Mary Ann

JUL - 8 1993

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. L. O. DelGeorge, Vice President
Nuclear Oversight and
Regulatory Services
Executive Towers West III
1400 Opus Place, Suite 300
Downers Grove, IL 60515

Dear Mr. DelGeorge:

SUBJECT; REQUALIFICATION EXAMINATION REPORT

During the week of June 7, 1993, the NRC administered requalification examinations to employees of your organization who operate your Byron Nuclear Power Station. At the conclusion of the examinations, any generic findings that evolved as a result of the examinations were discussed with those members of your staff identified in the enclosed report.

As a result of this evaluation, your requalification program has been assigned an overall program rating of satisfactory in accordance with the criteria of NUREG-1021, ES-601, Revision 7.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this examination, please contact us.

Sincerely,

/RA/
Original Signed By Mark A. Ring

Mark A. Ring, Chief
Operations Branch

Enclosures:
1. Examination Report
No. 50-454/OL-93-01(DRS)
2. Requalification Program
Evaluation Report
3. Simulation Facility Report
~~4. Examination Question and Answer Key(s)~~

See Attached Distribution

RIII	RIII	RIII	RIII
YES			
Osterholtz/cg	Burdick	Farber	Ring
07/8/93	07/8/93	07/8/93	07/8/93

Distribution

cc w/enclosures:
K. Graesser, Site Vice President
PWR Operations
K. Schwartz, Station Manager
D. Brindle, Regulatory Assurance
Supervisor
D. Farrar, Nuclear Regulatory
Services Manager
OC/LFDCB
Resident Inspectors, Byron,
Braidwood, Zion
Richard Hubbard
J. W. McCaffrey, Chief, Public
Utilities Division
A. H. Hsia, LPM, NRR
Robert Newmann, Office of Public
Counsel, State of Illinois Center
Robert M. Thompson, Administrator
Wisconsin Division of Emergency
Government
State Liaison Officer
Chairman, Illinois Commerce
Commission

bcc w/enclosures: PUBLIC - IE42

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-454/OL-93-01

Docket Nos. 50-454; 50-455 Licenses No. NPF-37; NPF-66

Licensee: Commonwealth Edison Company
1400 Opus Place, Suite 300
Downers Grove, IL 60515

Facility Name: Byron Nuclear Power Station

Examination Administered At: 4450 N. German Church Road
Byron, IL 61010

Examination Conducted: During the week of June 7, 1993

Examiner: T. Guilfoil, Contract Examiner, Sonalyst

Chief Examiner: C. C. Osterholtz Date 7/8/93

Approved By: Thomas M. Burdick, Chief
Operator Licensing Section 2 Date 7/8/93

Examination Summary

Examination Administered during the week of June 7, 1993 (Report No. 50-454/OL-93-01(DRS))
Written and operating requalification (requal) examinations were administered to seven senior reactor operators (SROs), five reactor operators (ROs), and one senior reactor operator limited to fuel handling (LSRO). Two operating crews and one staff crew were evaluated on the simulator portion of the NRC examination. Results: All individuals and crews satisfactorily passed all portions of the NRC requal examination. In accordance with the criteria of NUREG-1021, Revision 7, Operator Licensing Examiner Standards, ES-601, the Byron Nuclear Power Station Requalification Training Program was rated as satisfactory.

The following is a summary of the strengths and weaknesses noted during the performance of this examination.

Strengths

- The SRO and RO written examinations were used as proposed by the facility with only minor changes.

- The LSRO JPMs actively utilized the actual equipment involved in the movement of fuel, significantly contributing to the tasks' realism and credibility.
- The scenarios generated by the facility were used with little or no changes.
- The ability of crews to work effectively as teams; operators provided input to each other in the course of combatting a casualty.
- The ability of SRO's to keep their crews informed of plant status.
- Training and support staff assistance. (For details see Section 4)

Weaknesses

- Multiple job performance measure (JPM) cueing problems. (For details see sections 3b and 4b)
- The LSRO written examination. (For details see Section 3a)
- Technical Specification application on an intermediate range nuclear instrument failure. (For details see Section 3a)
- The ability of crews to efficiently implement the Emergency Operating Procedures. (For details see Section 3c)
- The ability of crews to prioritize problems concerning rod control operability. (For details see Section 3c)
- The ability of crew members to use plant parameters for diagnostic purposes. (For details see Section 3c)

REPORT DETAILS

1. Examiners

*+C. C. Osterholtz, Chief Examiner, NRC, Region III
* T. Guilfoil, Examiner, Sonalyst

2. Persons Contacted

Facility

+G. K. Schwartz, Station Manager
*+D. Popkins, Training Supervisor
+D. Brindle, Regulatory Assurance Supervisor
* P. Enge, NRC Coordinator
* J. Hamilton, Simulator Coordinator
*+J. Heaton, Licensed Operator Training Supervisor
* S. Pettinger, Simulator Coordinator
+M. Snow, Services Director
+T. Tulon, Operations Manager
*+R. Wegner, Shift Operations Supervisor

U. S. Nuclear Regulatory Commission (NRC)

* T. Burdick, Section Chief, OLS 2, Region III
+H. Peterson, Senior Resident Inspector

*Denotes those present at the Training Staff exit meeting on June 9, 1993.

+Denotes those present at the Management exit meeting on June 10, 1993.

3. Requalification Training Program Observations

The following information is provided for evaluation by the licensee via their SAT based training program. No response is required.

a. Written Examination

Strength:

- The SRO and RO written examinations were used as proposed by the facility with only minor changes.

Weaknesses:

- The LSRO written examination required some significant changes in question construction and did not represent the same quality as the SRO and RO written exams.

- Based on the results of the written examination, the following area showed weakness:

  -Determining the amount of time the plant may remain at steady state when an intermediate range nuclear instrument fails at 100% power (SRO question #11).

b. Job Performance Measures (JPMs)

Strength:

- The LSRO JPMs actively utilized the actual equipment involved in the movement of fuel, significantly contributing to the tasks' realism and credibility.

Weakness:

- Some JPMs had a tendency to overcue the candidate; providing more information than was necessary to complete the task. For example, a task involving local emergency start of a diesel generator cued the candidate on all instrument readings when the candidate could have used the actual indications.

c. Dynamic Simulator Scenarios

Strengths:

- The scenarios generated by the facility were used with little or no changes.

- The ability of crews to work effectively as teams; operators provided input to each other in the course of combatting a casualty.

- The ability of SRO's to keep their crews informed of plant status.

Weaknesses:

- The ability of crews to efficiently implement the Emergency Operating Procedures. For example:

  - Two crews delayed transitioning to E-3, "Steam Generator Tube Rupture", until their second procedural opportunity. Both crews had identified a ruptured steam generator casualty had occurred but did not transition to the appropriate procedure at their first opportunity (step 29 of E-0, "Reactor Trip or Safety Injection" - 'Check if Steam Generator Tubes are Intact') because secondary radiation alarms had not yet come in.

- One crew entered FR-S.1, "Response to Nuclear Power Generation/ATWS", with plant parameters indicating that the reactor was tripped.

- The ability of crews to prioritize problems concerning rod control operability. One crew did not enter any abnormal procedure when a loss of automatic rod control occurred. Another crew, upon receipt of a rod control urgent failure alarm, delayed entry into the rod control abnormal procedure until a shift of letdown heat exchangers was completed.

- The ability of crew members to use plant parameters for diagnostic purposes. For example:

  - An operator acknowledged an alarm on low steam generator pressure on the "B" steam generator, then monitored "A" steam generator parameters.

  - An operator stated a steam flow channel had failed on a steam pressure channel failure.

  - An operator stated that a steam generator that had lost main feed flow could not be a candidate for a faulted steam generator casualty.

  - An operator had difficulty in accurately reading residual heat removal flow indicators.

4. General

a. Training

Strengths:

- The training staff provided excellent support during the examination process and worked well with the NRC examiners both during the preparatory and examination weeks.

- During the administration of the dynamic simulator examination, one crew's operational success path on their first scenario did not include entry into an Emergency Contingency Action (ECA) procedure as the scenario had originally planned for.

  Revision 7 of NUREG-1021 requires at least one ECA procedure implementation per scenario set. The training staff quickly provided and effectively executed an adequate change to the second scenario to fulfill this requirement.

- The variance between NRC and facility grading on the written and operating portions of the examination conformed with existing standards.

Weaknesses:

- Multiple cueing problems occurred during the administration of the in-plant portion of the walkthrough examination. For example:

  - A facility examiner was unfamiliar with the mechanical interlock on the local/remote switch for the diesel generator. This caused a miscue which misled a candidate into thinking a procedural step was successfully completed when it had not.

  - A facility examiner was unsure of what indications were required to verify the diesel generator jacking gear engaged. The cue "turning gear engaged" was given to a candidate before he demonstrated how to verify turning gear status.

  - A facility examiner miscued a candidate that "diesel generator support systems are expected to be checked" as the candidate was transitioning to the correct attachment for diagnosing the diesel generator problem. The miscue caused the candidate to enter an incorrect procedural path that he later had to recover from.

  - A facility examiner cued a candidate on diesel generator annunciator status after a candidate asked if the diesel generator running loaded light was not lit.

  - A facility examiner gave a candidate an incorrect simulation sheet of electrical contacts when the candidate was trying to demonstrate how to locally reset safety injection.

- Annunciator stickers used by one crew during the dynamic simulator were not removed prior to the start of a dynamic simulator examination for a second crew.

b. Operations, Security, Radiation Protection

All plant support personnel encountered provided excellent support during the examination process. This contributed to the examination week running smoothly and helped minimize operator stress.

5. Simulator Observations

Simulator discrepancies were identified. These discrepancies are noted in Attachment 3.

6. Exit Meeting

A training exit meeting was held on June 9, 1993 and a management exit meeting was held on June 10, 1993. Those attending the meetings are listed in Section 2 of this report. The following items were discussed during the exit meeting:

- Strengths and weaknesses noted in this report.
- The general observations relating to the plant noted in Section 4.

The preliminary results of the NRC examiners was presented at the management exit meeting. The facility was informed that the final results would be documented in this report.

Enclosure 2

REQUALIFICATION PROGRAM EVALUATION REPORT

Facility: Byron Nuclear Power Station

Examiners: C. C. Osterholtz, Chief Examiner, NRC
T. Guilfoil, Sonalyst

Date of Evaluation: June 7-10, 1993

Areas Evaluated: Written, Oral, and Simulator

Examination Results:

	RO Pass/Fail	SRO Pass/Fail	Total Pass/Fail	Evaluation (S or U)
Written Exam:	5/0	8/0*	13/0*	S
Operating Exam Oral	5/0	8/0*	13/0*	S
Simulator	5/0	7/0	12/0	S

Evaluation of facility written examination grading: S

*includes one SRO candidate limited to fuel handling

Crew Examination Results:

	Crew 1 Pass/Fail	Crew 2 Pass/Fail	Crew 3 Pass/Fail
Operating Examination	Pass	Pass	Pass

Overall Program Evaluation

Satisfactory

RIII
Osterholtz
Chief Examiner
07/8/93

RIII
Burdick
Section Chief
07/8/93

RIII
Ring
Branch Chief
07/8/93

Enclosure 3

SIMULATION FACILITY REPORT

Facility: Byron Nuclear Power Station

Docket Nos. 50-454; 50-455

Operating Tests Administered On: June 7-10, 1993

The following documents observations made by the NRC examination team. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed:

ITEM		DESCRIPTION
1.	CRT	#2 CRT was not working on the simulator.
2.	Audible Annunciators	Audible annunciators did not engage at the beginning of one scenario.