

August 22, 2006

Mr. Christopher M. Crane  
President and Chief Nuclear Officer  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2  
NRC EMERGENCY PREPAREDNESS INSPECTION REPORT  
05000456/2006010(DRS); 05000457/2006010(DRS)

Dear Mr. Crane:

On August 11, 2006, the NRC completed an inspection at your Braidwood Station, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed on August 11, 2006, with Mr. G. Boerschig 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. Specifically, this inspection focused on emergency preparedness, including your staff's determinations of performance indicators for the Emergency Preparedness Cornerstone.

On the basis of the results of this inspection, no findings of significance were identified.

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Sincerely,

**/RA/**

Kenneth Riemer, Chief  
Plant Support Branch  
Division of Reactor Safety

Docket Nos. 50-456; 50-457  
License Nos. NPF-72; NPF-77

Enclosure: Inspection Report 05000456/2006010(DRS);  
05000457/2006010(DRS)  
w/Attachment: Supplemental Information

cc w/encl: Site Vice President - Braidwood Station  
Plant Manager - Braidwood Station  
Regulatory Assurance Manager - Braidwood Station  
Chief Operating Officer  
Senior Vice President - Nuclear Services  
Vice President - Operations Support  
Director Licensing  
Manager Licensing - Braidwood and Byron  
Senior Counsel, Nuclear, Mid-West Regional  
Operating Group  
Document Control Desk - Licensing  
Assistant Attorney General  
Illinois Emergency Management Agency  
State Liaison Officer  
Chairman, Illinois Commerce Commission  
W. King, DHS, Region V

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Chairman, Illinois Commerce Commission  
W. King, DHS, Region V

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000456; 05000457  
License Nos: NPF-72; NPF-77

Report Nos: 05000456/2006010(DRS); 05000457/2006010(DRS)

Licensee: Exelon Generating Company, LLC

Facility: Braidwood Station, Units 1 and 2

Location: 35100 S. Route 53  
Suite 84  
Braceville, IL 60407-9617

Dates: August 7 through August 11, 2006

Inspectors: T. Ploski, Senior Emergency Preparedness Inspector  
R. Jickling, Emergency Preparedness Inspector  
N. Valos, Licensed Operator Examiner  
R. Ng, Resident Inspector - Byron Station

Approved by: K. Riemer, Chief  
Plant Support Branch  
Division of Reactor Safety

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000456/2006010(DRS); 05000457/2006010(DRS); 08/07/2006 - 08/11/2006;  
Braidwood Station; Emergency Preparedness Specialist Report.

The report covers a 1 week baseline inspection by two regional emergency preparedness inspectors, a resident inspector, and a licensed operator examiner. The inspection focused on the Emergency Preparedness Cornerstone in the Reactor Safety strategic performance area during the biennial emergency preparedness exercise. This inspection also included a review of records related to the three emergency preparedness performance indicators for the period July 1, 2005, through June 30, 2006.

The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### **A. Inspector-Identified and Self-Revealed Findings**

None.

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

#### **Cornerstone: Emergency Preparedness**

One violation of very low safety significance, which was identified by the licensee, was reviewed by the inspectors. Corrective actions taken by the licensee were entered into the licensee's corrective action program and were adequately completed. This violation is listed in Section 4OA7 of this report.

## REPORT DETAILS

### 1. REACTOR SAFETY

#### Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation (71114.01)

##### a. Inspection Scope

The inspectors reviewed the August 8, 2006, 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 two emergency preparedness drills, which were conducted in 2005 and 2006, to verify that those drills' scenarios were sufficiently different from the scenario used in the August 8, 2006 exercise.

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

- Control Room Simulator (CRS);
- Technical Support Center (TSC);
- Operations Support Center (OSC); 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, OSC, 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 to obtain the licensee's refined 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.

These activities completed one inspection sample.

##### b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

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

###### **Cornerstone: Emergency Preparedness**

##### .1 Reactor Safety Strategic Area

###### a. Inspection Scope

The inspectors reviewed the licensee's records associated with each of the three emergency preparedness PIs to verify that the licensee's program was implemented consistent with the industry guidelines in the applicable revision of Nuclear Energy Institute Publication No. 99-02, "Regulatory Assessment Performance Indicator Guideline," and related licensee procedures. Specifically, licensee records related to the performance of the Alert and Notification System (ANS), key Emergency Response Organization (ERO) members' drill participation, and Drill and Exercise Performance (DEP) were reviewed to verify the accuracy and completeness of the PI data submitted to NRC for the period from July 1, 2005 through June 30, 2006. The following three PIs were reviewed:

Common

- ANS
- ERO Drill Participation
- DEP

These activities completed three PI samples.

###### b. Findings

No findings of significance were identified.

##### 4OA6 Meetings

##### .1 Exit Meeting

An exit meeting was conducted for:

- Emergency Preparedness with Mr. G. Boerschig and other members of licensee management and staff at the conclusion of the inspection on August 11, 2006. The licensee acknowledged the information presented. No proprietary information was identified.

##### .2 Public and Media Briefing

- On August 11, 2006, an inspector summarized NRC's preliminary exercise inspection conclusions at a public and media briefing hosted by Department of Homeland Security Region V Field Office staff in Joliet, Illinois.



#### 4OA7 Licensee Identified Violations

##### **Cornerstone: Emergency Preparedness**

The following violation of very low significance was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600, for being dispositioned as a Non-Cited Violation (NCV).

Title 10 CFR 50.54(q) requires, in part, that a licensee shall follow and maintain in effect emergency plans which meet the standards in Section 50.47(b) and requirements in Appendix E of this part. The licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans. Contrary to the above, Emergency Action Level (EAL) HU-5, which addressed natural or destructive phenomenon inside the protected area or switchyard, was revised in a non-conservative manner. The non-conservative Unusual Event revision, which was implemented on January 17, 2006, erroneously referenced a seismic acceleration value for an Alert emergency classification, and was identified by the licensee to be the result of inadequate technical reviews. The licensee identified and restored EAL HU-5 to the correct wording in a revision implemented on March 17, 2006.

The licensee's implementation of the change to EAL HU-5 on January 17, 2006, decreased the effectiveness of the emergency plan without prior NRC approval, and consequently was a violation of 10 CFR 50.54(q). The finding is not suitable for evaluation using the Significance Determination Process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. Because the violation was entered into the licensee's corrective action program and adequate corrective action was completed, it is being treated as a Severity Level IV NCV.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

K. Aleshire, Emergency Preparedness Manager  
D. Ambler, Regulatory Assurance Manager  
G. Boerschig, Plant Manager  
C. Dunn, Training Department Manager  
J. Gerrity, Emergency Preparedness Coordinator  
D. Gibeaut, Nuclear Oversight Manager  
R. Leasure, Radiation Protection Manager  
S. McCain, Corporate Emergency Preparedness Manager  
W. Waznis, Nuclear Oversight Specialist

#### Illinois Emergency Management Agency

M. Perry, Engineer

### **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.

#### 1EP1 Exercise Evaluation

Braidwood Station August 2006 Exercise Scenario Manual

Braidwood Station Draft August 2006 Exercise Findings and Observations Report;  
undated

Braidwood Station June 2006 Pre-Exercise Findings and Observations Report; dated  
July 28, 2006

Braidwood Station 2005 Off-Year Emergency Plan Drill Scenario Summary

Braidwood Station Annex to the Exelon Standardized Emergency Plan; Section 3;  
Revision 17

EP-AA-110; Assessment of Emergencies; Revision 6

EP-AA-110-302; Core Damage Assessment - Pressurized Water Reactors; Revision 1

EP-AA-111; Emergency Classification and Protective Action Recommendations; Revision 11

EP-AA-112; Emergency Response Organization and Emergency Response Facility Activation and Operation; Revision 10

EP-AA-112-100; Control Room Operation; Revision 7

EP-AA-112-200; TSC Activation and Operation; Revision 5

EP-AA-112-300; OSC Activation and Operation; Revision 5

EP-AA-112-400; EOF Activation and Operation; Revision 6

EP-AA-113; Personnel Protective Actions; Revision 7

EP-AA-114; Notifications; Revision 6

EP-MW-110-200; Dose Assessment; Revision 4

EP-MW-114-100; Midwest Region Offsite Notifications; Revision 5

#### 4OA1 Performance Indicator Verification

Braidwood Station Emergency Planning Zone Sirens' Daily and Monthly Operability Reports - July 2005 through June 2006

LS-AA-2110; Monthly PI Data Elements for ERO Drill Participation - July 2005 through June 2006; Revision 5

LS-AA-2120; Monthly PI Data Elements for Drill/Exercise Performance - July 2005 through June 2006; Revision 3

LS-AA-2130; Monthly PI Data Elements for ANS Reliability - July 2005 through June 2006; Revision 4

#### 4OA7 Licensee Identified Violations

Braidwood Station Annex to the Exelon Standardized Emergency Plan; Section 3; Category H - Hazards and Other Conditions; Revisions 16 and 17

AR 00467017; Discovery of Non-Conservative EAL Change; dated March 16, 2006

## **LIST OF ACRONYMS USED**

ANS	Alert and Notification System
AR	Action Request
CFR	Code of Federal Regulations
CRS	Control Room Simulator
DEP	Drill and Exercise Performance
EAL	Emergency Action Level
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
NCV	Non-Cited Violation
NRC	United States Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Guide
OSC	Operations Support Center
PI	Performance Indicator
TSC	Technical Support Center