

October 3, 2008

Mr. Charles G. Pardee  
Chief Nuclear Officer and  
Senior Vice President  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2  
BIENNIAL EMERGENCY PREPAREDNESS EXERCISE BASELINE  
INSPECTION 05000254/2008502; 05000265/2008502

Dear Mr. Pardee:

On August 29, 2008, the U. S. Nuclear Regulatory Commission (NRC) completed a Biennial Emergency Preparedness Exercise baseline inspection at your Quad Cities Nuclear Power Station, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed on August 29, 2008, with R. Gideon 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 NRC-identified and no self-revealed findings of very low safety significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents

C. Pardee

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Access and Management 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 05000254/2008502; 05000265/2008502  
w/Attachment: Supplemental Information

cc w/encl: Site Vice President - Quad Cities Nuclear Power Station  
Plant Manager - Quad Cities Nuclear Power Station  
Regulatory Assurance Manager -  
Quad Cities Nuclear Power Station  
Chief Operating Officer and Senior Vice President  
Senior Vice President - Midwest Operations  
Senior Vice President - Operations Support  
Vice President - Licensing and Regulatory Affairs  
Director Licensing - Licensing and Regulatory Affairs  
Manager Licensing - Clinton, Dresden and Quad Cities  
Vice President - Law and Regulatory Affairs  
D. Tubbs, Manager of Nuclear  
Associate General Counsel  
Document Control Desk - Licensing  
Assistant Attorney General  
J. Klinger, State Liaison Officer,  
Illinois Emergency Management Agency  
M. Rasmusson, State Liaison Officer, State of Iowa  
Chairman, Illinois Commerce Commission  
Chief Radiological Emergency Preparedness Section,  
Dept. Of Homeland Security

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).

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Division of Reactor Safety

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Senior Vice President - Midwest Operations  
Senior Vice President - Operations Support  
Vice President - Licensing and Regulatory Affairs  
Director Licensing - Licensing and Regulatory Affairs  
Manager Licensing - Clinton, Dresden and Quad Cities  
Vice President - Law and Regulatory Affairs  
D. Tubbs, Manager of Nuclear  
Associate General Counsel  
Document Control Desk - Licensing  
Assistant Attorney General  
J. Klinger, State Liaison Officer,  
Illinois Emergency Management Agency  
M. Rasmusson, State Liaison Officer, State of Iowa  
Chairman, Illinois Commerce Commission  
Chief Radiological Emergency Preparedness Section,  
Dept. Of Homeland Security

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Letter to Charles G. Pardee from Hironori Peterson dated October 3, 2008.

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2  
BIENNIAL EMERGENCY PREPAREDNESS EXERCISE BASELINE  
INSPECTION 05000254/2008502; 05000265/2008502

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-254, 50-265  
License Nos: DPR-29, DPR-30

Report No: 05000254/2008502 and 05000265/2008502

Licensee: Exelon Nuclear

Facility: Quad Cities Nuclear Power Station, Units 1 and 2

Location: Cordova, IL

Dates: August 25 through 29, 2008

Inspectors: Robert Jickling, Sr. Emergency Preparedness Inspector  
Regina Russell, Emergency Preparedness Inspector  
James McGhee, Senior Resident Inspector

Approved by: Hironori Peterson, Chief  
Operations Branch  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000254/2008502, 05000265/2008502; 08/25/2008 - 08/29/2008; Quad Cities Nuclear Power Station, Units 1 and 2; Biennial Emergency Preparedness Exercise Baseline Inspection.

This report covers a 1 week period of announced baseline inspection by two regional inspectors and a resident inspector. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP 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**

No findings of significance were identified.

### **B. Licensee-Identified Violations**

No violations of significance were identified.

## REPORT DETAILS

### 1. REACTOR SAFETY

#### Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation (71114.01)

##### .1 Exercise Evaluation

##### a. Inspection Scope

The inspectors reviewed the August 26, 2008, biennial emergency preparedness exercise's objectives and scenario to ensure that the exercise would acceptably test major elements of the licensee's emergency plan and to verify that the exercise's simulated problems provided an acceptable framework to support demonstration of the licensee's capability to implement its plan. The inspectors also reviewed records of other drills and exercises conducted in 2006, 2007, and 2008, to verify that those drills' scenarios were sufficiently different from the scenario used in the August 26, 2008, exercise.

The inspectors evaluated the licensee's exercise performance, focusing on the risk significant activities of emergency classification, notification, and protective action decision making, implementation of accident mitigation strategies, and correction of past exercise weaknesses in the following emergency response facilities:

- Control Room Simulator (CRS);
- Technical Support Center (TSC); and
- Emergency Operations Facility (EOF).

The inspectors also assessed the licensee's recognition of abnormal plant conditions, transfer of responsibilities between facilities, internal communications, interfaces with offsite officials, readiness of emergency facilities and related equipment, and overall implementation of the licensee's emergency plan.

The inspectors attended post-exercise critiques in the CRS, TSC, and EOF to evaluate the licensee's initial self-assessment of its exercise performance. The inspectors later met with the licensee's lead exercise evaluators and managers to obtain the licensee's findings and assessments of its exercise participants' performances. These self-assessments were then compared with the inspectors' independent observations and assessments to assess the licensee's ability to adequately critique its exercise performance. Documents reviewed are listed in the Attachment to this report.

This exercise evaluation inspection constituted one sample as defined in Inspection Procedure (IP) 71114.01-05.

##### b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification (71151)

###### .1 Drill/Exercise Performance

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Drill/Exercise Performance performance indicator for the period from the 2<sup>nd</sup> quarter 2007 through 2<sup>nd</sup> quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; assessments of PI opportunities during predesignated control room simulator training sessions, performance during the 2007 off-year exercise, and performance during other drills. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one drill/exercise performance sample as defined in IP 71151-05.

###### b. Findings

No findings of significance were identified.

###### .2 Emergency Response Organization Drill Participation

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Emergency Response Organization (ERO) Drill Participation performance indicator for the period from the 2<sup>nd</sup> quarter 2007 through 2<sup>nd</sup> quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; performance during the 2007 off-year exercise and other drills; and revisions of the roster of personnel assigned to key emergency response organization positions. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ERO drill participation sample as defined in IP 71151-05.

###### b. Findings

No findings of significance were identified.



.3 Alert and Notification System

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System (ANS) performance indicator for the period from the 2<sup>nd</sup> quarter 2007 through 2<sup>nd</sup> quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI and results of periodic ANS operability tests. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one alert and notification system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On August 29, 2008, the inspectors presented the inspection results to Mr. R. Gideon, and other members of the licensee staff. The licensee acknowledged the issues 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

R. Gideon, Plant Manager  
K. Appel, Emergency Preparedness Manager, Exelon  
W. Beck, Regulatory Assurance Manager  
J. Burkhead, Nuclear Oversight Manager  
G. Powell, Radiation Protection  
R. Svaeson, Operations Director  
C. Tzomes, Emergency Preparedness Manager

Nuclear Regulatory Commission

J. McGhee, Senior Resident Inspector

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

Opened, Closed, and Discussed

None

## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors 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.

### PERFORMANCE INDICATOR RECORDS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
LS-AA-2110	Monthly Data Elements for NRC ERO Drill Participation	September 2007 - June 2008
LS-AA-2120	Monthly Data Elements for NRC Drill/Exercise Performance	July 2007 – June 2008
LS-AA-2130	Monthly Data Elements for NRC ANS Reliability	July 2007 – June 2008

### CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
00822898	Environmental Team Initial Potassium Iodide Response During Exercise	August 27, 2008
00814351	Contact NRC Prior to Start of Exercise	August 27, 2008
00811605	Inadvertent Radio Message during Exercise	August 27, 2008
00811932	NOS Identified OSC Team Briefing Problems during Exercise	August 27, 2008
tbd	Control Room Team Briefing and Control Problems during Exercise	August 27, 2008
tbd	TSC Dose Assessment Results Did Not Support EOF Results during Exercise	August 27, 2008
tbd	OSC Activation Was Delayed during Exercise	August 27, 2008
00780585	EP Check-In Deficiency 2008 Pre-NRC Exercise	May 29, 2008
00764501	April 15, 2008 Drill Manual PAR Error	April 15, 2008

### EXERCISE RECORDS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
	List of Drill and Exercise Corrective Action Items	May 2006 – July 2008
	Drill and Exercise Scenario Timelines	May 2006 - August 2008
	August 27, 2008, Exercise Classification, Notification, and Assessment Records	August 27, 2008

## LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ANS	Alert and Notification System
CRS	Control Room Simulator
ERO	Emergency Response Organization
EOF	Emergency Operations Facility
EP	Emergency Preparedness
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NEI	Nuclear Energy Institute
NOS	Nuclear Oversight
NRC	U. S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
SDP	Significance Determination Process
TCS	Technical Support Center