August 30, 2000

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 - NRC INSPECTION REPORT 50-454/2000-013(DRS); 50-455/2000-013(DRS)

Dear Mr. Kingsley:

On August 14 - 18, 2000, the NRC conducted its biennial inspection of the licensed operator requalification training program at the Byron Nuclear Plant, Units 1 and 2. The results of this inspection were discussed with Mr. W. Levis and other members of your staff on August 18, 2000. The enclosed report presents the results of this inspection.

This inspection was an examination of activities conducted under your license as they relate to safety and to 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. There were no findings identified during this inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures 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/

David E. Hills, Chief
Operations Branch
Division of Reactor Safety

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

Enclosures:
1. Inspection Report 50-454/2000013(DRS); 50-455/2000013(DRS)
2. List of Documents Reviewed

cc w/encls:
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
W. Levis, Site Vice President
R. Lopriore, Station Manager
B. Adams, 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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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-454; 50-455
License Nos:	NPF-37; NPF-66
Report Nos:	50-454/2000013(DRS); 50-455/2000013(DRS)
Licensee:	Commonwealth Edison Company
Facility:	Byron Nuclear Plant, Units 1 and 2
Location:	4450 North German Church Road Byron, IL 61010
Dates:	August 14 - 18, 2000
Inspectors:	Michael Bielby, Lead Inspector Jay Hopkins, Inspector P.T. Young, Observer
Approved by:	David E. Hills, Chief Operations 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 50-454/2000013(DRS), 50-455/2000013(DRS), on August 14 - 18, 2000; Commonwealth Edison Company; Byron Generating Station; Units 1 and 2; Licensed Operator Requalification Training Inspection Report.

The inspection was conducted by two regional senior operations specialists. There were no findings identified during this inspection.

Report Details

1. REACTOR SAFETY

1R11 Licensed Operator Requalification

.1 Review of Operating History - Effectiveness of Operator Training

a. Inspection Scope

The inspectors reviewed the plant's operating history from February 1999 through July 2000, to assess whether the licensed operator requalification training program had addressed operator performance deficiencies noted in the plant.

b. Findings

No findings were identified during inspection of this area.

.2 Requalification Examination Material

a. Inspection Scope

The inspectors reviewed the Cycle 2000-5 annual requalification operating and Cycle 2000-4 annual requalification written examination material, which consisted of dynamic simulator scenarios, job performance measures (JPMs), Part A static and Part B open reference written questions to evaluate general quality, construction, and difficulty level. The inspectors reviewed the methodology for developing the examinations, including the Licensed Operator Requalification Training (LORT) program sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications. The inspectors assessed the level of examination material duplication during the current year weekly annual examinations and with last year's annual examination. The inspectors also discussed various aspects of the examination development with members of the licensee's training staff.

Specific documents reviewed for this inspection are listed in Enclosure 2.

b. Findings

No inspection findings were identified during inspection of this area.

.3 Requalification Examination Administration Practices

a. Inspection Scope

The inspectors observed the administration of the requalification operating test to assess the licensee's effectiveness in conducting the test and to assess the facility evaluators' ability to determine adequate performance using objective, measurable performance standards. The inspectors evaluated the performance of one operating

shift crew during the two dynamic simulator scenarios and five JPMs in parallel with the facility evaluators. Training staff personnel were observed administering the operating test, including pre-examination briefings, observations of operator performance, individual and crew evaluations after dynamic scenarios, techniques for JPM cuing, and final evaluation briefing for licensed operators. The inspectors noted the performance of the simulator to support the examinations. The inspectors also reviewed the licensee's overall examination security program.

Specific documents reviewed for this inspection are listed in Enclosure 2.

b. Findings

No inspection findings were identified during inspection of this area.

.4 Requalification Training Program Feedback Process

a. Inspection Scope

The inspectors assessed the methods and effectiveness of the licensee's processes for revising and maintaining its licensed operator continuing training program up to date, including the use of feedback from plant events and industry experience information. The inspectors interviewed licensee personnel (operators, instructors, and training management) and reviewed the applicable licensee's procedures and recent Nuclear Oversight Assessment of Operator Simulator Training. Specific documents reviewed for this inspection are listed in Enclosure 2.

b. Findings

No inspection findings were identified during inspection of this area.

.5 Remedial Training Program

a. Inspection Scope

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous annual requalification examinations and the training planned for the current examination cycle to ensure that it addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans, and interviewed licensee personnel (operators, instructors, and training management). Additionally, the inspectors reviewed the LORT End-of-Cycle (EOC) Reports and Curriculum Review Committee (CRC) Reports which described crew and individual performance area improvements since the last training cycle, performance areas that needed continued attention, and new performance deficiencies. The EOC and CRC Reports also outlined the specific plans to improve crew and individual performance areas.

Specific documents reviewed for this inspection are listed in Enclosure 2.

b. Findings

No inspection findings were identified during inspection of this area.

.6 Conformance with Operator License Condition

a. Inspection Scope

The inspectors reviewed the licensee's program for maintaining active operator licenses and ensuring the medical fitness of its licensed operators. The inspectors evaluated the facility and individual operator licensees' conformance with the requirements of 10 CFR Part 55. In addition to the documents listed in Enclosure 2, the following records were reviewed:

- A sampling of licensed operator medical records;
- Operator proficiency log records for the current training period which indicated the watch standing hours for licensed operators at the facility; and
- Requalification training attendance records for the current training period.

b. Findings

No inspection findings were identified during inspection of this area.

4.0 OTHER ACTIVITIES

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. W. Levis and other members of licensee management at the conclusion of the inspection on August 18, 2000. The licensee acknowledged the observations and did not identify any information as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. Adams, Regulatory Assurance Manager
S. Gackstetter, Shift Operations Superintendent
J. Hamilton, Simulator Support Supervisor
D. Hoots, Operations Manager
P. Knarr, License Requalification Specialist
W. Levis, Site Vice President
R. Lopriore, Station Manager
T. Horan, Operations Training Supervisor
D. McDermott, On-Line Work Control Superintendent
T. Roberts, Design Engineering Manager
D. Spoerry, Training Manager
G. Stauffer, Regulatory Assurance
D. Surfleet, Human Resources Manager
E. Topping, License Requalification Specialist

NRC

M. Jordan, Chief, Branch 3, Division of Reactor Projects
E. Cobey, Senior Resident Inspector
M. Bielby, Senior Operations Inspector
J. Hopkins, Senior Operations Inspector
P. Young, Operations Inspector

ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

AFW	Auxiliary Feedwater
CFR	Code of Federal Regulations
CRC	Curriculum Review Committee
CWPI	Common Work Practice Instructions
DRS	Division of Reactor Safety
EA	Equipment Attendant
EO	Equipment Operator
EOC	End-of-Cycle
JPM	Job Performance Measure
LORT	Licensed Operator Requalification Training
NOA	Nuclear Oversight Assessment
NRC	Nuclear Regulatory Commission
NTS	Nuclear Tracking System
PWR	Pressurized Water Reactor

Enclosure 2

LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection, including documents prepared by others for the licensee. Inclusion on this list does not imply that 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. NRC acceptance of the documents or any portion thereof is not implied.

Procedures

CWPI-NSP-TQ-1-6, Revision 1, June 21, 1999, Conduct of Training Manual of Common Work Practice Instructions (CWPI), Instruction Six, Licensed Operator Requalification Training Program.

CWPI-NSP-TQ-1-6, Section 6, Missed Training.

CWPI-NSP-TQ-1-6, Section 7, Accelerated Requalification Programs.

TQ-AA-10, Revision 10, Training System Development Process.

TQ-AA-301, Revision 0, Simulator Configuration Management.

NTAFT JLOR04, Examination Development Job Aid.

NTAFT JLOR07 Nuclear Generation Group Licensed, Operator Requalification Training, PWR Long Range Training Plan, Job Development Aid.

OP-AA-11-104, Revision 1, Watchstanding Practices.

OP-AA-101-701, Revision 1, NRC Active License Maintenance.

Emergency Preparedness Department; Training and Reference Material; Drill, Exercise, and Event Performance; NRC Performance Indicator 08 (S.18) Guidance; S.18, Revision 7, August 1, 2000.

Licensed Operator Requalification Training Documentation

End-of-Cycle Report, Cycle 7, 1999 (10/12 - 12/17/99).

End-of-Cycle Report, Cycle 1, 2000 (1/12 - 2/21/00).

End-of-Cycle Report, Cycle 2, 2000 (2/28 - 4/7/00).

End-of-Cycle Report, Cycle 3, 2000 (4/6 - 5/26/00).

Curriculum Review Committee Reports (1999 - 2000).

Requalification Training Attendance Records (1999 - 2000).

Other Material Reviewed

B1R10 Modification, 060L000, Revision 0, June 28, 2000, Cycle 5, 2000.

Cycle Lesson Plan 00-11, December 28, 1999, Cycle 1, 2000.

Condition Report B1999-04312, EO/EA Upgrade Knowledge Deficiencies (Diesel Turning Gear).

Review of medical records for eleven licensed operators.

Current and Previous Annual Examination Material and Documentation

Byron 2000 Licensed Operator Requalification Program Annual Examination Sample Plan.

Remedial training packages for individual failures for the 1999 and 2000 annual operating examination and the 2000 biennial written examination.

Two Simulator Scenarios for Annual Operating Examination, Cycle 5, 2000.

JPM No. N-32, Respond to a Loss of an Instrument Bus.

JPM No. N-36b, Local Abnormal Start of Diesel Generator.

JPM No. N-42, Local Reset, SI Signal.

JPM No. N-49, Operate the Fire Detection/Alarm Equipment.

JPM No. N-50, Local Start of the “B” AFW Pump.

Assessments

NOA-06-99-004, Byron Station Assessment Report, Nuclear Oversight Assessment, Operator Simulator Training, March 16, 1999.

Closure Packages for NTS Items 454-305-99-NOA699004-01 and -02.