Exelon Nuclear

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RA-10-012

10 CFR 50.73

February 8, 2010

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

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Licensee Event Report (LER) 2009-006-01, EDG #1 Inoperable due to Failure of its Output Breaker to Close

Enclosed is LER 2009-006-01, EDG #1 Inoperable due to Failure of its Output Breaker to Close. This LER was revised to add a Part 21 notification. This event did not affect the health and safety of the public or plant personnel. There are no regulatory commitments made in this LER submittal.

Should you have any questions concerning this letter, please contact James Barstow, Regulatory Assurance Manager, at (609)-971-4947.

Respectfully,

Michael J. Massaro

Michael J. Massaro
Vice President
Oyster Creek Nuclear Generating Station

Enclosure: NRC Form 366, LER 2009-006-01

cc: Administrator, NRC Region 1
NRC Senior Resident Inspector - Oyster Creek Nuclear Generating Station
NRC Project Manager - Oyster Creek Nuclear Generating Station
File No. 09057

IE22
NRR

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010

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.

LICENSEE EVENT REPORT (LER)

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

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4. TITLE
EDG #1 Inoperable due to Failure of its Output Breaker to Close

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
									N/A	N/A
08	03	2009	2009	- 006 -	01	02	08	2010	N/A	N/A

9. OPERATING MODE
N

10. POWER LEVEL
100

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

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☒ OTHER "Part 21"
☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
James Barstow, Regulatory Assurance Manager	(609) 971-4947

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
B	EK	RLY	T351	Y	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED		15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)*	☒ NO				

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

On August 3, 2009, the output breaker for the Emergency Diesel Generator #1 (EDG #1) failed to close during its bi-weekly surveillance load test. EDG #1 started and came up to speed, but the output breaker did not close automatically, as expected.

The cause of the EDG #1 output breaker failure to close was a failed GBC relay. EDG #1 was declared inoperable since it did not automatically load onto its bus ("C" 4160V bus).

This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B) due to a condition prohibited by the plant's Technical Specifications. This report also constitutes a Part 21 notification.

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NARRATIVE

Plant Condition Prior to Event

Event Date: August 3, 2009 Event Time: 0420 EDT
Unit 1 Mode: Power Operation Power Level: 100%

Description of Event

Note: Energy Industry Identification System (EIIS) codes are identified in the following text in brackets as [XX].

On August 3, 2009, the output breaker [BKR] for the #1 Emergency Diesel Generator (EDG #1) [DG] failed to close during its bi-weekly surveillance load test. EDG #1 started and came up to speed, but the output breaker did not close as expected. EDG #1 was declared inoperable since it did not automatically load onto its bus ("C" 4160V bus).

Cause of Event

The cause of the EDG #1 output breaker failure to close was a degraded GBC relay [RLY]. The breaker closing circuit relies on the normally open GBC relay contacts M2/T2 to close in order to close the EDG output breaker. The failure was an incomplete closure of the normally open M2/T2 relay contacts, caused by an air gap between the contacts. This failure was created by marginal positioning of the spring that is common to the #2 and #4 contacts. This failure is classified as a manufacturing defect. Initial performance testing of the GBC relay during EDG #1 biweekly testing was satisfactory, and at a later time and after experiencing a limited number of operations, the M2/T2 contact experienced an open circuit failure. This type of failure is classified as an infantile failure caused by a manufacturing defect. This report also constitutes a Part 21 notification.

Intermittent failure of this GBC relay was also the cause of the longer than expected time to auto sync on July 12, 2009, discussed in LER 2009-005-00. The GBC intermittent failure was not recognized then because after replacement of the automatic synchronizer unit, the EDG #1 output breaker closed as required during subsequent testing of EDG #1, including the last successful surveillance test on July 20, 2009.

Analysis of Event

This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B) due to a condition prohibited by the plant's Technical Specifications (3.7.C.2). Since the GBC relay failure was intermittent and was evident during the July 2009 surveillance testing, it is conservatively being reported as a condition prohibited by Tech Specs. There is no firm evidence, however, that EDG #1 would not have performed its safety function prior to the August 3, 2009, surveillance.

Although automatic breaker closure was adversely affected by the GBC relay failure, the output breaker could still be closed manually at the EDG switchgear [SWGR]. The M2/T2 contacts for the GCB relay are bypassed in the EDG breaker logic for manual closure of the breaker. Steps to perform manual breaker closure are contained in procedure "Emergency Diesel Generator Operation" and would be used by the operators in the event of an emergency condition.

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NARRATIVE

Corrective Actions

The failed GBC relay was replaced. EDG #1 was returned to operable status on August 5, 2009, at 0151 after successful completion of post maintenance testing and operability surveillance.

The GBC relay, as well as three additional, same-model, relays were replaced in May 2008 on EDG #1. There is no evidence of a similar issue with these relays in EDG #1.

There are similar relays in EDG #2, however, the Agastat relays in EDG #2 have earlier date codes and have been in service for almost ten years without issues.

Previous Occurrences

There have been no similar Licensee Event Reports submitted at Oyster Creek in the last three years.

However, there were two similar relay failures at another Exelon plant (Limerick) with date codes of 0814 and 0808, whereas the Oyster Creek GBC relay had a date code of 0811. All three referenced relays were manufactured within six weeks of one another.

Component Failure Data

Component: Relay
Manufacturer: Tyco/Agastat
Model No: EGPI004
Cause: Manufacturing Defect