

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-315/OL-91-01

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; No. DPR-74

Licensee: Indiana Michigan Power Company
Donald C. Cook Nuclear Power Plant
Bridgman, MI 49106

Facility Name: Donald C. Cook Nuclear Power Plant

Examination Administered At: Donald C. Cook Nuclear Power Plant

Examination Conducted: January 30 through February 7, 1991

Chief Examiner:

D. Shepard
D. Shepard

3/5/91
Date

Approved By:

T. M. Burdick
T. M. Burdick, Chief
Operating Licensing Section 2

3/5/91
Date

Examination Summary

Examination administered on January 30 through February 7, 1991
(Report No. 50-315/OL-91-01)

Consisted of written and operating requalification examinations administered to ten reactor operators and ten senior reactor operators using alternative B methodology.

Results: One senior reactor operator failed the simulator portion of the examination. One senior reactor operator and one reactor operator failed the Job Performance Measure (JPM) portion of the examination. One senior reactor operator failed the written examination. One senior reactor operator mentioned above failed his second retake examination. All other operators and all crews passed the examination. The licensee's requalification program is declared satisfactory in accordance with the program performance criteria in NUREG-1021, ES-601.

REPORT DETAILS

1. Examiners

- D. Shepard, NRC, Chief Examiner
- N. Maguire-Moffitt, NRC, PNL

2. Examination Development

a. Written Examination

The licensee's proposed written examination contained some items that did not meet the guidance of NUREG-1021 and therefore had to be rewritten by the examination team or deleted from the examination.

The following deficiencies were identified:

- The following Part B ("Administration Controls/Procedural Limits") questions were determined to be Part A ("Plant and Control Systems-Static Simulator") questions: A015, JC13, PS8, ES2, OC8, and ICA43.
- Some questions were not at the comprehension or higher cognitive level and were replaced.
- Two questions were modified to preclude having two correct answers.
- Validation times for Part A questions were determined to be too long. This required additional questions to be added.
- Two questions required changing distractors to be more plausible.

The following strengths were identified:

- All questions utilized as replacements were from the facility examination bank.
- Over 90% of the facility exam bank were objective type questions.
- In general, only minor corrections were made to the facility supplied examination.

b. Dynamic Simulator Scenarios

The following are observations made by the NRC concerning the dynamic simulator scenarios validated for use during the requalification examination:

- Some Individual Simulator Critical Tasks (ISCT) were deleted or made less restrictive (increased times given for action).
- Simulator scenarios need to add more requirements to have the senior operator prioritize resources.

c. Job Performance Measures (JPM)

The following are examples of deficiencies relating to the requirements of JPM's:

- Some non-critical steps were marked as critical.
- Some cues were not plant responses (such as "red light lit") but plant conditions (such as "valve is closed").
- Two JPM's needed to be revised due to procedure revisions.
- The JPM questions needed to have times added.

The following strengths were identified:

- The JPM's used covered a variety of systems and types of procedures (normal, abnormal and emergency procedures).
- The times assigned to the JPM questions appeared to be reasonable.

3. Examination Administration

The licensee was responsible for examination administration scheduling while the NRC observed and coevaluated the examination which 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 waiting time which reduced stress on the operators.
- Examination security between the various crews was maintained at all times by the facility.
- The facility conducted their critiques between the simulator scenarios in an expeditious manner which limited the operators' wait, and therefore, stress between the scenarios.

4. Evaluation of Facility Evaluators

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

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

- In general, all of the evaluators performed consistent and objective evaluations of the operators. All evaluators were satisfactory with respect to the criteria of NUREG-1021.
- There were a few instances where JPM cues were not given as written.
- There were a few 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.
- The JPM evaluators need to standardize their examination technique:
 - do job brief the same for all operators;
 - no paraphrasing of the questions or task unless asked for by the operator for clarification; and
 - hand out sheets for task and questions be the same for all operators.
- One JPM evaluator gave a cue prior to required action on the part of the operator.
- One JPM evaluator asked an inappropriate question after getting an incorrect answer to prompt the operator to give the correct answer.
- One JPM evaluator did not time all answers to JPM questions.
- One JPM evaluator inadvertently handed out the job brief prior to the simulator being set for the JPM.

5. 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 evaluation was performed on the D. C. Cook simulator and included 20 individual and five crew evaluations each using two scenarios. One individual failure was identified by both the NRC and the facility.

The following observations were made by the NRC concerning the dynamic simulator examination:

- Electrical safety gear was not used by two of three crews during operation of 4KV breaker knife switches.
- During ECA-0.0, "Loss of All AC Power", two of three crews did not continue beyond step 17 (as required by procedure) while waiting for steam generator levels to increase.
- The crews showed excellent control of tripping protective bistables.
- The crews performed the immediate action steps of the emergency procedures quickly and accurately.

b. JPM Examination

The JPM examination was conducted at the D. C. Cook Nuclear Plant. The NRC identified two individual failures. The facility identified one additional individual failure for a total of three failures.

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

- The reactor operators had difficulty determining the differential boron worth for use in calculating shutdown margin.
- All operators reviewed the precautions and initial conditions of the procedures prior to use.

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. One individual failed the written examination as graded by both the NRC and the facility.



The NRC deleted one question from the reactor operator examination "WRX" dealing with offsite dose assessment.

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

- Taking into account the question deleted, the grading was identical between the NRC and the facility.
- The facility should shuffle the Part A examination questions so operators can use the different indicators at different times.

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

- Reactor operators on the effects of a load shed on bus T21D.
- Trips available for emergency diesel generator.
- When the Nuclear Emergency Alarm must be sounded.
- Senior reactor operators on the Emergency Plan classification of Technical Specification required shutdown.
- Actions required to restart Turbine Driven Auxiliary Feedwater pump.
- ATWS Mitigation System Actuation Circuitry (AMSAC) actuation signal.
- Reactor operators on automatic makeup flow rate.
- Number of steam dump valves that would actuate during an event.
- Automatic rod stop bistable effects.

6. Program Evaluation

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

7. Examiner Concern

One individual failed a second retake examination. This individual had been remediated in accordance with the facility's requalification program.

The facility must ensure that individuals who are remediated are objectively evaluated to determine their ability to resume licensed duties.

8. Exit Meeting

An exit meeting was held on February 8, 1991, between the NRC and facility management to discuss the requalification program and operator deficiencies and strengths, as well as the NRC concerns.

NRC representatives in attendance were:

J. Isom, Senior Resident Inspector
D. Passehl, Resident Inspector
D. Shepard, Examiner

Indiana Michigan Power Company representatives in attendance were:

A. Blind, Plant Manager
R. Anderson, Requalification Program Administrator
K. Baker, Assistant Plant Manager, Production
W. Burgess, Simulator Supervisor
V. Kincheloe, Training Superintendent
W. Nichols, Operations Training Supervisor
J. Sampson, Operations Superintendent
E. Tatrault, Senior Training Instructor
T. Werk, Operations Training (Contractor, NEC)

SIMULATION FACILITY REPORT

Facility Licensee: D. C. Cook

Facility License Docket Nos. 50-315; 50-316

Operating Tests Administered On: January 30 through February 7, 1991

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

ITEM

DESCRIPTION

Containment Recirculation Fan not starting

Fan 2HV-DEQ-2 did not start on a containment spray/phase B signal - corrected by facility.

Synchronized light of DG breaker not lit

During attempts to parallel EDG, the Synchronized light on EDG DC output breaker did not remain lit if operator held the breaker switch - DR written.

Simulator froze

During SGTR scenario, the simulator stopped tracking- Facility believes it is related to rad monitor print out.

REQUALIFICATION PROGRAM EVALUATION REPORT

Facility: D.C. Cook

Examiners: D. Shepard, N. Maguire-Moffitt.

Date(s) of Evaluation: January 30, 1991 through February 7, 1991

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 | 9/1 | 19/1 | S |
| Operating Examination | | | | |
| Oral | 9/1 | 9/1 | 18/2 | S |
| Simulator | 10/0 | 9/1 | 19/1 | S |
| Evaluation of facility written examination grading | | | | S |

Crew Examination Results:

| | <u>Crew 1</u> <u>Pass/Fail</u> | <u>Crew 2</u> <u>Pass/Fail</u> | <u>Crew 3</u> <u>Pass/Fail</u> |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Operating Examination | Pass | Pass | Pass |

| | <u>Crew 4</u> <u>Pass/Fail</u> | <u>Crew 5</u> <u>Pass/Fail</u> | <u>Evaluation</u> <u>(S or U)</u> |
|--|-----------------------------------|-----------------------------------|--------------------------------------|
| | Pass | Pass | S |

Overall Program Evaluation

Satisfactory.

Submitted:
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Shepard/cg
Examiner
03/ /91

Forwarded:
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