



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I**  
2100 RENAISSANCE BOULEVARD  
KING OF PRUSSIA, PENNSYLVANIA 19406

January 2, 2014

Mr. Michael J. Pacilio  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer, Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION UNITS 1 AND 2: NRC EVALUATED  
EMERGENCY PREPAREDNESS EXERCISE – INSPECTION REPORT  
05000352/2013503 AND 05000353/2013503

Dear Mr. Pacilio:

On November 21, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of the November 19, 2013, evaluated emergency preparedness exercise at your Limerick Generating Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on November 21, 2013, with Mr. T. Dougherty, Site Vice President, and other members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified.

In accordance with Title 10 of the *Code of Federal Regulation* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system, Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Anthony Dimitriadis, Chief  
Plant Support Branch 1  
Division of Reactor Safety

Docket Nos.: 50-352, 50-353  
License Nos.: NPF-39, NPF-85

M. Pacilio

2

Enclosure:

NRC Inspection Report No. 05000352/2013503  
and 05000353/2013503

cc w/encl: Distribution via ListServ

G. Cannon, Director, PA Emergency Management Agency  
(PEMA) and Office of Homeland Security Advisor

J. Price, RAC Chair (Acting), FEMA Region III

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Division of Reactor Safety

Docket Nos.: 50-352, 50-353  
License Nos.: NPF-39, NPF-85  
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ADAMS ACCESSION NUMBER: ML14002A026

DOCUMENT NAME: G:\DRS\Plant Support Branch 1\Barr\EP Ex13 Limerick\Limerick EP EX 2013 Report.docx

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket Nos.: 50-352, 50-353

License Nos.: NPF-39, NPF-85

Report Nos.: 05000352/2013503 and 05000353/2013503

Licensee: Exelon Generation Company, LLC

Facility: Limerick Generating Station, Units 1 & 2

Location: Sanatoga, PA 19464

Dates: November 18-22, 2013

Inspectors: S. Barr, Sr. Emergency Preparedness Inspector, DRS, Region I (Lead)  
E. Burket, Emergency Preparedness Inspector, DRS, Region I  
D. Silk, Senior Operations Inspector, DRS, Region I  
J. Patel, Reactor Inspector, DRS, Region I  
J. Laughlin, Emergency Preparedness Specialist, DPR, NSIR  
A. Dimitriadis, Branch Chief, DRS, Region I

Approved By: Anthony Dimitriadis, Chief  
Plant Support Branch 1  
Division of Reactor Safety

## SUMMARY OF FINDINGS

Inspection Report 05000352/2013503; 05000353/2013503; 11/18-22/2013; Limerick Generating Station, Units 1 and 2; Exercise Evaluation – Hostile Action (HA) Event; Exercise Evaluation – Scenario Review; Performance Indicator Verification.

This was an announced inspection conducted by five Region I-based inspectors, and one Headquarters-based inspector. No findings were identified during the inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### **Cornerstone: Emergency Preparedness**

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Findings

None.

## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness (EP)

#### 1EP7 Exercise Evaluation – Hostile Action Event (71114.07 – 1 Sample)

##### a. Inspection Scope

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix E, Section IV.F.2.j, requires in part that nuclear power reactor licensees, in each eight calendar year exercise cycle, provide the opportunity for their emergency response organization (ERO) to demonstrate proficiency in the key skills necessary to respond to a hostile action (HA) directed at the plant site. Exelon designed the November 19, 2013, Limerick EP exercise to satisfy that requirement, and the NRC inspected the Limerick HA event exercise to assess Exelon's ability to effectively implement the Limerick Emergency Plan during an HA event and adequately protect public health and safety. This overall exercise inspection activity represented the completion of one sample on a biennial cycle.

The exercise evaluation consisted of the following review and assessment:

- The adequacy of Exelon ERO's performance in the biennial full-participation exercise regarding the implementation of the planning standards described in 10 CFR 50.47(b) (4), (5), (9), and (10), which are: emergency classification; offsite notification; radiological assessment; onsite protective actions, and public protective action recommendations, respectively.
- The overall adequacy of Exelon's emergency response facilities with regard to Emergency Plan commitments. The facilities assessed were the Control Room Simulator, the Alternative Facility, the Central Alarm Station (CAS), the local county Tactical Operations Center (TOC), and the Emergency Operations Facility (EOF).
- A review of other performance areas, such as the Exelon ERO's: recognition of abnormal plant conditions; command and control, including interactions with site security staff; intra- and inter-facility communications; prioritization of mitigating activities; utilization of repair and field monitoring teams; interface with offsite agencies, including local law enforcement agencies; staffing and procedure adequacy; and the overall implementation of the Emergency Plan and its implementing procedures.
- A review of past performance issues from the last NRC Limerick exercise inspection report and recent Exelon Limerick EP drill reports, to determine the effectiveness of licensee corrective actions as demonstrated during the November 19, 2013, exercise and to ensure compliance with 10 CFR 50.47(b)(14).

Enclosure

- The licensee's post-exercise critiques, to evaluate Exelon's self-assessment of its Limerick ERO performance during the November 19, 2013, exercise and to ensure compliance with 10 CFR Part 50, Appendix E, Section IV.F.2.g.

The inspectors reviewed the documents listed in the attachment to this report.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review (71114.08 – 1 Sample)

a. Inspection Scope

Prior to the November 19, 2013, emergency preparedness exercise, the NRC inspectors conducted an in-office review of the exercise objectives and scenario, which Exelon had submitted to the NRC, to determine if the exercise would test major elements of the Limerick Emergency Plan as required by 10 CFR 50.47(b)(14). This overall exercise inspection activity represented the completion of one sample on a biennial cycle.

The inspectors reviewed the documents listed in the attachment to this report.

b. Findings

No findings were identified.

**4. OTHER ACTIVITIES (OA)**

4OA1 Performance Indicator Verification (71151 – 3 Samples)

a. Inspection Scope

The inspectors reviewed data for the Limerick EP Performance Indicators (PI), which are: (1) Drill and Exercise Performance (DEP) (EP01); (2) ERO Drill Participation (EP02); and, (3) Alert and Notification System (ANS) Reliability (EP03). The last NRC EP inspection at Limerick was conducted in the fourth calendar quarter of 2012, so the inspectors reviewed supporting documentation from EP drills and tests from the fourth calendar quarter of 2012 through the third calendar quarter of 2013, to verify the accuracy of the reported PI data. The review of these PIs was conducted in accordance with NRC Inspection Procedure 71151, using the acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 7.

This inspection activity represented the completion of three samples.

b. Findings

No findings were identified.

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4OA6 Meetings, including Exit

On November 21, 2013, the inspectors presented the results of this inspection to Mr. T. Dougherty, Limerick Site Vice President, and other members of the Exelon staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.



**ATTACHMENT**

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

**Licensee Personnel**

T. Dougherty, Site Vice President  
V. Cwietniewicz, Exelon Mid-Atlantic Emergency Planning Manager  
J. Broillet, Limerick Emergency Planning Manager

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

None.

**LIST OF DOCUMENTS REVIEWED**

**Section 1EP7: Exercise Evaluation – Hostile Action (HA) Event**

EP-AA-1000, Exelon Nuclear Standardized Emergency Plan (Revision 24)  
EP-AA-1008, Limerick Generating Station Emergency Plan Annex (Revision 26)  
Limerick Emergency Plan Implementing Procedures  
Limerick November 19, 2013, Emergency Exercise Scenario Package  
OP-TM-AOP-008, Security Threat/Intrusion (Revision 10)  
Limerick Emergency Preparedness Drill Reports, January 2012 - March 2013  
Condition Reports generated as a result of the November 19, 2013, exercise  
(As documented in Limerick 2013 Graded Exercise Evaluation Report, dated  
December 17, 2013)

**Section 1EP8: Exercise Evaluation – Scenario Review**

EP-AA-1000, Exelon Nuclear Standardized Emergency Plan (Revision 24)  
EP-AA-1008, Limerick Generating Station Emergency Plan Annex (Revision 26)  
Limerick November 19, 2013, Emergency Exercise Scenario Package

**Section 4OA1: Performance Indicator (PI) Verification**

LS-AA-2110, Monthly Data Elements for NRC Emergency Response Organization (ERO)  
Drill Participation (Revision 6)  
LS-AA-2120, Monthly Data Elements for NRC Drill/Exercise Performance (Revision 4)  
LS-AA-2130, Monthly Data Elements for NRC Alert and Notification System (ANS) Reliability  
(Revision 5)  
EP-AA-125-1001, EP Performance Indicator Guidance (Revision 7)  
DEP PI data, October 2012 – September 2013  
ERO Drill Participation PI data, October 2012 – September 2013  
ANS Reliability PI data, October 2012 – September 2013

**LIST OF ACRONYMS**

ADAMS	Agencywide Documents Access and Management System
ANS	Alert Notification System
CAS	Central Alarm Station
CFR	<i>Code of Federal Regulations</i>
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
EP	Emergency Preparedness
ERO	Emergency Response Organization
HA	Hostile Action
NRC	Nuclear Regulatory Commission
PAR	Protective Action Recommendation
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
TOC	Tactical Operations Center