

Oyster Creek Generating Station
Route 9 South
PO Box 388
Forked River, NJ 08731

www.exeloncorp.com

RA-09-070

10 CFR 50.73

September 10, 2009

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) 2009-005-00, Reactor Scram Following a
Transmission Line Lightning Strike

Enclosed is LER 2009-005-00, Reactor Scram Following a Transmission Line Lightning Strike. 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. There are no regulatory commitments made in this LER submittal. The detailed analysis of the event, determination of the cause of the affected transmission line breaker failure and circumstances surrounding the event is being investigated and will be reported in a supplement to this LER.

Should you have any questions concerning this letter, please contact Richard Milos, Regulatory Assurance, at (609) 971-4973.

Respectfully,



Michael J. Massaro
Vice President
Oyster Creek Nuclear Generating Station

Enclosure: NRC Form 366, LER 2009-005-00

cc: Administrator, NRC Region 1
NRC Senior Resident Inspector - Oyster Creek Nuclear Generating Station
NRC Project Manager - Oyster Creek Nuclear Generating Station

JE22
NRR

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, NE0B-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 Oyster Creek, Unit 1	2. DOCKET NUMBER 05000219	3. PAGE 1 OF 3
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4. TITLE
Reactor Scram Following a Transmission Line Lightning Strike

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
07	12	2009	2009	- 005	- 00	09	10	2009	N/A	N/A
									N/A	N/A

9. OPERATING MODE N	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
10. POWER LEVEL 100	<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 checked="" 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 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 James Barstow, Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) (609) 971-4947
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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
X	FK	BKR	G080	Y	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input checked="" type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO		11	10	2009

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

On July 12, 2009 with the Unit at 100% power in the "Power Operation" mode, a severe electrical storm resulted in multiple lightning strikes on an interconnected 34.5 kV offsite transmission line. These lightning strikes in conjunction with a failure of a line breaker to open caused grid disturbances, a main generator trip on over-excitation, an automatic reactor scram due to high pressure from the load rejection, and a loss of offsite power to the Startup Transformers.

When the plant experienced the loss of offsite power to the Startup Transformers, both Emergency Diesel Generators (EDGs) started to energize their associated safety related buses. During the event, EDG #1 was slow to tie onto its safety-related bus and the erratic "B" Isolation Condenser (IC) level indication resulting in operators declaring the IC inoperable. A Main Steam Isolation Valve (MSIV) actuation occurred due to loss of offsite power resulting in IC and Electrical Mechanical Relief Valve (EMRV) actuations. A shutdown cooling room high temperature indication resulted in secondary containment control EOP entry. An Unusual Event was declared for the loss of power to the Startup Transformers for greater than 15 minutes. All declarations and notifications were made correctly and in a timely manner.

This event is being reported pursuant to 10CFR50.73(a)(2)(iv)(A) due to automatic actuation of the reactor protection system. The cause of the breaker failure is being investigated and will be reported in a supplemental LER.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Oyster Creek, Unit 1	05000219	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 3
		2009	- 005	- 00	

NARRATIVE

Plant Condition Prior to Event

Event Date: July 12, 2009
Unit 1 Mode: Power Operation

Event Time: 0135 EDT
Power Level: 100%

Description of Event

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

On July 12, 2009, a severe electrical storm resulted in multiple lightning strikes on the Q121 transmission line. The affected line is a feed to the 34.5 kV Oyster Creek substation, which then feeds the Oyster Creek Startup Transformers [XFMR]. The lightning strikes in conjunction with a failure of a transmission line breaker [BKR] to open caused grid disturbances, a main generator [GEN] trip on over-excitation with subsequent automatic reactor scram (Turbine Trip), and a loss of offsite power to the Startup Transformers [XFMR].

When the plant experienced the loss of offsite power to the Startup Transformers, both EDGs started and energized their associated safety related buses. Two post-scram anomalies were associated with this event. EDG #1 took longer than expected to auto sync to its safety-related bus, and erratic "B" IC level indication.

Unusual Event MU-1 was declared for the loss of power to the Startup Transformers SA and SB for greater than 15 minutes. All declarations and notifications were made correctly and in a timely manner. The Unusual Event was terminated at 0405 on July 12, 2009 after restoration of offsite power.

Analysis of Event

This event is reportable under the provisions of 10CFR50.73(a)(2)(iv)(A) as an event that resulted in an automatic actuation of the reactor protection system [JC]. There were no safety consequences impacting the plant or public safety as a result of this event.

Two post-scram anomalies were noted with EDG #1 output breaker impacting the auto sync time and the "B" IC erratic level indication. Neither anomaly was considered a safety system functional failure. All other safety systems, structures, and components operated normally during this event. The detailed analysis of this event is under investigation and will be included in a Supplemental LER.

Cause of Event

The 34.5 kV, Q-121 transmission line was struck by lightning. The lightning strike broke the carrier/static line, resulting in a three-phase-to-ground fault. The Q-121 line breaker at Oyster Creek failed to open on the line fault resulting in the Oyster Creek generator feeding the fault until backup line breakers opened and isolated the line. These grid disturbances caused voltage swings and when the backup line breakers eventually isolated the Q-121 fault, switchyard voltage increased rapidly and the Oyster Creek generator tripped on over-excitation. The turbine-generator trip resulted in an automatic reactor scram (Turbine Trip).

The turbine-generator trip and resultant reactor scram was caused by a failure of the Q-121 line breaker to isolate the faulted transmission line following damage caused by lightning strike. The cause of the line breaker failure is still under investigation and will be included in a Supplemental LER. The line breaker is owned and maintained by First Energy (transmission system operator).

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NARRATIVE

Corrective Actions

The detailed analysis and cause determination is still under investigation. Complete descriptions of corrective actions will be included in a Supplemental LER. Corrective actions taken to date include, restoring the EDG #1 to full operable status, flushing the "B" IC level indication lines and repairing the Q-121 line breaker. These actions addressed the anomalies noted above.

The Q-121 line breaker was repaired by First Energy. Any lessons learned from that repair and the cause determination will be placed in Oyster Creek's corrective action program database.

Previous Occurrences

There have been no similar LERs submitted due to lightning strikes at Oyster Creek in the last three years. However, there was a lightning strike in June 2009 on the Q-121 transmission line, which resulted in a less severe grid disturbance and no plant scram occurred.

Component Failure Data

Component: Transmission Line Breaker
 Manufacturer: General Electric
 Serial No: NA
 Cause: Trip Coil Misaligned