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An Exelon Company

License Condition 2.E  
10 CFR 50.73 (b), (c), (e)

April 15, 2005  
2130-05-20069

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

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

Subject: License Event Report 2005-001-00, A CRD Pump was Returned to Service Prior to Correcting the Cause of Failure Resulting in a Technical Specification Violation

Enclosed is License Event Report 2005-001, Revision 0, a 30 day report required by Oyster Creek License condition 2.E. This event did not affect the health and safety of the public or plant personnel. This event did not result in a safety system functional failure.

If any further information or assistance is needed, please contact David Fawcett at 609-971-4284.

Sincerely,



FOR C. N. Swenson  
Vice President, Oyster Creek Generating Station

CNS/DIF

Enclosure: NRC Form 366, License Event Report 2005-001-00

cc: S. J. Collins, Administrator, USNRC Region I  
P. S. Tam, USNRC Senior Project Manager, Oyster Creek  
R. J. Summers, USNRC Senior Resident Inspector, Oyster Creek  
File No. 05030

IE22

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 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 Oyster Creek, Unit 1		2. DOCKET NUMBER 05000 219	3. PAGE 1 OF 3
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4. TITLE  
"A" Control Rod Drive Pump Was Returned to Service Prior to Correcting the Cause of Failure Resulting in a Technical Specification Violation

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
03	18	2005	2005	001	00	04	15	2005		05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE N	10. POWER LEVEL 100	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)(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 checked="" type="checkbox"/> OTHER						
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input 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 Robin Brown, Operations Support Manager	TELEPHONE NUMBER (Include Area Code) (609) 971-4979
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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

14. SUPPLEMENTAL REPORT EXPECTED		15. EXPECTED SUBMISSION DATE	
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO	DATE	MONTH DAY YEAR
		06	30 2005

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

During a functional test of the 1A2 Local Shutdown Panel (LSP) at 1254 on February 17, 2005, the "A" Control Rod Drive (CRD) Pump failed to start from the Main Control Room (MCR). The cause of this failure was attributed to contact high resistance on relay TR-2 in the 1A2 LSP. It was concluded that the high resistance cleared itself during subsequent relay operation. The relay was then scheduled for future replacement. "A" CRD Pump was successfully surveilled and returned to service. On March 16, 2005 at 1834, during a regular monthly surveillance, "A" CRD Pump did not start. Subsequent investigation found the 480 VAC breaker-closing spring was not charged. The closing spring is recharged by an electric motor immediately after the breaker opens. On March 18, 2005, investigation revealed a loose terminal wire connection to relay TR-2 within the LSP, which prevented charging of the closing spring. It is believed this condition existed on February 17, 2005 and should have been corrected. Technical Specifications (TS) only allow a 7-day out of service time for CRD Pumps resulting in a violation of TS 3.4.D.

Corrective actions included replacing the relay out for failure analysis and performing verification of closing spring condition on all safety related 480 VAC breakers.

The apparent cause of this event was inadequate identification and correction of the cause of pump failure on February 17, 2005.

There were no previous similar events at Oyster Creek Generating Station involving a breaker failing to close on demand due to the closing spring being discharged.

**LICENSEE EVENT REPORT (LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Oyster Creek, Unit 1	05000219	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2005	- 001	- 00	

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

**Description of Event**

During a functional test of the 1A2 Local Shutdown Panel (LSP) at 1254 on February 17, 2005 the "A" Control Rod Drive (CRD) Pump (E1IS-AA) failed to start from the Main Control Room (MCR). The cause of this failure was attributed to contact high resistance on relay TR-2 in the 1A2 LSP. It was concluded that the high resistance cleared itself during subsequent relay operation. The relay was then scheduled for future replacement. "A" CRD Pump was successfully surveilled and returned to service without further investigation.

On March 16, 2005 at 1834, during a regular monthly surveillance, "A" CRD Pump did not start from the MCR. A complex troubleshooting plan was developed and implemented. Investigation found the 480 VAC breaker (E1IC-52) closing spring was not charged. The closing spring is recharged by an electric motor immediately after the breaker opens. On March 18, 2005, during subsequent troubleshooting, while placing a volt ohm probe on the terminal point for 1C of the relay board in the 1A2 LSP, the pressure of placing the probe apparently made up the contact between TR-2 1B-1C and the charging motor. The charging motor initiated and recharged the breaker. This proved that breaker and spring charging motor were operable and the trouble was the loose wire connection at the relay terminal, which prevented charging of the closing spring. During removal of the relay a loose wire connection was identified on the relay. An open connection at this node would both preclude the pump start and preclude the breaker from recharging. The screw at this terminal was found cross-threaded and the wires were very loose. Other than normal breaker closure, a review of the breaker design did not identify a mechanism by which a previously charged breaker would discharge.

It is believed this condition existed on February 17, 2005 and should have been corrected. Technical Specifications (TS) only allow a 7-day out of service time for CRD Pumps resulting in a violation of TS 3.4.D.

**Analysis of Event:**

During the period that "A" CRD Pump was inoperable, "B" CRD Pump was operating and fully operable. The purpose of these pumps is to provide a motive force for normal rod control and a manually controlled high-pressure source of injection during normal operation or when required by the Emergency Operating Procedures. These pumps are not associated with any Emergency Core Cooling System (ECCS) automatic actuation. If "B" CRD Pump were to become unavailable, the "A" CRD Pump could have been placed in service by manually charging the closing spring and closing its breaker. This evolution would be expected to take less than 15-minutes and would not be compensating for any automatic actuation. Therefore the risk associated with this condition is minimal. This event is reportable in accordance with 50.73(a)(2)(i)(B) and section 2.C of the Operating License, which requires a 30-day report.

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Oyster Creek, Unit 1	05000219	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 3
		2005	- 001	- 00	

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

**Cause of Event:**

The apparent cause of this event was failure to determine and correct the cause of "A" CRD Pump failure on February 17, 2005 prior to returning it to service. The apparent cause of the loose connection was poor construction technique by the vendor who supplied the relay panel.

**Corrective Actions:**

**Immediate corrective actions:**

- (1) Replaced the relay, sent it out for failure analysis and tightened the loose connection.
- (2) Verified the closing spring condition on all safety related 480 VAC breakers.

The Root Cause Analysis that is currently in progress will determine long-term corrective actions and will be reported in a supplemental report.

**Additional Information**

**A. Failed Components:**

Loose wire connected to the cross-threaded screw. The relay that this loose contact is associated with was supplied pre-wired to the relay panel that was installed in the 1A2 Local Shutdown Panel, which included the cross-threaded connection.

**B. Previous similar events: None**

**C. Identification of components referred to in this Licensee Event Report:**

Components	IEEE 805 System ID	IEEE 803A Function
CRD Pump	EIIS-AA	P
480 VAC Breaker	EIIC-52	JX