with TS 3.5.1 during this event as the IC was operable and HPCI was inoperable for approximately 1 day. Therefore, the consequences of this event had minimal impact on the health and safety of the public and reactor safety.

E. Corrective Actions:

Unit 2 HPCI Inlet Drain Pot drain line elbow with the leak was replaced.

Non-destructive testing inspections will be performed on the piping components in the Unit 2 and 3 HPCI Drain Pot drain lines that have the highest susceptibility to impingement erosion.

DNPS will upgrade the A335 P11 Chrome Moly alloy steel elbow to Inconel material and modify the design of the line to reduce susceptibility to liquid impingement erosion or initiate preventive maintenance monitoring.

DNPS will evaluate other high-pressure safety piping which is not included in the FAC Program for susceptible areas for impingement erosion.

F. Previous Occurrences:

A review of DNPS Licensee Event Reports (LERs) for the last three years did not identified any LERs addressing piping leaks caused by liquid impingement erosion.

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

G. Component Failure Data:

NA