UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

July 21, 2011

EA-11-128

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

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 FOLLOW-UP INSPECTION OF EMERGENCY ACTION LEVEL AND EMERGENCY PLAN CHANGE INSPECTION REPORT 05000254/2010503(DRS); 05000265/2010503(DRS)

Dear Mr. Pacilio:

On May 24, 2011, the U. S. Nuclear Regulatory Commission (NRC) completed an in-office inspection of your Quad Cities Nuclear Power Station, Units 1 and 2. The purpose of the inspection was to review the facts and circumstances concerning Unresolved Item 05000254/2009005-01; 05000265/2009005-01, "Changes to Emergency Action Level HU6 Potentially Decrease the Effectiveness of the Plans without Prior NRC Approval." The enclosed report documents the inspection results, which were discussed by telephone on June 23, 2011, with Mr. P. Tzomes 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.

This inspection was a follow-up to an issue identified during the December 2009 annual inspection of emergency plan and emergency action level changes at Exelon's Braidwood Station, Inspection Report 05000456/2010503; 05000457/2010503. The NRC identified a change was made to an emergency action level basis which introduced a decrease in effectiveness to Braidwood's emergency plan. The NRC issued a Severity Level IV Traditional Enforcement violation with a Green finding to Braidwood. Extent of condition inspections were conducted at the other nine Exelon sites where similar violations and findings were identified.

Based on the results of this inspection, the NRC identified one issue that was evaluated under the risk significance determination process as having very low significance (Green). This finding was reviewed using the NRC Enforcement Policy and involved a violation of NRC requirements. The NRC has determined this finding was a Severity Level IV violation. However, because of its very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a Non-Cited Violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U. S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Quad Cities Nuclear Power Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Quad Cities Nuclear Power Station. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, 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 NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

Docket Nos. 50-254; 50-265
License Nos. DPR-29; DPR-30

Enclosure: Inspection Report No. 05000254/2010503(DRS);
05000265/2010503(DRS)
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	05000254; 05000265
License Nos:	DPR-29, DPR-30
Report Nos:	05000254/2010503(DRS); 05000265/2010503(DRS)
Licensee:	Exelon Generation Company, LLC
Facility:	Quad Cities Nuclear Power Station, Units 1 and 2
Location:	Cordova, Illinois
Dates:	June 16, 2010, through May 24, 2011
Inspectors:	Robert Jickling, Sr. Emergency Preparedness Inspector
Approved by:	Hironori Peterson, Chief Operations Branch Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000254/2010503; 05000265/2010503; 06/16/2010 – 05/24/2011; Quad Cities Nuclear Power Station, Units 1 and 2; results of U. S. Nuclear Regulatory Commission (NRC) Emergency Action Level and Emergency Plan Changes Inspection and Follow-up of Unresolved Item (URI) 05000254/2009005-01; URI 05000265/2009005-01.

This report covers an approximate 12-month period of follow-up inspection and review of the licensee's emergency action level and plan changes. One Severity Level IV Violation and associated Green finding was identified by the inspector. The Severity Level IV Violation was considered a Non-Cited Violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process." Findings for which the Significance Determination Process does not apply may be Green or be assigned a severity level after NRC management review. 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.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Emergency Preparedness

- Severity Level IV/Green: The inspector identified a finding of very low safety significance involving a Severity Level IV NCV of 10 CFR 50.54(q) for failing to obtain prior approval for an emergency plan change which decreased the effectiveness of the plan. Specifically, the licensee modified the Emergency Action Level (EAL) Basis in EAL HU6, Revision 26, which indefinitely extended the start of the 15-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner.

  The violation affected the NRC's ability to perform its regulatory function because it involved implementing a change that decreased the effectiveness of the emergency plan without NRC approval. Therefore, this issue was evaluated using Traditional Enforcement. The NRC determined that a Severity Level IV violation was appropriate due to the reduction of the capability to perform a risk significant planning standard function in a timely manner. The licensee entered this issue into its corrective action program and revised the EAL basis to restore compliance.

  The finding was more than minor using IMC 0612, because it is associated with the emergency preparedness cornerstone attribute of procedure quality for EAL and emergency plan changes, and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Therefore, the performance deficiency was a finding. Using IMC 0609, Appendix B, the inspector determined that the finding had a very low safety significance because the finding is a failure to comply with 10 CFR 50.54(q) involving the risk significant planning standard 50.47(b)(4), which, in this case, met the example of a Green finding because it involved one Unusual Event Classification (EAL HU6).

Due to the age of this issue, it was not determined to be reflective of current licensee performance and therefore a cross-cutting aspect was not assigned to this finding. (Section 1EP4)

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Emergency Preparedness

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

.1 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

This inspection was a follow-up review of Unresolved Item (URI) 05000254/2009005-01; URI 05000265/2009005-01. The URI was identified in December 2009 during a routine review of changes implemented to the Radiological Emergency Plan Annex for Quad Cities Station Emergency Action Level (EAL) and EAL Basis. The inspector reviewed applicable licensee documents and had discussions with licensee personnel. This inspection did not represent an inspection sample.

b. Findings

Introduction:

A Green finding involving a Severity Level IV, Non-Cited Violation (NCV) of 10 CFR 50.54(q) was identified by the inspector for the licensee's change to the emergency plan which decreased the effectiveness of the plan without U. S. Nuclear Regulatory Commission (NRC) approval.

Description:

The Radiological Emergency Plan Annex for Quad Cities Station, Revision 25, EAL HU6 provided the basis for declaring an Unusual Event due to a fire in the protected area not extinguished within 15 minutes of detection. The EAL HU6 Basis, Revision 25, stated, in part, "The 15-minute period begins with a credible notification that a fire is occurring or indication of a valid fire detection system alarm. A verified alarm is assumed to be an indication of a fire unless personnel dispatched to the scene disprove the alarm within the 15-minute period. The report, however, shall not be required to verify the alarm."

On March 28, 2008, Quad Cities Nuclear Power Station staff implemented Revision 26 of the EAL HU6 Basis which added the following text: "The 15-minute period to extinguish the fire begins with a credible notification that a fire is occurring or indication of a valid fire detection system alarm. If the alarm cannot be verified by redundant Control Room or nearby fire panel indications, notification from the field that a fire exists starts the 15-minute classification and fire extinguishment clocks. The 15-minute period to extinguish the fire does not start until either the fire alarm is verified to be valid by utilization of additional Control Room or nearby fire panel instrumentation, or upon notification of a fire from the field."

Revision 26 of the EAL HU6 Basis allowed delay of the 15-minute classification time by the dispatching of personnel, reporting the notification of a fire from the field, and extinguishing the fire. As a result, this change indefinitely extended the start of the 15-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This was determined to be a decrease in effectiveness of the licensee's emergency plan because the change reduced the capability to perform a risk significant planning standard function in a timely manner. This change was not submitted to the NRC for prior approval.

Analysis:

The inspector determined that the change made by the licensee to the EAL HU6 Basis decreased the effectiveness of the Emergency Plan and the change was implemented without prior NRC approval. The issue was determined to be a licensee performance deficiency that impacted the regulatory process and, in accordance with Inspection Manual Chapter (IMC) 0612 "Power Reactor Inspection Reports," was evaluated using the NRC's traditional enforcement policy as well as the Reactor Oversight Process (ROP).

Using the NRC's Enforcement Policy, this violation met Example c.2 in Section 6.6: "A licensee's ability to meet or implement any regulatory requirement related to assessment or notification is degraded such that the effectiveness of the emergency plan decreases. Although the regulatory requirement could be implemented during the response to an actual emergency, the implementation would be degraded (e.g., not fully effective, inappropriately delayed)." Specifically, the change made to the EAL Basis directly affected the Risk Significant Planning Standard "Classification," which affected assessment of event conditions. Therefore, this violation met the example for Severity Level III. However, the NRC has classified this violation as a Severity Level IV, after determining that its actual and potential safety significance was very low based on the following considerations: (1) the issue involved only one Unusual Event EAL, and not any of the other higher event classifications; and (2) the issue could delay classification but would not prevent classification.

Using IMC 0612 "Power Reactor Inspection Reports," Appendix B, "Issue Screening," the performance deficiency was determined to be more than minor and, therefore, a finding, because it is associated with the emergency preparedness cornerstone attribute of procedure quality for EAL and emergency plan changes, and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee made a change to its EAL Basis, which was a decrease in effectiveness, because the change indefinitely extended the start of the 15-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. Also, this change was made without prior NRC approval.

The inspector determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process." The finding is a failure to comply with 10 CFR 50.54(q) involving the risk significant planning standard 50.47(b)(4), which, in this case, met the example of a Green finding because it involved one Unusual Event classification (EAL HU6).

Due to the age of this issue, greater than three years, it was not determined to be reflective of current licensee performance and therefore a cross-cutting aspect was not assigned to this finding. This change was screened through the licensee's 50.54(q) process and was not identified as a decrease in effectiveness.

Enforcement:

Title 10 of the CFR 50.54(q) states, in part, "A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in §50.47(b) and the requirements in Appendix E of this part. The nuclear power reactor licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the standards of §50.47(b) and the requirements of Appendix E to this part."

Title 10 CFR 50.47(b)(4) states, in part, "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures."

Contrary to the above, on March 4, 2008, the licensee made a change to the emergency classification process which decreased the effectiveness of their emergency plan and caused the emergency plan to no longer meet the standards of 50.47(b) and Appendix E to this part without Commission approval. Specifically, the licensee modified the EAL Basis in EAL HU6, Revision 26, to delay the 15-minute classification time by waiting for the dispatch of personnel and the notification of a fire from the field. As a result, this change indefinitely extended the start of the 15-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner.

This violation impacted the regulatory process, was of very low safety significance and was also entered into the licensee's corrective action program as IR 01184333, dated March 7, 2011. Because of its very low safety significance and because the issue was entered into the licensee's corrective action program the violation is being treated as a Severity Level IV Non-Cited Violation (NCV), consistent with Section 2.3.3 of the NRC Enforcement Policy (NCV 05000254/2010503-01; NCV 05000265/2010503-01, Changes Made to EAL HU6 which Decreased the Effectiveness of the Plans without Prior NRC Approval).

The underlying finding aspect of a violation is evaluated separately from the traditional enforcement violation and therefore the underlying finding is being assigned a separate tracking number (FIN 05000254/2010503-02; FIN 05000265/2010503-02, Changes Made to EAL HU6 which Decreased the Effectiveness of the Plans without Prior NRC Approval).

The URI 05000254/2009005-01; URI 05000265/2009005-01, "Changes to EAL HU6 Potentially Decreased the Effectiveness of the Plans without Prior NRC Approval" is closed.

4OA6 Management Meetings

.1 Exit Meetings

On June 23, 2011, the inspectors discussed the inspection results by telephone with Mr. P. Tzomes, and other members of the licensee staff. The licensee acknowledged the issue presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

P. Tzomes, Emergency Preparedness Manager
A. Daniels, Midwest Emergency Preparedness Manager
T. Petersen, Principal Regulatory Assurance Engineer

U. S. Nuclear Regulatory Commission

H. Peterson, Chief, Operations Branch, Division Reactor Safety
S. Orth, Enforcement
P. Pelke, Enforcement
J. Beavers, Emergency Preparedness Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000254/2010503-01 05000265/2010503-01	NCV	(Traditional Enforcement) Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval (1EP4.1)
05000254/2010503-02 05000265/2010503-02	FIN	Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval (1EP4.1)

Closed

05000254/2010503-01 05000265/2010503-01	NCV	(Traditional Enforcement) Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval (1EP4.1)
05000254/2010503-02 05000265/2010503-02	FIN	Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval (1EP4.1)
05000254/2009005-01 05000265/2009005-01	URI	Changes to EAL HU6 Potentially Decreased the Effectiveness of the Plans without Prior NRC Approval (1EP4.1)

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1EP4 Emergency Action Level and Emergency Plan Changes

EP-AA-1006; Radiological Emergency Plan Annex for Quad Cities Nuclear Power Station; Revisions 25 and 26

IR 01184333; EP Notice of Violation for EAL Change-Implement EAL Basis Change for HU6; March 7, 2011

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
CFR	Code of Federal Regulations
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EAL	Emergency Action Level
FIN	Finding
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
NEI	Nuclear Energy Institute
NCV	Non-Cited Violation
NRC	U. S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
ROP	Reactor Oversight Process
SDP	Significance Determination Process
URI	Unresolved Item

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Sincerely,

/RA/

Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

Docket Nos. 50-254; 50-265
License Nos. DPR-29; DPR-30

Enclosure: Inspection Report No. 05000254/2010503(DRS);
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Letter to Mr. Michael J. Pacilio from Mr. Hironori Peterson, dated July 21, 2011

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 FOLLOW-UP INSPECTION OF EMERGENCY ACTION LEVEL AND EMERGENCY PLAN CHANGE INSPECTION REPORT 05000254/2010503(DRS); 05000265/2010503(DRS)

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