U S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/OL-92-01

Docket No. 50-483 License No. NPF-30

Licensee: Union Electric Company
P. O. Box 620
Fulton, MO 65251

Facility Name: Callaway Plant

Examination Administered At: Callaway Plant

Examination Conducted: Week of February 24, 1992

Chief Examiner: T. Reidinger, Date 3/23/92

Approved By: T. Burdick, Chief, Operator Licensing Section 1 Date 3/23/92

Examination Summary

Examination administered on the week of February 24, 1992 (Report No. 50-483/01-92-01) Consisted of written and operating requalification examinations administered to six reactor operators and 10 senior reactor operators using the Alternative B methodology (two operators per one NRC evaluator) as defined in NUREG 1021, ES-603. In addition, one senior reactor operator candidate was administered a retake JPM operating examination. Results: All operators passed the examination. All crews passed the examination. The licensee's requalification program is evaluated to be satisfactory in accordance with the program performance criteria in NUREG-1021, ES-601.

The strengths of the licensee's requalification program included the operators' proficiency in using abnormal procedures, emergency procedures, Job Performance Measures (JPM) that addressed a variety of systems and procedures.

Weaknesses in the licensee's program included excessive time allowance to answer questions in the written examination; operator and crew communications exhibited in the simulator; and use of requalification evaluation scenarios as training scenarios. Also, the Region identified a perception on the part of some operators, that the simulator operating practices are not always the same as current practices in the control room.

REPORT DETAILS

1. Examiners

T. Guilfoil, Sonalyst
F. Victor, Sonalyst
G. Weale, Sonalyst
*T. Reidinger, NRC

*Chief Examiner

2. Exit Meeting

An exit meeting was held on February 28, 1992, between the facility and the NRC to summarize all of the observed requalification program operator strengths, deficiencies and concerns.

Attendance List

Garry L. Randolph, Union Electric (U.E.), Vice President Nuclear Operations
Mike Taylor, U.E., Assistant Manager, Work Control
Dave Young, U.E., Superintendent, Operations
Mike Evans, U.E., Superintendent, Training
Gary Hughes, U.E., Supervisor, Engineer, Nuclear Safety
Scott Halverson, U.E., Senior Training Supervisor Comp Support
Keith Mills, U.E., QA Engineer
David Fitzgerald, U.E., Training, Operating Supervisor
Dick Neil, U.E. Operations, Shift Supervisor
Bob Barton, U.E., Training Department, Operation Supervisor
Bob Baker, U.E., Supervisor Engineer Comp. Support
Robert Nelson, U E., Training Operating Supervisor
T. Guilfoil, Sonalyst
Timothy Reidinger, U.S. NRC, RIII
Bruce L. Bartlett, U.S. NRC, SRI
Karen Marcus, U.S. NRC, RIII, Intern

3. Generic Issues

a. Use of Simulator Scenarios

During conduct of the examination the NRC became aware that the licensee, at times, had used requalification evaluation scenarios as training scenarios. For this exam, no compromise was identified. Evaluation scenarios should be used to determine the proficiency of individuals in the application of knowledges and abilities. If scenarios are used for training

purposes, a recognition/memorization factor enters into the process and diminishes the usefullness of the evaluation. While it would be best not to use evaluation scenarios for other than evaluations it would be acceptable to monitor training use of scenarios and then ensure that individuals are not evaluated using scenarios they have been specifically trained on.

b. Generic Strengths

The following generic strengths were observed during either the operating or written examinations:

1) Operators demonstrated proficiency in the use of annunciator response procedures, abnormal procedures, and emergency procedures.

2) Operators were proficient in operating system components and controls, interpreting references, and utilizing administrative procedures.

c. Generic Weakness

The following generic weaknesses were observed during the operating examinations.

1) The operators either responded with obscure replies to requests for precise information, or failed to respond to requests when solicited. This was noted across all crews, for example:

   - The Operations Supervisor requested Pressurizer level parameters and the reactor operator responded by stating "its chock block high".

   - The Operations Supervisor requested verification that auxiliary feedwater flow of 300,000 lbm/hr was established and the balance of plant operator responded by stating "We're humping and pumping".

2) During simulator performance, operators responded during emergency procedure verification steps by stating, often incorrectly, the operating status of equipment prior to the actual visual confirmation of the equipment status, for example;

   - After one of the Steam Generator feedwater isolation valves failed open and before observing the position of the isolation

valve, the operator stated that all feedwater isolation valves were closed. The operator corrected his statement after observing that the valve was open.

- After the Turbine Driven Auxiliary feedwater pump tripped and before observing the condition of the pump, the operator stated that the pump was running. The operator corrected his statement after observing that the pump had tripped.

3) Weakness in the licensee's requalification program included the time validation of the questions in the written examination sections; Part A (The static simulator examination); Part B (Procedures); and JPM. Questions generally exhibited a time allowance that exceeded expectations for a competent operator to answer correctly.

d. Regional Concern

During NRC management discussions with several control room operators, a concern was raised by some of the operators that operating practices in the simulator are not always the same as the current operating practices in the control room.

Operators stated that some simulator training instructors have a tendency to discourage cooperative operator actions, austensibly to prevent one panel operator from having a negative evaluation impact on the other panel's operator for NRC simulator requalification examinations. For example, if a reactor operator took proper corrective actions on the Balance of Plant Operator's (BOP) panel during a plant transient, the training instructors believed that the NRC would have considered the BOP less than a minimally competent operator.

The licensee was informed that it is imperative that operators work together as a team. The NRC fully expects errors or omissions by an individual to be identified and corrected by others. The identification and correction of plant deficiencies is the responsibility of all individuals on the crew.

No impact on crew or individual performance during simulator requalification examinations was noticed.

The licensee agreed to review their training practices in this area.

4. Requalification Examination Development

a. Written Examination

- Overall, the licensee's Requalification Written Examination Bank satisfied the requirements of NUREG-1021. The proposed examination contained some weaknesses, such as Part A questions located in Part B of the examination, look-up questions, and misapplied knowledge and ability task numbers on the questions. All deficiencies were corrected. The scope and content of the written examination were satisfactory.

- In general, questions on the written examination exhibited an excessive time allowance to correctly answer the question.

b. Dynamic Simulator Scenarios

The following are examples of strengths identified by the NRC concerning the dynamic simulator scenarios validated for use during the requalification examinations:

- Scenarios utilized simultaneous events to evaluate crew prioritization capabilities.

- The simulator operators demonstrated proficiency in the administration of simulator scenarios in both the Part A (Static Simulator) and dynamic simulator.

The following weakness' were identified:

- Some of the scenarios initially lacked sufficient complexity in regards to challenging the operators' ability to adequately implement EOPs.

- The scenario individual simulator critical tasks (ISCT's) successful completion criteria needed to be incorporated to ensure consistent evaluation of the operators.

c. Job Performance Measures (JPM)

The following strengths were identified:

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

- The completion times assigned to the JPM's were within plant management expectations.

The following weaknesses were identified:

- The completion times assigned to JPM questions were, generally, excessive.

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

- All JPM's needed to have successful completion criteria identified.

  For example:

  JPM Title: Perform MSIV Accumulator Pre-charge checks.

  Task Standard: Upon completion of this JPM the "C" MSIV, AB-HV-20, will have had its active and passive hydraulic accumulators independently dumped, N2 precharge checked and its hydraulics recharged.

  The Licensee committed to upgrading the JPM bank to incorporate the task standard.

5. Examination Administration

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

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

- The facility scheduled the written examination and the JPM's to minimize the operators' waiting time which reduced stress on the operators.

- Operation and training personnel appeared to be highly supportive of each other's efforts in developing and implementing all aspects of the requalification examination.

- Clerical support given during the preparation week and the examination administration week was excellent.

6. Evaluation of Facility Evaluators

In addition to evaluating the operators' 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.

a) The following strengths were identified 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.

- The evaluators were prepared to give cues when the operators took an unexpected action or requested additional information. Probing was conducted when an incomplete or vague answer was given to a JPM follow-up question. When additional probing was conducted, the evaluators documented the question and response.

b) The following observation was identified by the NRC after the simulator evaluations were completed: The licensee did not appropriately apply the critical task criteria in one case.

The licensee had evaluated one senior reactor operator as unsatisfactory on an emergency plan classification. Although they recognized that the senior reactor operator had neither the information required nor the opportunity to obtain the information necessary to make the correct assessment, they, inappropriately, applied the initially agreed to critical task as written. An integral part of any critical task is that the individual must either have or have had the opportunity to obtain the necessary information. After further review, prompted by the NRC, the facility evaluators properly evaluated the individual's performance.

7. Examination Evaluations

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 Callaway simulator and included 16 individuals and four crews. Each evaluation involved at least two scenarios. One failure was identified by the facility during the simulator examination.

b. 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. No individuals failed the written examination as graded by the facility or the NRC.

The following areas showed weaknesses on the written examinations and are included to be factored into the facility's SAT requalification program:

- PZR Pressure Channel Failure - Root Cause
- SI Safeguards equipment - PTL requirements.
- Cooldown temperature required during steam generator tube rupture.
- Method to secure emergency diesel generator locally.
- Intermediate Range Flux Rod Stop Annunciator-Root Cause.

8. 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: Callaway Station

Examiners: T. Reidinger, T. Guilfoil, F. Victor, G. Weale

Date of Evaluation: Week of February 24, 1992

Areas Evaluated: X Written X Oral X Simulator

Examination Results:

	RO Pass/Fail	SRO Pass/Fail	Total Pass/Fail	Evaluation (S or U)
Written Examination	6/0	10/0	16/0	S
Operating Examination				
Oral	6/0	10/0	16/0	S
Simulator	6/0	10/0	16/0	S
Evaluation of facility written examination grading				S

Crew Examination Results:

	Crew 1	Crew 4	Crew 5	Crew 6	Evaluation
Operating Examination	Pass	Pass	Pass	Pass	S

Overall Program Evaluation
Satisfactory

Submitted:
T. Reidinger
Examiner
03/20/92

Forwarded:
T. Burdick
Section Chief
03/23/92

Approved:
G. Wright
Branch Chief
03/23/92

SIMULATION FACILITY REPORT

Facility Licensee: NPF-30

Facility Licensee Docket No. 50-483/OL-92-01

Operating Tests Administered on: Week of February 24, 1992

This form is to be used only to report observations. These observations do not constitute, in and of themselves, audit or inspection findings and are not, without further verification or review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification for approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required solely in response to these observations.

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

Item 1: RCS pressure spiked to 3000 psig in Mode 3.

Item 2: Core exit Thermocouple temperatures erratically increased after natural circulation was established.

Item 3: Loss of coolant leakage rates for 1000 gpm leaks initially reflected only a 500-600 gpm leak.