U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-237/94004(DRS)

Docket Nos. 50-237; 50-249 Licenses Nos. DPR-29; DPR-27

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

Facility Name: Dresden Nuclear Power Station

Inspection At: Dresden Nuclear Power Station
Morris, IL

Inspection Conducted: January 31 - February 8, 1994

Inspector: M Jordan for 3/4/94
E. Plettner Date

Inspector: M Jordan for 3/4/94
M. Bielby Date

Approved By: M Jordan 3/4/94
M. Jordan, Chief Date
Operator Licensing Section 1

Inspection Summary
Inspection Conducted January 31 - February 8, 1994 (Report No. 50-237/94004(DRS)).

Areas Inspected: Special, announced inspection of the licensed operator requalification program to include a review of training administrative procedures, requalification training records and operating examination material; observation and evaluation of operator performance and licensee evaluators during requalification operating examination and remediation training administration; an evaluation of program controls to assure a systems approach to training; and an assessment of simulator fidelity. The inspectors used the guidance in Temporary Instruction (TI) 2515/117.

One senior reactor operator (SRO) was administered a requalification retake examination (job performance measures portion only).

Requalification Retake Examination Results:

The SRO satisfactorily completed the job performance measures (JPM) requalification retake examination.

Requalification Inspection Results:

The inspectors concluded that the licensee's overall implemention of the licensed operator requalification training program was in accordance with 10 CFR Part 55 requirements, and that operations and training management involvement with the process was a strength.

Strengths:

- Operations management observation and participation in crew evaluations during dynamic scenario examinations (Section 2.1.1).
- Operations management actively provided input regarding required training (Section 2.5).

Weaknesses:

- Written examination questions (Section 2.1.3).
- Operator communications (Section 2.2).
- Lack of objective individual operator evaluations during dynamic simulator scenarios (Section 2.2).
- Lack of simulator backpanels (Section 2.6).

REPORT DETAILS

1.0 Persons Contacted

The Commonwealth Edison Company

+M. Lyster, Site Vice President
+R. Wroblewski, Regulatory Assurance
*+M. Korchynsky, Shift Operations Supervisor
*+D. Schavey, Operations Training Supervisor
+R. Sitts, Operations Training Requal Administrator
+J. Cox, Simulator Fidelity Coordinator
+A. D'Antonio, Site Quality Verification Superintendent
+R. Weidner, Training Supervisor
* J. Heck, Operations Training
* D. Zehrung, Operations Training
* K. Rach, BWR Operations Training Supervisor

NRC Representatives

*+M. Bielby, Region III NRC Inspector
+E. Plettner, Region III NRC Inspector
+M. Leach, Dresden Senior Resident Inspector

* Denotes those present at the entrance meeting on January 31, 1994.

\+ Denotes those present at the exit meeting on February 8, 1994.

2.0 Introduction

The purpose of this inspection was to assess the licensee's requalification program for licensed operators in order to determine whether the program incorporated 10 CFR Part 55 requirements for evaluating operator mastery of training objectives and revising the program. The licensed operator requalification program assessment included a review of training administrative procedures, requalification training records, and operating examination material. The inspectors conducted an evaluation of operator performance and the ability of licensee evaluators to administer and objectively evaluate during requalification operating examinations. An evaluation of the effectiveness of the program controls to assure a systems approach to training and remediation training was conducted. The inspectors also assessed simulator fidelity.

2.1 Licensed Operator Requalification Program Assessment

2.1.1 Program Administration

The inspectors identified the following strengths regarding requalification program administration:

- Operations and training management observed crew evaluations during dynamic simulator examinations as verified by inspector observation and interviews with plant personnel.

- Operations management participated in crew evaluations during dynamic simulator examinations as verified by inspector observation and interviews with plant personnel.

- Attendance at requalification training had an appropriately high priority.

During review of the administrative procedures, the inspectors noted that the method of assigning credit for plant control manipulations did not require the operators to manipulate the controls. All crew members are given credit for manipulation of controls that occur during an evaluation. However, discussions with requalification training personnel indicated that all members of a crew are required to directly observe and otherwise be involved in discussions of the manipulations, which is acceptable.

The inspectors concluded that the licensee was implementing the licensed operator requalification training program in accordance with the licensee's administrative procedures and 10 CFR 55 requirements.

2.1.2 Requalification Training Records Review

The inspectors reviewed requalification training and attendance records for 1993 and 1994 training cycles and concluded that licensed operators had attended or made up all scheduled requalification training as required by their program. The inspectors also noted an adequate continuing training program for Nuclear Operator Instructors as evidenced by attendance at scheduled training.

2.1.3 Requalification Examination Material Review

The inspectors reviewed the operating and written examinations administered during the inspection week. The examination material followed guidelines contained in Revision 7 of the Examiner Standards, NUREG 1021. The inspectors noted that adequate overlap existed for the JPM and dynamic simulator examinations for the duration of the examination cycle. The licensee had a tracking program to incorporate changes to the examination bank material when procedure changes or modifications were implemented by the plant. If a question is incorrectly answered on an examination a specified criteria number of times, the licensee has an evaluation program in place to review the question for clarity and correctness. Although the licensee's examination bank contains 1300 questions, there were areas which contained an insufficient number of questions to prevent repeating the questions on several written examinations throughout the annual examination cycle.

The inspectors made the following observations regarding the examination material:

- Dynamic scenarios were very good. The number of malfunctions, complexity and run times were appropriate. They also exercised various legs of the EOPs sufficiently. There were no significant weaknesses identified.

- The job performance measures (JPMs) were of good quality. They involved tasks important to safety, and appropriate steps were designated as critical for the successful completion of the task. At least 20% of the selected JPMs were not included in the most recent training cycle topics. One JPM, "Mispositioned Control Rod", was used as a common JPM to follow-up on a previous weakness identified by the NRC during the previous initial license examination. Although the JPM examination bank contained alternate path JPMs, none were used for this evaluation.

- The Part A (static) and Part B written examinations were adequate. The static examination questions were operationally oriented and took advantage of the simulator control room setting. Although the written examination contained a total of 40 questions, two or more of the following occurrences were identified during a comparison of the questions to the guidelines contained in NUREG/BR-0122, Revision 5, Examiners' Handbook For Developing Operator Licensing Written Examinations:

    - double-jeopardy questions
    - questions with stem information that eliminated two of the distractors
    - lack of clarity and preciseness in the question stem to illicit the identified correct answer
    - memory-level knowledge questions
    - direct look-up questions

The inspectors concluded that the overall examination was adequate.

2.2 Operator Performance Evaluation

The inspectors observed the performance of one operating crew (two groups) during dynamic scenarios and JPM examinations.

The inspectors identified the following concerns:

The inspectors noted that the communication technique used during the dynamic simulator examination was inconsistent. One of the groups was generally consistent with the use of three-peat communications. The other group did not always acknowledge orders or information; when orders or information was not acknowledged, there was often no attempt to pursue it; and sometimes orders were not acknowledged, but still executed.

The inspectors also noted that the licensee failed to conduct an objective individual evaluation after administering annual dynamic scenarios examinations. 10 CFR Part 55.59(a)(2) states that operators must pass an annual operating examination, and that the operating test will require the operator or senior operator to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a comprehensive sample of items specified in Paragraph 55.45(a)(2) through (13) to the extent applicable. These items include identifying the significance of facility instrument readings, safely operating the facility's emergency systems, and demonstrating knowledge of the facility emergency plan. Attachment 3, Section C.1, of ES-604 states, "The annual operating test should sample from all the operating skills and abilities required of an operator and the operating crew." Although the licensee evaluators recorded individual performance weaknesses noted during crew evaluations, they did not have established standards nor objective grading criteria to determine if an individual demonstrated an understanding of, or ability, to do operational tasks. The inspectors noted that immediately after dynamic scenarios, the licensee performed a crew evaluation using crew competency forms which had a rating system with a brief description of the rating factors. The licensee then recorded identified individual performance weaknesses noted during the crew evaluation on a form entitled "Dynamic Evaluation / Individual Performance Summary" as required by their training department instruction, TDI-523, Revision 0, November 1993, "Licensed Operator Annual Requalification Examinations". TDI-523, section B.4.c, does not direct what criteria is to be used for the individual evaluation. It was not clear to the inspectors what objective criteria was being used to evaluate the individuals. Further discussions with requalification training personnel indicated that the crew competency factors, and operations standards for procedural adherence and communications contained in administrative procedures DAP 09-13, revision 1, "Procedural Adherence"; and DAP 07-02, revision 18, "Conduct of Shift Operations", section E.9 and Figure 2, were used. The crew competency factors are not designed to evaluate individuals, and the lack of objective grading criteria or established standards made it uncertain that the individuals were evaluated as described in 10 CFR Part 55.59(a)(2). This item is considered unresolved (237/94004-01 (DRS)).

2.3 Evaluation of Licensee Evaluators

The licensee determined one SRO to be unsatisfactory as a result of competencies during the dynamic scenario evaluations. The SRO was immediately removed from shift and could not return until satisfactory completion of a remediation program. The inspectors' and licensees' overall assessment of operator performance during the dynamic scenarios and JPMs was in agreement. Parallel grading of the written examinations was identical.

The NRC inspectors and the licensee evaluators overall assessment of operator performance was in agreement. The inspectors concluded that the licensee evaluators could adequately administer the requalification

examinations and objectively evaluate the performance of the operators.

2.4 Systems Approach to Training Controls

The inspectors reviewed the previous two years Safety Assessment and Quality Verification (SAQV) audits, 12-92-01 and 12-93-01 for requalification training. Items identified by 12-92-01 appear to have been adequately addressed by the licensee based on a comparison of audit results in the area of licensed operator required reading packages. 12-93-01 also indicated a new data base to identify plant modifications and incorporate them into training to address the issue for lack of depth and timely implementation of plant modifications into training. Inspectors verified this based on audit documentation and through interviews of training and operations personnel.

The inspectors concluded that the licensee's program had controls in place to revise the training program as needed based on audits, industry and plant events, system and procedure modifications, and operator feedback.

2.5 Personnel Interviews

The inspectors conducted interviews with a cross section of management and staff from both operations and requalification training groups. Results indicated that: plant, training and operations management periodically observed and participated in requalification evaluations of licensed personnel in dynamic simulator scenarios; operations management exhibited ownership of the requalification training program; and, training management and staff were responsive to operations requests. Interviews also verified the SAQV audit findings and corrective actions identified in Section 2.4 of this report.

2.6 Simulator Fidelity

The simulator model handled all phases of the dynamic scenarios and appeared to reflect how the plant responds. No discrepancies were noted during performance of the operating examination. The inspectors review of the simulator fidelity log indicated that a continuous review and upgrade program is in place and continues to effectively address immediate and long range repair and improvement of the simulator.

The inspectors noted a lack of backpanels during the operating examination. Discussions with the simulator fidelity group indicated the licensee plans to obtain or simulate backpanels to reduce the amount of face to face communications between the crew and simulator operators in order to obtain status of equipment from the backpanels.

3.0 Licensee Actions on Previous Operator Licensing Examination Findings (92701)

(Closed) Mispositioned Control Rod Followup Item (50-237/0L-93-01(DRS)): The inspectors reviewed the licensee's revised training material, and observed operator performance during the requalification examination dealing with the subject of a mispositioned control rod. The inspectors concluded that adequate corrective action has been taken to address the concern. This item is closed.

3.1 Licensee Actions on Previous Inspection Findings (92702)

(Open) Violation (50-237/93024-01(DRS); 50-249/93024-01(DRS)): Licensed operators failed to receive a medical examination by a physician every two years. The inspectors reviewed the licensee's training department instruction, TDI-502, Revision 0, for control and administration of licensed operator physical examinations. The inspectors also reviewed the licensee's current schedule for licensed operator physicals and discussed the licensee's most recent response, dated December 15, 1993. TDI-502 clearly does not ensure that operators will receive physicals every two years. The licensee stated that they are reluctant to revise TDI-502 because it is still not clear that licensed operators are to receive physical examinations every two years from the date of their last physical. Discussions with the training department, and review of their scheduling of operator physical examinations, indicates the licensee's current intent is to ensure operators receive their physicals within the required two year period of their last physical. The NRC has subsequently issued Information Notice 94-14, which states that NRC-licensed reactor operators and senior reactor operators (licensees) are to be examined by a physician every 2 years. Although the licensee's intent is to ensure their licensed operators receive required physicals every two years, their procedural guidance does not. This item remains open.

4.0 Violations, Open Items, Unresolved Items

4.1 Unresolved Items

Unresolved items are matters which require additional information to determine whether they are acceptable, violations, or deviations. The unresolved item identified during this inspection documented in Section 2.2, is the NRC's determination of whether Dresden's crew evaluations constitute the required individual evaluations during dynamic simulator tests.

5.0 Exit Meeting

The inspectors conducted the exit meeting on February 8, 1994. Present were the plant management, training staff, and other staff listed in Section 1.0 of this report. The inspectors discussed the major areas reviewed during the inspection, the strengths and weaknesses observed, and the inspection results. The inspectors also discussed the likely informational content of the inspection report. The licensee did not identify any documents or processes as proprietary.

Attachment

SIMULATION FACILITY FIDELITY REPORT

Facility Licensee: Dresden Nuclear Power Station

Facility Licensee Docket No.: 50-237, -249

Operating Tests Administered: February 3 - 4, 1994

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

While conducting the simulator portion of the operating tests, the following items were observed (if none, so state):

ITEM	DESCRIPTION
NONE OBSERVED	

Region III - RITS System
Inspection Report Tracking Subsystem (IRTS)
Data Input/Update Sheet

1 MS

Instructions: Each record in this database is defined by the Docket Number and Report Number Combination. For each IRTS update, this specific data must be included. Upon completion of this form, please forward it to the Information Management Section (IMS), ATTN: Ida Ogle.

****
* Docket Number (1st Unit): 05000237 Report Number: 94-004 *
* Docket Number (2nd Unit): _ _ _ _ _ _ _ _ Report Number: _ _ - _ _ _ *
****

In order to effect changes in the IRTS database, please complete the following field updates, as necessary:

Lead Inspector: Bielby

Type of Inspection: R T=Team, S=Salp, R=Regular

Date Inspection Ended: 02/08/94 (Actual or Projected)

Date Inspection Report Mailed: 03/07/94

Inspection Report Status Code: O C=Closed, O=Open, X=Cancelled

Licensee Response Required?: Y Y=Yes, N=No

Date Licensee Response Received: _ _ /_ _ /_ _

Special Comments or Instructions: _____

_____

Form Completed By: Michael E. Bielby Jr. Date: 3/7/94

File: C:\WP51\WPDOCS\IRTSFORM.WPF Revised 7/10/92

NRC FORM xxx (6-91) U.S. NUCLEAR REGULATORY COMMISSION

IFS Data Entry Form

Reviewed By: M J Farber

Date: 3/8/94

Site/Name: Dresden

Report Transmittal Date: 3/7/94

SPECIFY CATEGORY (Check One) Page 1 of 2

X Reactor/Vendor Inspection (IFS Option 1) ___ Docket Related:P21 Items (IFS Option 4)

Items Opened (Y/N): Y

___ Material Inspection (IFS Option 2) ___ LER Items (IFS Option 5)

591 (Y/N): ___

Letter (Y/N): ___

Clear (Y/N): ___ ___ Non-Docket Related Items (IFS Option 6)

Lead Inspector: FMB Responsible Org. Code: 3311 Report End Date: 2/8/94 Region: III

	Report NBR	Docket NBR	Materials Only License NBR	*Docket Name
A	94004	05000237		
B	93024	05000237		
C	93024	05000249		

Update? (Y/N): N Opened IR/LER/P21 LOG/IFS Number: ___

***Sequence NBR: 01 Item Type: IFI **Severity: ___ **Supplement: ___, ___

	Status	*UPD I/R	*Proj. Closeout	*Actual Closeout	Materials Only 10 CFR	License Cond.	Tie Down
A	Open		/ /	/ /			
B			/ /	/ /			
C			/ /	/ /			

Title: Inadequate Objective Criteria For Individual Evaluations (55 character width)

*Closeout Org: 3311 *Closeout EMP: ___ *Contact EMP: ___ *Procedure: TI 2515/117 *Functl Area: ___, ___

*Cause CD: ___, ___ **EA Number: ___ **NOV/NNC Issue Date: ___/___/___

Text: Licensee will respond to concern that they do not use objective criteria to evaluate individual operators during annual requal dynamic scenario exams. The lack of objective grading criteria or established standards make it uncertain that the individuals are evaluated as described in 10 CFR Part 55.59(a)(2) and Attachment 3, Section C.1 of

Update? (Y/N): Y Opened IR/LER/P21 LOG/IFS Number: ___

***Sequence NBR: 01 Item Type: ~~IFI~~ NOV/NCV **Severity: ___ **Supplement: ___, ___

	Status	*UPD I/R	*Proj. Closeout	*Actual Closeout	Materials Only 10 CFR	License Cond.	Tie Down
A			/ /	/ /			
B	Open		/ /	/ /			
C	Open		/ /	/ /			

Title: Inadequate Procedures (55 character width)

*Closeout Org: ___ *Closeout EMP: ___ *Contact EMP: ___ *Procedure: 92702 *Functl Area: ___, ___

*Cause CD: ___, ___ **EA Number: ___ **NOV/NNC Issue Date: ___/___/___

Text: Licensee will respond to concern that procedures are inadequate to ensure licensed operators will receive medical examinations every two years as required by 10CFR 55.21. IN 94-14 was subsequently issued to clarify the two year requirement. Response to include actions taken to ensure licensed operators do not exceed the two year requirement

* Optional Fields.

** Severity, Supplement, and NOV/NCV only applicable for Violations; EA Number only applicable for Apparent Violations.

*** Sequence NBR is not applicable for docket related P21, LER, or non-docket related items

IFS Data Entry Form

Report NBR	Sequence NBR	Additional Text — Site: Dresden
94004	01	ES-604, NUREG 1021, Revision 7. Response to include how each operator is objectively evaluated against a set of standard criteria, and what those criteria are.
93024	01	to obtain a medical examination