

Exelon Generation Company, LLC  
Dresden Nuclear Power Station  
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Morris, IL 60450-9765

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10 CFR 50.73

SVPLTR # 10-0004

January 22, 2010

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

Dresden Nuclear Power Station, Units 2 and 3  
Renewed Facility Operating License Nos. DPR-19 and DPR-25  
NRC Docket Nos. 50-237 and 50-249

Subject: Licensee Event Report 237/2009-007-00, "Reactor Protection System Nonconformance to a Design Standard"

Enclosed is Licensee Event Report 237/2009-007-00, "Reactor Protection System Nonconformance to a Design Standard," for Dresden Nuclear Power Station. This event is being reported in accordance with 10 CFR 50.73(a)(2)(v)(A), "Any event or condition that could have prevented the fulfillment of a safety function of structures or systems that are needed to shut down the reactor and maintain it in a safe shutdown condition."

There are no regulatory commitments contained in this submittal.

Should you have any questions concerning this letter, please contact Ms. Marri Marchionda at (815) 416-2800.

Respectfully,



Tim Hanley  
Site Vice President  
Dresden Nuclear Power Station

Enclosure

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

TE22  
MRR

# 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: 80 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.

<b>1. FACILITY NAME</b> Dresden Nuclear Power Station, Unit 2	<b>2. DOCKET NUMBER</b> 05000237	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Reactor Protection System Nonconformance to a Design Standard

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
11	27	2009	2009	007	00	01	22	2010	Dresden Unit 3	05000249
									N/A	N/A

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

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME Dresden Nuclear Power Station – B. Rybak	TELEPHONE NUMBER <i>(Include Area Code)</i> (815) 416-2810
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i> <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>						
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MONTH</th> <th>DAY</th> <th>YEAR</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	MONTH	DAY	YEAR			
MONTH	DAY	YEAR					

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

During a field walkdown while DNPS Unit 2 was in its fall 2009 refueling outage, it was identified that Reactor Protection System (RPS) Pressure Switches (PS) 2-0504-A, B, C, and D all share a common sensing line with a single isolation valve (2-0504-A/D-HV). A subsequent review found a similar configuration existed on Unit 3. After further review, it was concluded that Technical Specification RPS functions 8 and 9, 'Turbine Stop Valve - Closure' and 'Turbine Control Valve Fast Closure, Trip Oil Pressure - Low' are susceptible to single point vulnerability due to a nonconformance to design standard IEEE 279 -1968. Specifically, failure of the common sensing line would bypass these RPS scram functions when reactor power is greater than 38.5 percent. Based on this single point vulnerability, these RPS scram functions could have been disabled if the sensing line failed and therefore this event is reportable per 10 CFR 50.73(a)(2)(v)(A), "Any event or condition that could have prevented the fulfillment of a safety function of structures or systems that are needed to shut down the reactor and maintain it in a safe shutdown condition." For Unit 2, DNPS took actions to restore compliance to the referenced design standard prior to the return to service. For Unit 3, DNPS has performed an operability determination, and the safety function remains operable. Actions to restore compliance for DNPS Unit 3 are scheduled for the next refueling outage.

**LICENSEE EVENT REPORT  
(LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
Dresden Nuclear Power Station, Unit 2	05000237	YEAR	SEQUENTIAL NUMBER	REV NO.	2	OF
		2009	- 007	- 000		

**NARRATIVE**

**PLANT AND SYSTEM IDENTIFICATION**

Dresden Nuclear Power Station (DNPS) Unit 2 is a General Electric Company Boiling Water Reactor with a licensed maximum power level of 2957 megawatts thermal. The Energy Industry Identification System codes used in the text are identified as [XX].

**A. Plant Conditions Prior to Event:**

Unit: 02	Event Date: 11-27-2009	Event Time: 2205 hours CST
Reactor Mode: 5	Mode Name: Refueling	Power Level: 000 percent

**B. Description of Event:**

During a field walkdown while DNPS Unit 2 was in its fall 2009 refueling outage (D2R21), it was identified that the Reactor Protection System (RPS) [JC] Pressure Switches (PS) 2-0504-A, B, C, and D all share a common sensing line with a single isolation valve (2-0504-A/D-HV). A subsequent review found a similar configuration existed on Unit 3. After further review, it was concluded that Technical Specification RPS functions 8 and 9, 'Turbine Stop Valve - Closure' and 'Turbine Control Valve Fast Closure, Trip Oil Pressure - Low' are susceptible to single point vulnerability due to a nonconformance to Institute of Electrical & Electronics Engineers (IEEE) design standard, "Proposed IEEE Criteria for Nuclear Power Plant Protection Systems", IEEE 279 -1968. Specifically, failure of the common sensing line would bypass an RPS scram function when reactor power is greater than 38.5 percent.

Based on this single point vulnerability, these RPS automatic operating bypass scram functions could have been disabled if the sensing line failed and therefore this event is reportable per 10 CFR 50.73(a)(2)(v)(A), "Any event or condition that could have prevented the fulfillment of a safety function of structures or systems that are needed to shut down the reactor and maintain it in a safe shutdown condition."

**C. Cause of Event:**

Cause of this design error is unknown. Review of design documents and drawing revisions going back to the 1970s indicate that the four RPS pressure switches were connected to the common sensing line during initial plant construction. The actual cause for connecting the four RPS pressure switches to a single sensing line when two independent sensing lines exist on both units cannot be determined due to the time frame when this discrepancy occurred.

**D. Safety Analysis:**

No actual failure of the common sensing line existed. Any failure of the sensing line would result in control room annunciation of the condition and operators would be required to take appropriate

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**NARRATIVE**

compensatory actions within one hour or reduce power to below 38.5 percent within four hours. Therefore, the safety significance is minor.

**E. Corrective Actions:**

This discrepancy existed for both DNPS Unit 2 and Unit 3 RPS pressure switches for the Turbine Stop Valve - Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure - Low trip bypass functions. For Unit 2, DNPS took actions to restore compliance to the referenced design standard prior to the return to service of the unit when two of the pressure switches were connected to a second independent sensing line. For Unit 3, DNPS has performed an operability determination, and the safety function remains operable. The Unit 3 discrepancy will be resolved during its 2010 refueling outage.

DNPS reviewed the other RPS operating bypasses on both Units and found no discrepancies.

**F. Previous Occurrences:**

A review of DNPS Licensee Event Reports (LERs) was performed and no recent RPS design nonconformance was identified.

**G. Component Failure Data:**

N/A