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Exelon Nuclear

10 CFR 50.73

SVPLTR # 10-0051

December 17, 2010

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 237/2009-006-01, Supplement to Failure of Main Control Room Ventilation Due to Breaker Malfunction

Enclosed is supplemental Licensee Event Report 237/2009-006-01, "Failure of Main Control Room Ventilation Due to Breaker Malfunction," 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."

There are no regulatory commitments contained in this submittal.

Should you have any questions concerning this letter, please contact Mr. D. Leggett 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

JE22
NRR

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

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 FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE

Failure of Main Control Room Ventilation Due to Breaker Malfunction

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
									Dresden, Unit 3	05000249
11	12	2009	2009	- 006 -	01	12	17	2010	FACILITY NAME: N/A	DOCKET NUMBER: 05000

9. OPERATING MODE

5

10. POWER LEVEL

000

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☒ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER *(Include Area Code)*
Riley Ruffin	815-416-2815

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
D	ED	BKR	G030	Y					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

On November 12, 2009, Dresden performed a technical specification surveillance to functionally test the Unit 2 Emergency Diesel Generator under-voltage and Emergency Core Cooling integrated function capabilities. The Under-Voltage / Emergency Core Cooling System logic is designed to shed and sequence selected electrical loads onto the associated Emergency Diesel Generator (EDG) in the event of a loss of offsite power to prevent overloading the EDG. During the testing, the logic appropriately tripped the feeder breaker to motor control center 29-8, which supplies electrical power to the emergency ventilation system for the main control room. However during an attempt to reestablish the load, the feeder breaker failed to reclose. The lack of emergency power to the ventilation system rendered it incapable of performing its intended safety function. Therefore this condition is being reported as an event that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

The failed breaker was replaced. The failed breaker was sent to a vendor for analysis. Based on the troubleshooting and failure analysis, the most likely cause is a buildup of lubricant and oxidation on the secondary contact slides in the breaker cubicle. The four-year preventative maintenance activity for these types of cubicles was revised to include an activity to clean the secondary contact slides with an abrasive pad to remove the buildup of baked on lubricant and oxidation.

The safety significance of this event is minimal due to the health and safety of the public not being compromised. The capability to shut the plant down and maintain it in a safe condition was not compromised. Offsite power was available during the course of this event.

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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: 11-12-2009 | Event Time: 1114 hours CST
Reactor Mode: 5 | Mode Name: Refueling | Power Level: 000 percent

B. Description of Event:

On 11/12/2009 plant personnel were performing the integrated functional test of the Division 2 Undervoltage (UV) and Emergency Core Cooling System (ECCS) actuation logic in accordance with plant procedures. The test was being performed to demonstrate Technical Specification Surveillance Requirements specified in Sections 3.3.5.1 ECCS Instrumentation, 3.3.8.1 LOP Instrumentation, 3.5.1 ECCS - Operating, and 3.8.1 AC Sources - Operating.

During the logic test, initiation signals for the Unit 2 Emergency Diesel Generator (EDG) [EK] and ECCS system are injected to cause system actuations. In the event of an UV, the logic is designed to shed electrical loads and sequence selected loads onto buses being supplied by the EDG. This logic prevents the EDG from being overloaded. Some required loads are designed to be manually reestablished following a successful start of the associated EDG.

At approximately 1114 hours, plant personnel attempted to manually reestablish the 480 VAC loads, Motor Control Center (MCC) 29-8 [ED], associated with the control room emergency ventilation system [VI] by closing the feeder breaker from Bus 29 [ED]. However, the feeder breaker failed to close. Operation personnel entered Dresden Abnormal Operating Procedures due to the failure of the control room emergency ventilation to start.

In accordance with Abnormal Operating Procedures, control room doors were opened to maintain control room temperature within prescribed limits. With the doors opened, the control room envelope boundary was declared inoperable which required entry into Technical Specification 3.7.4 Condition B.

Following the failure of the breaker to close, troubleshooting activities were commenced.

The breaker malfunction resulted in the inability of the control room emergency ventilation system to perform its intended safety function. Therefore, this condition is being reported as an event that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident in accordance with 10 CFR 50.73(a)(2)(v)(D).

C. Cause of Event:

As a part of troubleshooting, the breaker was racked out and inspected. During the cubicle inspection, plant personnel observed a dark discoloration on the secondary contact slides. The discoloration appeared to be baked on lubrication and oxidation. The secondary slides were thoroughly cleaned until the discoloration had been removed.

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NARRATIVE

The failed breaker was quarantined and subsequently sent to a vendor for failure analysis. The failure analysis testing could not repeat the conditions which the breaker exhibited when installed at the site. Reduced control voltage testing at 90 Vdc was also performed with only one case where the breaker did not close due to the closing coil not being allowed to cool down between tests. However, at full voltage the coil operated successfully each time.

Based on the troubleshooting by plant personnel and the vendor performed failure analysis, the most likely cause of the breaker failure is poor continuity between the secondary contacts and the contact slides. The existing PM activities did not require the contact slides to be thoroughly cleaned. This allowed a buildup of lubricant and oxidation on the contact slides.

D. Safety Analysis:

The health and safety of the public was not compromised as a result of this condition due to the availability of safety systems needed to mitigate offsite releases and remove residual heat. Therefore, the safety significance of this event is minimal. Additionally, the capability to shut the plant down and maintain it in a safe condition was not compromised during this condition. Offsite power was available during the course of this event. The function was restored well within the required completion time of the plant's technical specifications.

E. Corrective Actions:

The breaker was replaced and the system successfully tested. Troubleshooting and a failure analysis were performed.

The four-year preventative maintenance activity for these types of cubicles was revised to include an activity to clean the secondary contact slides with an abrasive pad to remove the buildup of baked on lubricant and oxidation.

Since the closing coil exhibited an intermittent malfunction during the failure analysis testing, the closing coil was replaced.

F. Previous Occurrences:

A review of DNPS Licensee Event Reports (LERs), which occurred within the past three years was performed and no control room emergency ventilation failures due to breaker failure events were identified.

G. Component Failure Data:

Manufacturer	Model	Component
General Electric	AK-25	Circuit Breaker