

July 27, 2005

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

SUBJECT: BYRON STATION, UNITS 1 AND 2
NRC EMERGENCY PREPAREDNESS INSPECTION REPORT
NO. 05000454/2005007(DRS); 05000455/2005007(DRS)

Dear Mr. Crane:

On July 22, 2005, the NRC completed an inspection at your Byron Station. The enclosed report documents the inspection findings, which were discussed on July 22, 2005, with Mr. S. Kuczynski 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.

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

Sincerely,

/RA/

Kenneth Riemer, Chief
Plant Support Branch
Division of Reactor Safety

Docket Nos. 50-454; 50-455
License Nos. NPF-37; NPF-66

Enclosure: Inspection Report 05000454/2005007(DRS);
05000455/2005007(DRS)

See Attached Distribution

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cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer
Senior Vice President - Nuclear Services
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos. 50-454; 50-455
License Nos. NPF-37; NPF-66

Report No: 05000454/2005007(DRS); 05000455/2005007(DRS)

Licensee: Exelon Generating Company, LLC

Facility: Byron Station, Units 1 and 2

Location: 4450 N. German Church Road
Byron, IL 61010

Dates: July 18 through July 22, 2005

Inspectors: T. Ploski, Senior Emergency Preparedness Inspector
R. Jickling, Emergency Preparedness Inspector
R. Ng, Resident Inspector

Observers: D. Reeser, Engineer
J. Heisserer, Security Specialist

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

Enclosure

SUMMARY OF FINDINGS

IR 05000454/2005007(DRS); 05000455/2005007(DRS); 07/18/2005 - 07/22/2005;
Byron Station, Units 1 & 2; Emergency Preparedness Specialist Report.

The report covers a one-week baseline inspection by two regional emergency preparedness inspectors and a resident inspector. 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 October 1, 2004, through March 31, 2005.

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

None.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the July 20, 2005, 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 between January 2004 and June 2005, to determine whether those drills' scenarios were sufficiently different from the scenario used in the July 20, 2005, 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;
- 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 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 station performance during the exercise.

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 Nuclear Energy Institute Publication No. 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2, 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 October 1, 2004 through March 31, 2005. The following three PIs were reviewed:

Common

- ANS;
- ERO Drill Participation; and
- Drill and Exercise Performance.

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. S. Kuczynski and other members of licensee management and staff at the conclusion of the inspection on July 22, 2005. The licensee acknowledged the information presented. No proprietary information was identified.

.2 Public and Media Briefing

- On July 22, 2005, an inspector summarized the NRC's preliminary exercise inspection findings at a public and media briefing hosted by Federal Emergency Management Agency Region V staff in Oregon, Illinois.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

G. Contrady, Nuclear Oversight Manager
D. Drawbaugh, Emergency preparedness Manager
S. Kuczynski, Site Vice President
S. Merrell, Emergency Preparedness Coordinator
R. Mika, Corporate Drill and Exercise Coordinator
M. Prospero, Operations Director
M. Snow, Work Control Director
D. Spitzer, Acting Regulatory Affairs Manager

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

None.

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 of 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

Byron Station Exercise Scenario Manual; dated July 20, 2005

Byron Station 2005 Pre-Exercise Drill Findings and Observation Report; dated July 15, 2005

Draft Byron 2005 Exercise Findings and Observations Report; undated

AT 287271; Byron Station NRC Exercise Inspection Self-Assessment Report; May 10 through June 25, 2005

Byron Station Annex to the Exelon Standardized Emergency Plan; Revision 16

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

EP-AA-111; Emergency Classification and Protective Action Recommendations; Revision 9

EP-AA-111-F-03; Byron Plant-Based Protective Action Recommendation Flowchart; Revision B

EP-AA-112; Emergency Response Organization and Emergency Response Facility Activation and Operation; Revision 9

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 6

EP-AA-114; Notifications; Revision 6

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

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

40A1 Performance Indicator Verification

EP-AA-125-1001; Emergency Preparedness Performance Indicator Guidance; Revision 3

EP-AA-125-1002; ERO Drill/Exercise Performance - Performance Indicator Guidance; Revision 3

EP-AA-125-1003; ERO Readiness - Performance Indicator Guidance; Revision 4

Byron Station Emergency Planning Zone Sirens' Daily and Monthly Operability Reports - October 2004 through March 2005

LS-AA-2110; Monthly PI Data Elements for ERO Drill Participation - October 2004 through March 2005; Revision 5

LS-AA-2120; Monthly PI Data Elements for Drill/Exercise Performance - October 2004 through March 2005; Revision 3

LS-AA-2130; Monthly PI Data Elements for ANS Reliability - October 2004 through March 2005; Revision 4

Byron Station February 28, 2005, Missed Unusual Event Report; dated May 20, 2005

Nuclear Event Report BY-05-013; Late Identification and NRC Notification of Emergency Action Level Event; dated March 11, 2005

NRC Event Report 41450; Discovery of After the Fact Emergency Condition - Unusual Event; dated February 28, 2005

LIST OF ACRONYMS USED

AT	Action Tracking
ANS	Alert and Notification System
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
NRC	United States Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Guide
OSC	Operations Support Center
PI	Performance Indicator
TSC	Technical Support Center