



Exelon Generation®

LaSalle Station

2601 North 21st Road  
Marseilles, IL 61341

815 415 2000 Telephone  
www.exeloncorp.com

10 CFR 50.73

RA13-041

July 26, 2013

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

LaSalle County Station, Units 1 and 2  
Facility Operating License Nos. NPF-11 and NPF-18  
NRC Docket Nos. 50-373 and 50-374

Subject: Licensee Event Report 2013-002-01 Unusual Event Declared Due to  
Loss of Offsite Power and Dual Unit Scram

In accordance with 10 CFR 50.73(a)(2)(iv)(A) and 73.(a)(2)(v)(D), Exelon Generation  
Company (EGC), LLC, is submitting supplemental Licensee Event Report Number  
2013-002-01 for LaSalle Units 1 and 2.

There are no regulatory commitments in this letter. Should you have any questions  
concerning this report, please contact Mr. Guy V. Ford, Regulatory Assurance Manager,  
at (815) 415-2800.

Respectfully,

A handwritten signature in black ink, appearing to read "Harold T. Vinyard".

Harold T. Vinyard  
Plant Manager  
LaSalle County Station

Enclosure: Licensee Event Report

cc: Regional Administrator – NRC Region III  
NRC Senior Resident Inspector – LaSalle County Station

# 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 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](mailto: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.

<b>1. FACILITY NAME</b> LaSalle County Station, Unit 1	<b>2. DOCKET NUMBER</b> 05000373	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Unusual Event Declared Due to Loss of Offsite Power and Dual Unit Reactor Scram

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
04	17	2013	2013	002	01	07	26	2013	LaSalle County Station, Unit 2	05000374
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> <i>(Check all that apply)</i>			
<b>10. POWER LEVEL</b>  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 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 John Kowalski, Deputy Engineering Manager	TELEPHONE NUMBER <i>(Include Area Code)</i> 815-415-3830
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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
C	FK	XPT	W120	Y					

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i> <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR
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**ABSTRACT** *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On April 17, 2013, LaSalle Units 1 and 2 were operating in Mode 1 at 100% power, with a severe thunderstorm in progress. At 1457 hours CDT, lightning struck 138KV Line 0112, resulting in a phase-to-ground fault which subsequently cleared. At 1459 hours, a second phase-to-ground fault on Line 0112 occurred and all 345 KV oil circuit breakers (OCBs) in the main switchyard opened, resulting in a loss of offsite power and reactor scrams on both Units. All emergency diesel generators automatically started and loaded onto their respective busses. All control rods fully inserted, and all systems responded as expected.

An Unusual Event was declared due to a loss of offsite power for greater than 15 minutes. Offsite power was restored to all ESF busses by 2301 hours on April 17, 2013, and the Unusual Event was terminated at 0814 hours on April 18, 2013.

The root cause of the event was determined to be degradation of the 138kV switchyard grounding system that allowed a lightning induced fault to flash over onto the DC protective system. The ground system in the 138kV switchyard was repaired, and corrective actions include improving lightning shielding in the 138kV switchyard.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
LaSalle County Station, Units 1	05000373	YEAR	SEQUENTIAL NUMBER	REV NO.	2    OF    3
		2013	- 002	- 01	

**NARRATIVE**

LaSalle County Station Units 1 and 2 are General Electric Company Boiling Water Reactors with 3546 Megawatts Rated Core Thermal Power.

**A. CONDITION PRIOR TO EVENT:**

Unit(s): 1 / 2	Event Date: April 17, 2013	Event Time: 1459 CDT
Reactor Mode(s): 1 / 1	Mode(s) Name: Power Operation	Power Level: 100%

**B. DESCRIPTION OF EVENT:**

On April 17, 2013, LaSalle Units 1 and 2 were operating in Mode 1 at 100% power, with a severe thunderstorm in progress. At 1457 hours CDT, lightning struck 138KV Line 0112, resulting in a phase-to-ground fault which subsequently cleared. At 1459 hours, a second phase-to-ground fault on Line 0112 occurred and all 345 KV oil circuit breakers (OCBs) in the main switchyard (SY)[FK] opened, resulting in a loss of offsite power and reactor scrams on both Units. All emergency diesel generators (DG)[EK] automatically started and loaded onto their respective busses.

Plant systems on both Units responded as expected. All control rods went full in. The main steam isolation valves closed, with decay heat being removed via the safety relief valves. High Pressure Core Spray (HPCS)[BG] automatically started on both Units on low reactor water level; Reactor Core Isolation Cooling (RCIC)[BN] was used for level control. At 1511 hours, LaSalle declared an Unusual Event due to a loss of offsite power (LOOP) for greater than 15 minutes.

Primary containment pressure increased as expected, consistent with the loss of containment cooling due to the loss of non-ESF AC power. Primary containment pressure reached the Primary Containment Isolation System (PCIS)[JM] isolation setpoint on April 17, 2013, at 1721 hours on Unit 2 and at 2004 hours on Unit 1.

Offsite power was restored to all ESF busses by 2301 hours on April 17, 2013. Containment cooling was restored on April 18, 2013, by 0055, and the PCIS signals were cleared on Unit 1 by 0230 hours and on Unit 2 by 0814 hours. The Unusual Event was terminated at 0814 hours on April 18, 2013.

This occurrence is reportable under 10 CFR 50.73(a)(2)(iv)(A) as an event which resulted in the automatic actuation of the reactor protection system (RPS)[JC], emergency core cooling systems (ECCS), and ESF systems as listed in 10 CFR 50.73(a)(2)(iv)(B). It is also reportable under 10 CFR 50.73(a)(2)(v)(D) 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. An ENS report was made to the NRC (EN# 48939) at 1559 CDT on April 17, 2013, pursuant to 10 CFR 50.72(a)(1)(i), 50.72(b)(2)(iv)(A), 50.72(b)(2)(iv)(B), 50.72(b)(3)(iv)(A) and 50.72(b)(3)(v)(D), and was updated as required throughout the event.

This event constitutes an unplanned scram with complications and a safety system functional failure for both LaSalle Units 1 and 2.

**C. CAUSE OF EVENT:**

The initiating event was a lightning strike on 138KV Line 0112 in the main 345/138 KV switchyard. Line 0112 was inspected in the field and had sustained heavy damage to phase "C" insulators.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
LaSalle County Station, Units 1	05000373	YEAR	SEQUENTIAL NUMBER	REV NO.	3 OF 3
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**NARRATIVE**

The root cause of the event was determined to be degradation of the 138kV switchyard grounding system that allowed a lightning induced fault to flash over onto the DC protective system. The grounding system degradation was due to poor workmanship during original construction. This degradation allowed a fault initiated by a lightning strike on the L0112 C phase capacitance coupled voltage transformer (CCVT) in the 138kV switchyard to damage the shared DC protection system. Another contributor to the event was determined to be inadequate lightning shielding of the 138kV switchyard.

**D. SAFETY ANALYSIS:**

The safety significance of this event was minimal. On the loss of offsite power, all emergency diesel generators automatically started and loaded onto their respective busses. Both reactors automatically scrammed, with all control rods fully inserting. All ESF and ECCS systems were operable at the time of the event. 345 KV Lines 0101 and 0102 from Plano, and 345 KV Lines 0103 and 0104 from Braidwood remained energized during the event.

**E. CORRECTIVE ACTIONS:**

- Offsite power was restored to the ESF busses on both Units by 2301 hours on April 17, 2013.
- All degraded connections and ground cables in the 138kV switchyard were repaired.
- Lightning shielding in the 138kV switchyard will be improved.

**F. PREVIOUS OCCURRENCES:**

A search identified no previous occurrences within the past 10 years of a scram or a loss of offsite power at LaSalle County Station resulting from a lightning strike.

**G. COMPONENT FAILURE DATA:**

Westinghouse PCA-5 type capacitance coupled voltage transformer.