March 20, 2001

Mr. Oliver D. Kingsley
President, Nuclear Generation Group
Commonwealth Edison Company
ATTN: Regulatory Services
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: BYRON NUCLEAR POWER STATION - NRC INSPECTION REPORT 50-454/01-07(DRS); 50-455/01-07(DRS)

Dear Mr. Kingsley:

On March 2, 2001, the NRC completed an inspection at your Byron Nuclear Power Station. The results of this inspection were discussed on that day with members of your staff. The enclosed report presents the results of this inspection.

The inspection was an examination of 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. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, this inspection focused on the implementation of your emergency preparedness program. In addition, we reviewed your staff's evaluation of the performance indicators for the Emergency Preparedness Cornerstone.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Gary L. Shear, Chief
Plant Support Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-454/01-07(DRS);
50-455/01-07(DRS)

cc w/encl: D. Helwig, Senior Vice President, Nuclear Services
C. Crane, Senior Vice President, Nuclear Operations
H. Stanley, Vice President, Nuclear Operations
R. Krich, Vice President, Regulatory Services
DCD - Licensing
R. Lopriore, Site Vice President
S. Kuczynski, Station Manager
P. Reister, Regulatory Assurance Manager
M. Aguilar, Assistant Attorney General
State Liaison Officer
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission

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S. Kuczynski, Station Manager
P. Reister, Regulatory Assurance Manager
M. Aguilar, Assistant Attorney General
State Liaison Officer
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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 No:	50-454/01-07(DRS); 50-455/01-07(DRS)
Licensee:	Commonwealth Edison Company
Facility:	Byron Generating Station, Units 1 and 2
Location:	4450 N. German Church Road Byron, IL 61010
Dates:	February 22 - March 9, 2001
Inspector:	R. Jickling, Emergency Preparedness Analyst
Approved by:	Gary L. Shear, Chief Plant Support Branch Division of Reactor Safety

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas) reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

IR 05000454-01-07(DRS), IR 05000455-01-07(DRS), 02/26/ - 03/02/2001, Commonwealth Edison, Byron Nuclear Power Station, Units 1 and 2. Emergency Preparedness.

The report covers a one week period of announced inspection by a regional emergency preparedness inspector. No findings of significance were identified.

Report Details

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System (ANS) Testing

a. Inspection Scope

The inspector discussed with Emergency Preparedness (EP) staff the design, equipment, and periodic testing of the public ANS for the Byron Generating Station Emergency Planning Zone (EPZ) to verify that the system was properly tested and maintained. The inspector also reviewed procedures and records for the 24 month period ending December 2000 related to ANS testing, annual preventive maintenance, and non-scheduled maintenance. The inspector reviewed the licensee's criteria for determining whether each model of siren installed in the EPZ would perform as expected if fully activated. Records used to document and trend component failures for each model of installed siren were also reviewed to ensure that corrective actions were taken for test failures or system anomalies.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation Testing

a. Inspection Scope

The inspector reviewed the licensees ERO augmentation testing to verify that the licensee maintained and tested its ability to staff the ERO during an emergency in a timely manner. Specifically, the inspector reviewed semi-annual, off-hours staff augmentation drill procedures, related year 1999 and 2000 drill records, primary and backup provisions for off-hours notification of Byron Station's emergency responders, and the current ERO rosters for Byron Station. The inspector reviewed and discussed the Station EP staffs' provisions for maintaining and distributing ERO call out lists.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed and discussed Nuclear Oversight staffs' 1999 and 2000 audits and the station EP staff's 1999, 2000, and 2001 Focus Area Self-Assessment (FASA) reports to ensure that these audits complied with the requirements of 10 CFR 50.54(t) and that the licensee adequately identifies and corrects deficiencies. The inspector also

reviewed a sample of Condition Reports (CR) related to the Plant's EP program in order to determine whether related corrective actions were acceptably completed as indicated.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspector verified that the licensee had accurately reported the performance indicators: Alert Notification System (ANS), Emergency Response Organization (ERO) Drill Participation, and Drill and Exercise Performance (DEP), for the emergency preparedness cornerstone. Specifically, the inspector reviewed the licensee's PI records, data reported to the NRC, and condition reports for the 1999, 2000, and 2001 calendar years to identify any occurrences that were not identified by the licensee. Records of relevant Control Room Simulator training sessions, periodic ANS tests, and excerpts of drill and exercise evaluations were also reviewed.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meeting Summary

The inspector presented the preliminary inspection results to Mr. D. Hoots and other members of licensee management and staff on March 2, 2001. The licensee acknowledged the information presented and did not identify any information discussed as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Blaine, Radiation Protection Manager
D. Drawbaugh, Emergency Preparedness Coordinator
G. Heesaker, Nuclear Oversight Assessor
D. Hoots, Operations Manager and Acting Station Manager
R. Krohn, Assistant Security Administrator
S. Kuczynski, Station Manager
S. McCain, Corporate Emergency Preparedness Manager
S. Merrell, Assistant Emergency Preparedness Coordinator
K. Moser, Nuclear Oversight Assessment Manager
P. Reister, Regulatory Assurance Manager
R. Roton, Regulatory Assurance
D. Stobaugh, Corporate Emergency Preparedness

NRC

B. Kempker, Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ADAMS	NRC's Document System
ANS	Alert and Notification System
CAN	Community Alert Network
CAP	Corrective Action Program
CR	Condition Report
DEP	Drill and Exercise Performance
DRS	Division of Reactor Safety
EP	Emergency Preparedness
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
FASA	Focus Area Self-Assessment
GSEP	Generating Stations Emergency Plan
NRC	Nuclear Regulatory Commission
PARS	Public Availability Records
PI	Performance Indicator
PIF	Problem Identification Form
RROP	Revised Reactor Oversight Process

LIST OF DOCUMENTS REVIEWED

Assessments and Audits

June 11, 1999, “Byron Station Assessment Report Nuclear Oversight (NO) Assessment NOA-06-99-027, Emergency Preparedness Program”
September 10, 1999, “Byron Generating Station Emergency Plan (GSEP) Self-Assessment Plan September 27-29, 1999”
September 28, 1999, “Byron Station NRC Emergency Preparedness (EP) Performance Indicator Focus Area Self-Assessment”
September 29, 1999, “Byron Station 1999 Emergency Preparedness (EP) Program Focused Area Self-Assessment”
May 2-3, 2000, “Focus Area Assessment Report - Revised Reactor Oversight Process (RROP) Programmatic Implementation”
May 9, 2000, “EP Department Monthly Self-Assessment Report For April 2000”
June 12, 2000, “EP Department Monthly Self-Assessment Report For May 2000”
July 18, 2000, “EP Department Quarterly Self-Assessment Report For Second Quarter 2000”
July 18 - 20, 2000, “Focus Area Assessment Report - RROP Programmatic Implementation”
October 12 - 20, 2000, “Focus Area Assessment Report - RROP Programmatic Implementation”
October 27, 2000, “ State of the Fleet Assessment (SOFA) November 13-14, 2000”
October 31 - December 31, 2000, “Station Emergency Preparedness Self-Assessment Report Fourth Quarter 2000”
January 12, 2001, “Byron Station Focus Area Self-Assessment (FASA) Assessment Plan - First Quarter 2001”
January 25, 2001, “Focus Area Self-Assessment Report Emergency Preparedness - Byron Station”
Nuclear Generation Group (NGG) Corporate Emergency Preparedness Self-Assessment Report - Second Half 1999”
“Station Emergency Preparedness Performance Indicators Self-Assessment Report - First Quarter 2000”
“Station Emergency Preparedness Self-Assessment Report - Third Quarter 2000”

Miscellaneous

GSEP, Section 4.2, “Station Emergency Response Organization”
S.18, Revision 7, “Emergency Preparedness Department Training and Reference Material Drill, Exercise, and Event Performance, NRC Performance Indicator 08 (S.18) Guidance”
S.19, Revision 5, “Emergency Preparedness Department - Training and Reference Material - Emergency Response Organization Drill Participation NRC Performance Indicator 09 (S.19) Guidance”
S.20, Revision 2, “Emergency Preparedness Department Training and Reference Material Alert and Notification System Reliability NRC Performance Indicator 10 (S.20) Guidance”
“Byron Off-Site Siren Test Plan,” Revision 2
January 1, 1999 - January 31, 2001, “Performance Indicator - Alert and Notification System Reliability Data”
February 21, 1999, “First Off-Shift Semi-Annual Augmentation Drill of 1999”

August 11, 1999, “GSEP Pre-Exercise Findings and Observation Report”
September 16, 1999, “Emergency Preparedness Department Training and Reference Material Respirator Qualification For Emergency Responders”
October 13, 1999, “1999 GSEP Exercise Findings and Observation Report”
November 18, 1999, “Second Off-Shift Semi-Annual Augmentation Drill of 1999”
January 1 and December 31, 2000, “Exelon Semi-Annual Siren Report”
February 1, 2000, Revision 1, “GSEP Call-Out Community Alert Network” Wallet Card
March 2, 9, 16, 23, 30, and April 6, 2000, NTAFT IMP, Revision 2, “Nuclear Generating Group Course Attendance Sheets”
April 26, 2000, “2000 GSEP Integrated Drill Scenario”
May 23, 2000, “2000 GSEP Integrated Drill Findings and Observation Report”
June 2, 2000, “Indian Point 2 EP Assessment”
July 13 - August 18, 2000, “Byron Plant Warning System Maintenance and Operational Report”
November 27, 2000, Revision 2, “Call-Out List For GSEP (Generating Stations Emergency Plan) Staff Augmentation”
December 17, 2000, “Second Off-Shift Semi Annual Augmentation Drill of 2000”
February 19, 2001, Revision 3, “Call-Out List For GSEP Staff Augmentation”
February 19, 2001, Revision 3, “Back-Up GSEP Call-Out List”
February 28, 2001, “Training Record Summary”
February 18, 2001, “Byron Station GSEP Team Roster”
February 19, 2001, “Community Alert Network Call-Out List”
February 22, 2001, “Radiation Protection Phone Listing”
1999 DEP Data
1999 and 2000 Drill and Exercise Scenarios
1999 and 2000 Drill and Exercise Critiques
2000 “Siren Daily Operability Data Sheets”
2000 “Siren Monthly Operability Data Sheets”
2001 “Siren Daily Operability Data Sheets”
2001 “Siren Monthly Operability Reports”
Lesson Plan S-05, Revision 6, “Assessment, Classification, and Notification”
Lesson Plan S-09, Revision 3, “Augmentation Caller”
Byron Site Policy Memo, Number 100.15, Revision 3, August 2, 2000, “Station Duty Team/GSEP Team Call-Out”

Condition Reports (CR) and Problem Identification Forms (PIF)

PIF 98-0202, PIF 1999-02107, CR 98-0476, CR 98-1437, CR 99-0632, CR 99-0633, CR 99-0634, CR 99-0635, PIF 1999-02669, PIF 1999-02877, CR 1999-3225, CR 00-0891, CR 00-0892, CR 00-0893, CR 00-0917, CR 00-0937, CR 00-1101, CR 00-1173, PIF 2000-1280/AR28366, CR 00-2225, CR 00-2417, CR 00-2418, CR 00-2421, CR 00-2936, CR 2001-00183/AR 00039346, CR 2001-00184, CR B2001-00279, 00302

Procedures

AD-AA-106, Revision 3, “Corrective Action Program (CAP) Process Procedure”
EP-AA-112, Revision 0, “Emergency Response Organization/Emergency Response Facility Activation and Operation”
EP-AA-112, Revision 0, Attachment 4, “Station Off-Hours Augmentation Using CAN or Augmentation Callers”

EP-AA-112, Revision 0, Attachment 6, “Station TSC/OSC Augmentation During Normal Working Hours”
EP-AA-113, Revision 1, “Protective Actions”
RS-AA-122-108, Revision 1, “Performance Indicator - Emergency Response Organization Drill/Exercise Performance”
RS-AA 122-109, Revision 1, “Emergency Response Organization Drill Participation”
RS-AA-122-110, Revision 0, “Performance Indicator - Alert and Notification System Reliability”
RS-AA-123, Revision 1, “Performance Indicator Data Discrepancy and Issue Resolution Process”