

August 22, 2005

SVPLTR # 05-0035

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

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

Subject: Licensee Event Report 237/2005-003, "Units 2 and 3 Offsite Power Sources Declared Inoperable Due to Low Voltage"

Enclosed is Licensee Event Report 237/2005-003, "Units 2 and 3 Offsite Power Sources Declared Inoperable Due to Low Voltage," for Dresden Nuclear Power Station. 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. Pedro Salas, 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

**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](mailto: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  
Units 2 and 3 Offsite Power Sources Declared Inoperable Due to Low Voltage

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
06	23	2005	2005	- 003 -	00	08	22	2005	Dresden Unit 3	05000249
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

9. OPERATING MODE  1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)							
10. POWER LEVEL  099	<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)(ii)(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 <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE MONTH:    DAY:    YEAR:
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On June 23, 2005, at 1549 hours (CDT), with Unit 2 at approximately 99 percent power and Unit 3 at approximately 99 percent power with a nominal 352 kilovolts(kV) switchyard voltage, Dresden Nuclear Power Station was notified by Bulk Power Operations that predicted post unit trip switchyard voltages with a postulated Loss of Coolant Accident, for Unit 2 was 342.5 kv and for Unit 3 was 342.3 kv. These predicted voltages were below design assumptions and resulted in the station declaring the Technical Specification offsite power sources inoperable.

The cause of this predicted low switchyard voltage level event was determined to be the result of changes in the manner that the transmission system is operated. Corrective actions include the installation of a new transformer with a load tap changer for Unit 2 (completed), installation of a new transformer with a load tap changer for Unit 3 that is currently scheduled to be installed in the next refueling outage, and submittal of an amendment request for Units 2 and 3 to allow the use of the automatic feature of the load tap changers (complete). Additionally as an interim action, Exelon Generation Company, LLC, has contracted with other power producers to provide additional electrical power to raise the grid voltage when the Dresden Nuclear Power Station switchyard voltage is low.



LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Dresden Nuclear Power Station Unit 2	05000237	2005	-- 003	-- 00	3 OF 4

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

The deregulation of the commercial electrical power utilities has modified the plans and procedures that regulate the electrical power grid and control its voltage. The actual operating limits have not changed, however, the probability of reaching these limits has increased and periods of lower voltage than previously predicted have occurred. These changes have not affected the normal operation of nuclear plants. The required switchyard voltage for normal operation is less than the postulated post accident requirement. The normal plant configuration splits the plant loads between the Unit Auxiliary Transformer (UAT) and the Reserve Auxiliary Transformer (RAT); post accident predicted voltage assumes loss of unit voltage support, all loads transferred to the RAT along with the ECCS loads.

Exelon Generation Company, LLC, (EGC) has established programs and procedures for the notification to DNPS when current electrical grid conditions result in predicted post accident voltages lower than post accident design assumptions. EGC has developed procedures to respond to notification of actual or predicted low voltage conditions at DNPS.

As a result of the above describe situation, DNPS evaluated options to respond to the changes in the plans and procedures that regulate the electrical power grid and control its voltage. The best option was to install new transformers with load tap changers (LTCs) that are capable of automatically modifying the characteristics of the transformer to maintain the voltage from offsite power sources to safety related loads connected to the RATs. A new transformer with LTC has been installed on Unit 2 and EGC plans to install a new transformer with LTC on Unit 3 during its next refueling outage in 2006.

The current DNPS licensing basis does not permit the automatic operation of the DNPS LTCs without prior NRC approval. On April 4, 2005, DNPS submitted an amendment request to allow the use of the automatic feature of the LTCs and is awaiting NRC approval of the change. The LTCs will be operated in manual mode until the amendment is approved. Thus, during this event, the Unit 2 LTC was operating in manual mode and could not automatically respond to the reduction in DNPS switchyard voltage.

Additionally, as an interim action, EGC has contracted with other power producers to provide additional electrical power to raise the grid voltage when the DNPS switchyard voltage is low.

**D. Safety Analysis:**

The safety significance of the event is minimal. The DNPS Updated Final Safety Analysis Report Section 15.6.5, "Loss of Coolant Accidents Resulting from Pipe Breaks Inside Containment," analyzed the design basis Loss of Coolant Accident. The analyses assumed a loss of offsite power concurrent with the Loss of Coolant Accident at one DNPS unit, which only relied upon the onsite electrical power systems to successfully respond to the accident. The onsite electrical power systems (i.e., Emergency Diesel Generators and safety related direct current systems) were operable during this event. Additionally, although the offsite power systems were declared inoperable due to the low voltage, they remained available to provide electrical power to DNPS. Therefore, the consequences of this event had minimal impact on the health and safety of the public and reactor safety.

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**E. Corrective Actions:**

DNPS is in the process of installing transformers with LTC capable of automatic control.

For DNPS Unit 2, Transformer 86 has a LTC capable of automatic control. Operating procedure DOP 6400-14, "TR 86 Load Tap Changer Operation," provides guidance to the operators on manually adjusting the LTC to provide proper voltages to the unit.

For DNPS Unit 3, installation of a new transformer with a LTC capable of automatic control is scheduled during its next refueling outage in 2006.

DNPS on April 4, 2005, submitted a license amendment request to allow the use of the automatic LTC feature for both Units 2 and 3.

EGC has contracted with other power producers to provide additional electrical power to raise the grid voltage when the DNPS switchyard voltage is low.

**F. Previous Occurrences:**

A review of DNPS Licensee Event Reports (LERs) for the last five years did not identify any similar events.

**G. Component Failure Data:**

NA