



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

December 8, 2011

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

SUBJECT: LIMERICK GENERATING STATION – NRC EVALUATED EMERGENCY
PREPAREDNESS EXERCISE – INSPECTION REPORT NOS.
05000352/2011502 AND 05000353/2011502

Dear Mr. Pacilio:

On November 17, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of the November 15, 2011, evaluated emergency preparedness exercise at your Limerick Generating Station. The enclosed inspection report documents the inspection results, which were discussed on November 17, 2011, with Mr. W. Maguire, Site Vice President, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. 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 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,

A handwritten signature in black ink that reads "Jim Trapp".

James M. Trapp, Chief
Plant Support Branch 1
Division of Reactor Safety

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Sincerely,

/RA/

James M. Trapp, Chief
Plant Support Branch 1
Division of Reactor Safety

SUNSI Review Complete: _____ (Reviewer's Initials)

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NAME	SBarr/stb	PKrohn/pgk	JTrapp/jmt				
DATE	12/7/11	12/8/11	12/8/11				

OFFICIAL RECORD COPY

M. Pacilio

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

Enclosure:

NRC Inspection Report Nos. 05000352/2011502 and 05000353/2011502

cc w/encl:

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

cc w/encl: Distribution via ListServ

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- S. Barr, DRS
- J. Trapp, DRS

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 05000352, 05000353

License Nos.: NPF-39, NPF-85

Report No.: 05000352/2011502, 05000353/2011502

Licensee: Exelon Generation Company, LLC

Facility: Limerick Generating Station, Units 1 and 2

Location: Sanatoga, PA 19464

Dates: November 14 - 17, 2011

Inspectors: S. Barr, Sr. Emergency Preparedness Inspector,
Division of Reactor Safety (DRS), Region I (Lead)
M. Roberts, Senior Health Physicist,
Division of Nuclear Materials (DNMS), Region I
E. DiPaolo, Senior Resident Inspector,
Division of Reactor Projects (DRP), Region I
E. Miller, Project Engineer, DRP, Region I
N. Floyd, Reactor Engineer, DRP, Region I
C. Crisden, Emergency Preparedness Inspector, DRS, Region I

Approved by: James M. Trapp, Chief
Plant Support Branch 1
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000352/2011502 and 05000353/2011502; 11/14/2011 - 11/17/2011; Limerick Generating Station; Exercise Evaluation; Emergency Action Level and Emergency Plan Changes; Emergency Preparedness Performance Indicators.

This was an announced inspection conducted by six region-based inspectors. No findings were identified. 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

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness (EP)

1EP1 Exercise Evaluation (71114.01 – 1 Sample)

a. Inspection Scope

Prior to the November 15, 2011, 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 Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b)(14). 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's performance in the biennial full-participation exercise regarding the implementation of the risk-significant planning standards (RSPS) described in 10 CFR 50.47(b)(4), (5), (9), and (10), which are: emergency classification; offsite notification; radiological assessment; and protective action recommendations, respectively.
- The overall adequacy of Exelon's Limerick emergency response facilities with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities," and Emergency Plan commitments. The facilities assessed were the Control Room Simulator, Operations Support Center (OSC), Technical Support Center (TSC), Emergency Operations Facility (EOF), and the Joint Information Center (JIC).
- A review of other performance areas, such as: the Limerick emergency response organization's (ERO) recognition of abnormal plant conditions; command and control; intra- and inter-facility communications; prioritization of mitigating activities; utilization of repair and field monitoring teams; interface with offsite 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 EP exercise inspection report and Exelon's Limerick EP drill reports, to determine the effectiveness of licensee corrective actions as demonstrated during the November 15, 2011, exercise and to ensure compliance with 10 CFR 50.47(b)(14).
- The licensee's post-exercise critiques, to evaluate Exelon's self-assessment of its ERO performance during the November 15, 2011, Limerick exercise and to ensure compliance with 10 CFR Part 50, Appendix E, Section IV.F.2.g.

Enclosure

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

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 Sample)

a. Inspection Scope

Since the last NRC inspection of this program area, in December 2010, Exelon implemented various revisions of the different sections of the Limerick Emergency Plan. Exelon had determined that, in accordance with 10 CFR 50.54(q), any change made to the Plan, and its lower-tier implementing procedures, had not resulted in any decrease in effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspectors reviewed all emergency action level (EAL) changes that Exelon had made since December 2010, and conducted a sampling review of other Emergency Plan changes, including the changes to lower-tier emergency plan implementing procedures, to evaluate for any potential decreases in effectiveness of the Emergency Plan. However, this review was not documented in an NRC Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

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 PIs, which are: (1) Drill and Exercise Performance (DEP); (2) ERO Drill Participation; and, (3) Alert and Notification System (ANS) Reliability. The last NRC EP inspection at Limerick was conducted in the fourth quarter of 2010, so the inspectors reviewed supporting documentation from EP drills, training records, and equipment tests from the fourth calendar quarter of 2010 through the third quarter of 2011, to verify the accuracy of the reported performance indicator (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 6.

This inspection activity represented the completion of three samples on an annual cycle.

b. Findings

No findings were identified.

4OA6 Meetings, including Exit

On November 17, 2011, the inspectors presented the results of this inspection to Mr. W. Maguire, Site Vice President, and other members of the Exelon staff. No proprietary information was provided to the inspectors during this inspection.

Enclosure

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

W. Maguire, Limerick Site Vice President
V. Cwietniewicz, Exelon Mid-Atlantic Emergency Preparedness Manager
M. Crim, Limerick Emergency Preparedness Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None.

LIST OF DOCUMENTS REVIEWED

Section 1EP1: Exercise Evaluation

EP-AA-1000, Exelon Nuclear Standardized Emergency Plan (Revision 20)
EP-AA-1008, Limerick Generating Station Emergency Plan Annex (Revision 20)
Exelon Nuclear Emergency Plan Implementing Procedures
Limerick November 15, 2011, Emergency Exercise Scenario Package
Limerick Emergency Preparedness Drill Reports, January 2010 – October 2011
Condition Reports generated as a result of the November 15, 2011, Exercise (As documented in Limerick 2011 Graded Exercise Evaluation Report, dated December 8, 2011)

Section 1EP4: Emergency Action Level and Emergency Plan Changes

EP-AA-1000, Exelon Nuclear Standardized Emergency Plan (Revision 20)
EP-AA-1008, Limerick Generating Station Emergency Plan Annex (Revision 20)
EP-AA-120, Emergency Plan Administration (Revision 13)
EP- AA-120-1001, 10 CFR 50.54(q) Change Evaluation (Revision 6)
LS-AA-104, Exelon 50.59 Review Process (Revision 6)

Emergency Plan Change Packages:

11-07; 11-09; 11-18; 11-25; 11-40; 11-43; 11-46; 11-47; 11-51; 11-54; 11-58; 11-64

Section 4OA1: Performance Indicator Verification

EP-AA-125-1001, EP Performance Indicator Guidance (Revision 6)
Alert Notification System PI data, October 2010 – September 2011
DEP PI data, October 2010 – September 2011
ERO Drill Participation PI data, October 2010 – September 2011

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ANS	Alert Notification System
CR	Condition Report
DEP	Drill and Exercise Performance
DNMS	Division of Nuclear Materials Safety
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EAL	Emergency Action Level
EOF	Emergency Operations Facility
EP	Emergency Preparedness
ERO	Emergency Response Organization
JIC	Joint Information Center
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NSIR	Office of Nuclear Security and Incident Response
OSC	Operations Support Center
PARS	Publicly Available Records
PEMA	PA Emergency Management Agency
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
TSC	Technical Support Center