

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-456/OL-92-01

Docket Nos. 50-456; 50-457

Licenses No. NPF-72; NPF-77

Licensee: Commonwealth Edison Company
1400 Opus Place
Opus West III
Downers Grove, IL 60515

Facility Name: Braidwood Nuclear Station

Examination Administered At: Braidwood Nuclear Station

Examination Conducted: During the weeks of April 20 and 27, 1992

RIII Examiner: M. Leach 5/26/92
M. Leach Date

Chief Examiner: D. Shepard 5/25/92
D. Shepard Date

Approved By: T. Burdick, Chief 5/26/92
T. Burdick, Chief Date

Examination Summary

Examination administered during the weeks of April 20 and 27, 1992 (Report No. 50-456/OL-92-01): Consisted of written and operating requalification examinations administered to 10 reactor operators and 13 senior reactor operators using the Alternative B methodology (two operators per one NRC evaluator).

Results: All operators and crews passed the requalification examination. The licensee's requalification program is evaluated satisfactory in accordance with the program performance criteria in NUREG-1021, ES-60.

The strengths of the licensee's requalification program included using simultaneous events in the dynamic scenario scenarios, most materials developed were used with no or only minor changes, and excellent examination security was maintained at all times.

Weaknesses in the licensee's program included the lack of sufficient simulator scenarios to cover Emergency Contingency procedures and the excessive duplication in the Job Performance Measures (JPM) scheduled to be performed on different days by different operators.

REPORT DETAILS

1. Examiners

- * B. Haagensen, NRC, Sonalyst
- M. Leach, NRC
- *+D. Shepard, NRC, Chief Examiner

2. Persons Contacted

Commonwealth Edison Company Representatives

- **R. Legner, Services Director
- **T. Chasensky, Simulator Supervisor
- **A. Checca, Training Supervisor
- **D. Cooper, Assistant Superintendent, Operations
- **D. Huston, Operator Training Supervisor
- **J. Lewand, Regulatory Assurance

*Denotes those present at the training exit meeting on April 29, 1992.

+Denotes those present at the management exit meeting on April 30, 1992.

3. Regualification Examination Development

a. Written Examination

The following strengths were identified:

- All questions utilized as replacements were from the facility examination bank.
- Over 90% of the facility's exam bank were objective questions.
- The facility's examination bank had the correct discrimination between Part A (Plant and Control Systems - Static Simulator) and Part B (Administration Controls/Procedural Limits) questions.

The following are examples of deficiencies identified during the review of the written examination:

- Some distractors were not relevant or meaningful for the question's context.

- The licensee's proposed written examination contained a few items that did not meet the guidance of NUREG-1021 and were either rewritten by the examination team or deleted from the examination.

b. Dynamic Simulator Scenarios

The following strengths were identified:

- Scenarios developed utilized simultaneous events to evaluate crew prioritization capabilities.
- Scenarios had a logical progression of malfunction events.

The following are examples of deficiencies identified during the review of the simulator scenarios:

- Scenarios had not been developed involving many Functional Restoration Guides and Emergency Contingency Action Procedures. One contributing factor was a complete software revision for the Braidwood simulator which required reworking all the present simulator scenarios.
- The length of time devoted to normal events during scenarios, such as, power increase or decrease, detracted from the time available for the Emergency Operating Procedures (EOP).
- The facility considers preventing a reactor trip due to an instrument malfunction to not be an Individual Simulator Critical Task (ISCT).

c. Job Performance Measures

The following strength was identified:

- The JPM's used covered a variety of systems and types of procedures (normal, abnormal and emergency procedures).

The following was an example of deficiencies identified during the review of JPM's:

- A few non-critical steps were designated critical, such as, a step requiring only verification of normally expected actions.

4. Regualification Examination Administration

The licensee was responsible for examination administration while the NRC observed and coevaluated the examination, which allowed the NRC to evaluate the licensee's regualification program as well as the individual operators.

The following observations were made by the NRC concerning examination administration:

- Examination security between the various crews was maintained at all times by the facility.
- JPM scheduling minimized delays in the examination which meant that the operators did not have to wait long periods of time between JPM's.
- Due to miscommunication between the facility and the NRC, the JPM's assigned between different days initially had too much duplication. The facility was able to reassign JPM's between the days to reduce duplication.
- Due to the simulator scenarios chosen, there was duplication of malfunctions on some days.

5. Evaluation of Facility Regualification Evaluators

In addition to evaluating the operator's performance, the NRC evaluated the licensee's evaluators' ability to conduct consistent and objective examinations and their ability to provide unbiased evaluations of the operators.

The following observations were made by the NRC concerning the facility evaluators:

- All evaluators provided objective evaluations of the operators. All evaluators were satisfactory with respect to the criteria of NUREG-1021.
- Some JPM evaluators had instances of inconsistent repeat back of answers to JPM questions, in that, the repeat back consisted only of the expected answer portion of the operator's answer.

6. Regualification Examination Evaluation

Coevaluation by the NRC examiners and the licensee evaluators of the operators' performance on the examination

was performed. Coevaluations provided the NRC with the necessary information to assess the individual operator's performance as well as the licensee's requalification program performance.

a. Dynamic Simulator Examination

The dynamic simulator evaluations were performed on the Braidwood plant specific simulator and included 28 individuals and 7 crews. Each evaluation involved two or three scenarios. All individuals and crews passed the dynamic simulator examinations as evaluated by both the NRC and the facility.

b. JPM Examination

The JPM examinations were conducted at the Braidwood Nuclear Station and the plant specific simulator. All individuals passed as evaluated by both the NRC and the facility.

c. Written Examinations

Parallel grading of the written examination by the NRC and the licensee resulted in consistent overall evaluations regarding pass/fail decisions for all operators. All individuals passed the written examinations as graded by both the NRC and the facility.

Based on the results of the written exam, the following areas showed weaknesses and are presented here to be factored into the facility's SAT requalification program:

- Actions required during inadequate core cooling with loss of component cooling flow (SRO only).
- Determining total release rate (SRO only).
- Conditions requiring reactor trip (SRO only).
- Signals required to reset letdown.

7. Requalification Program Evaluation

The NRC administered examination results meet the criteria of NUREG-1021, ES-601, for a satisfactory program. Therefore, the licensee's requalification program is evaluated as satisfactory.

REQUALIFICATION PROGRAM EVALUATION REPORT

Facility: Braidwood Nuclear Station

Examiners: B. Haagensen, M. Leach, D. Shepard

Dates of Evaluation: During the weeks of April 20 and 27, 1992

Areas Evaluated: X Written X Oral X Simulator

Examination Results:

	<u>RO</u> <u>Pass/Fail</u>	<u>SRO</u> <u>Pass/Fail</u>	<u>Total</u> <u>Pass/Fail</u>	<u>Evaluation</u> <u>(S or U)</u>
Written Examination	10/0	13/0	23/0	S
Operating Examination				
Oral	10/0	13/0	23/0	S
Simulator	11/0	17/0	28/0*	S
Evaluation of facility written examination grading				S

*Includes five operators not counted toward program evaluation.

Crew Examination Results:

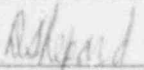
Operating Examination

Crew 1	Crew 2	Crew 3	Crew 4
Pass	Pass	Pass	Pass
Crew 5	Crew 6	Crew 7	Evaluation
Pass	Pass	Pass	S

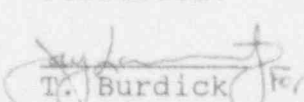
Overall Program Evaluation

Satisfactory

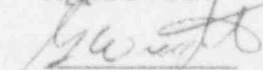
Submitted:


D. Shepard
Examiner
05/26/92

Forwarded:


T. Burdick
Section Chief
05/26/92

Approved:


G. Wright
Branch Chief
05/26/92

SIMULATION FACILITY REPORT

Facility Licensee: Braidwood Nuclear Station

Facility Licensee Docket No. 50-456; 50-457

Operating Tests Administered On: Braidwood Simulator

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

<u>ITEM</u>	<u>DESCRIPTION</u>
Simulator rebooted	Simulator had to be rebooted after operators started board walk down.
Parallel main generator	During one JPM, could not parallel main generator to the grid, required reboot.
Plant computer	Plant computer was not working during one day's scenarios.
Hardware problem	Delayed start of simulator scenarios approximately two hours due to hardware problem.