

December 29, 2003

Mr. John L. Skolds, President
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BYRON STATION, UNITS 1 AND 2
NRC EMERGENCY PREPAREDNESS INSPECTION
REPORT 05000454/2003010(DRS); 05000455/2003010(DRS)

Dear Mr. Skolds:

On December 5, 2003, the NRC completed an inspection at your Byron Station. The enclosed report documents the inspection findings, which were discussed on December 5, 2003, with you and 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 2.790 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 05000454/2003010(DRS);
05000455/2003010(DRS)
w/Attachment: Supplemental Information

See Attached Distribution

cc w/encl: Site Vice President - Byron
Byron Station Plant Manager
Regulatory Assurance Manager - Byron
Chief Operating Officer
Senior Vice President - Nuclear Services
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
M. Aguilar, Assistant Attorney General
Illinois Department of Nuclear Safety
State Liaison Officer
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
W. Curtis, FEMA, Region V

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cc w/encl: Site Vice President - Byron
Byron Station Plant Manager
Regulatory Assurance Manager - Byron
Chief Operating Officer
Senior Vice President - Nuclear Services
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Vice President - Licensing and Regulatory Affairs
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State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report Nos: 05000454/2003010(DRS);
05000455/2003010(DRS)

Licensee: Exelon Generation Company, LLC

Facility: Byron Station, Units 1 and 2

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

Dates: December 1 through December 5, 2003

Inspectors: R. Jickling, Emergency Preparedness Inspector
R. Alexander, Radiation Protection Inspector
P. Snyder, Resident Inspector
N. Shah; Resident Inspector

Observers: M. Sheikh, Reactor Engineer

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

Enclosure

SUMMARY OF FINDINGS

IR 05000454/2003010(DRS); 05000455/2003010(DRS); on 12/01/2003 - 12/05/2003; Byron Station; Units 1 and 2; Emergency Preparedness Specialist Report.

The report covers a one-week baseline inspection by one regional emergency preparedness inspector, a radiation protection inspector, and two resident inspectors. 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 April 1, 2002 through September 30, 2003, and emergency action level and emergency plan changes. No findings of significance 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 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 December 3, 2003, 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 a summary of an emergency preparedness drill, which was conducted on October 22, 2003, to determine whether that scenario was sufficiently different from the scenario used in the December 3, 2003 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 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.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed Revisions 13, 14, and 15 of the Exelon Nuclear Radiological Emergency Plan Annex for Byron to determine whether changes identified reduced the effectiveness of the licensee's emergency planning, pending onsite inspection of the implementation of these changes.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's records related to 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 April 2002 through September 2003.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

An exit meeting was conducted for:

- Emergency Preparedness with Mr. D. Hoots and other members of licensee management and staff at the conclusion of the inspection on December 5, 2003. The licensee acknowledged the information presented. No proprietary information was identified.

.2 Public and Media Briefing

On December 5, 2003, an inspector summarized the NRC's preliminary conclusions on the licensee's exercise and critique performances at a public and media briefing hosted by Federal Emergency Management Agency staff in Oregon, Illinois.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

C. Brown, Emergency Preparedness Manager
D. Drawbaugh, NRC Coordinator
K. Hansing, Nuclear Oversight Manager
D. Hoots, Plant Manager
J. Langan, Regulatory Assurance Specialist
S. Merrell, Emergency Preparedness Coordinator
M. Snow, Work Control 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

Draft Byron 2003 Exercise Findings and Observation Report; dated December 4, 2003

Byron Station Exercise Scenario Manual; dated December 3, 2003

Narrative Summary and Time Line of an October 22, 2003, Pre-Exercise

Byron 2003 Pre-Exercise Findings and Observation Report; dated October 28, 2003

Byron Station 2002 Off-Hours Integrated Drill; dated August 21, 2002

2001 Exercise Findings and Observation Report; dated December 26, 2001

AR 00188832; OSC Controllers Manual Left Unattended; dated December 2, 2003

AR 00182807; Failed TSC Objective J.6 During the Byron 2003 Pre-Exercise; dated October 24, 2003

AR 00182798; Failed JPIC Objective G.03 During the Byron 2003 Pre-Exercise; dated October 24, 2003

AR 128345; Byron 2002 Integrated Drill; dated October 21, 2002

AR 00126192; ERO Performance Issues From the Byron Integrated Drill, dated October 7, 2002

AR 00087866; ERO Performance Items From Byron 2001 E-Plan Exercise; dated December 21, 2001

CR 178357; Failed EP Objective During EP Drill Series; dated July 17, 2003

CR 168171; Dose Assessment Problems Identified; dated July 9, 2003

CR 161561; CRs For Two EP Drills Not Done Timely; dated November 15, 2002

CR 161550; Byron 2002 Cycle 3 Mini-Drill ERO Performance Improvement Areas; dated August 15, 2002

CR 161505; Byron Station 11/15/2002 Mini-Drill; November 15, 2002

CR 160772; Improvement Areas Within ERO Performance - May 6, 2003 Drill; dated May 6, 2003

CR 147262; ERO Performance Improvement Areas - Byron 02/04/03; dated February 4, 2003

1EP4 Emergency Action Level and Emergency Plan Changes

Exelon Nuclear Radiological Emergency Plan Annex for Byron; Revisions 12, 13, 14, and 15

4OA1 Performance Indicator Verification

Byron Off-Site Siren Test Plan; Revision 2

BO-AA-11-1001; Exelon Nuclear Performance Monitoring and Management Implementing Guide; Revision 0

LS-AA-2001; Qualification of NRC PI Data Steward; dated March 6, 2001

LS-AA-2110; Monthly Performance Indicators (PI) Data Elements For Emergency Response Organization (ERO) Drill Participants; April 2002 through September 2003

LS-AA-2120; Monthly Performance Indicator (PI) Data Elements For Drill/Exercise Performance; April 2002 through Septmeber 2003

LS-AA-2130; Monthly Performance Indicator (PI) Data Elements For ANS Reliability; April 2002 through September 2003

CR 00130303; EP PI For DEP Less Than 93 Percent; dated November 4, 2002

LIST OF ACRONYMS USED

ANS	Alert and Notification System
AR	Assignment Report
CR	Condition Report
CRS	Control Room Simulator
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
EP	Emergency Preparedness
ERO	Emergency Response Organization
JPIC	Joint Public Information Center
NUREG	Nuclear Regulatory Guide
OSC	Operational Support Center
PI	Performance Indicator
TSC	Technical Support Center
USNRC	United States Nuclear Regulatory Commission