



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W., SUITE 2900  
ATLANTA, GEORGIA 30323-0199

ENCLOSURE 2

Report No.: 50-261/94-01

Licensee: Carolina Power and Light Company  
P. O. Box 1551  
Raleigh, NC 27602

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson Steam Electric Plant

Inspection Conducted: January 31 - February 4, 1994

Inspector: Michael E. Ernstes  
Michael E. Ernstes

3-2-94  
Date Signed

Accompanying Personnel: Mark Parrish, INEL  
Diane Tamai, DRS Region II

Approved by: Lawrence L. Lawyer  
Lawrence L. Lawyer, Chief  
Operator Licensing Section  
Operations Branch  
Division of Reactor Safety

3/3/94  
Date Signed

SUMMARY

Scope:

The NRC conducted a special, announced inspection of the Robinson licensed operator requalification program during the period January 31 - February 4, 1994. The inspectors reviewed and observed annual requalification examinations conducted by the facility licensee and conducted inspection activities as specified in Temporary Instruction 2515/117, Licensed Operator Requalification Program Evaluation. Seven Senior Reactor Operators and five Reactor Operators received facility administered written and operating examinations. Activities reviewed included examination development, examination administration, and compliance with operator license conditions.

Results:

Inspectors identified the lack of alternate path JPMs used in evaluations and the small number in the facility exam bank as an inspector followup item. (paragraph 2.a.4) IFI 50-261/94-01-01.

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Inspectors identified the evaluators' ability to give critical objective evaluations of the operators as a strength. (paragraph 2.b.1)

Inspectors identified a weakness in operators' ability to operate the steam dump system. (paragraph 2.b.4)

Inspectors identified the failure to effectively track the active status of operator licenses and other license conditions or deficiencies as an inspector followup item (paragraph 2.c) IFI 50-261/94-01-02.

Inspectors identified the use of hours in a position other than those required by Technical Specifications for purposes of maintaining an active license as an unresolved item. (paragraph 2.c) URI 50-261/94-01-03.

Inspectors identified the inability to effectively address operator concerns in the procedure change program as an inspector followup item. (paragraph 2.d) IFI 50-261/94-01-04.

Inspectors identified the failure to maintain control of procedures as a violation. (paragraph 2.d) VIO 50-261/94-01-05.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*H. Carter, Manager Requal Training
- \*C. Dietz, Vice President - Robinson Nuclear Project
- \*W. Doorman, Manager Regulatory Affairs
- \*M. Harrell, Manager Training
- \*D. Gudger, Regulatory Affairs
- \*R. Moore, Acting Manager, Shift Operations
- \*C. Olexik, Manager Plant Assessment
- \*M. Pierson, Plant Manager
- \*A. Sanders, Manager Operator Training
- \*C. Winters, Acting Assistant Manager, Shift Operations

Other licensee employees contacted included instructors, engineers, technicians, operators, and office personnel.

#### NRC Personnel

- W. Orders, Senior Resident Inspector
- C. Ogle, Resident Inspector

\*Attended exit interview

The last paragraph lists Acronyms used in this report.

### 2. Licensed Operator Requalification Program Evaluation (TI 2515/117)

#### a. Examination Development

The NRC inspectors reviewed examination materials developed for the first three weeks of the licensee's annual requalification evaluations. The inspectors found them to be consistent with the guidelines of NUREG-1021, Examiner Standards, except for specific items listed below in the sample plan, written examinations and walkthrough examinations.

##### (1) Sample Plan

The inspectors reviewed the facility's approved sample plan for the 1992-1993 cycle. The facility did not ensure evaluation of training on facility modifications, procedure changes, and operating experience feedback, on the requalification examination. The sample plan showed 47 of the 358 curriculum hours for these topics. However, facility examinations did not evaluate these topics until changes had been made in the associated system or procedure training material. Once incorporated into the facility training Material. The facility did not track the training of the modifications, selection for examination of a modification, procedure change or operating experience would be at random. A systematic process did not exist to give a timely evaluation of trainee mastery of the learning objectives of these topics as required by a systems approach to training.

The facility's procedure TUI-21, Development and Administration of Annual LOR Exam, section V.A.3.i requires that recent safety-related issues or events be included in the sample plan. Additionally, TUI-21 states that requalification examinations will be developed in a manner that follows the instructions of NUREG-1021. NUREG-1021 requires inclusion of training conducted on plant modifications, LERs, and major changes to operation practices or policy in the sample plan. The facility's sample plan did not include these items.

(2) Written Examinations

Inspectors reviewed the written examinations administered during the first three evaluation weeks. Most questions tested higher level cognitive skills. Questions generally followed the guidelines of NUREG-1021. However, the inspectors identified some examples of direct lookup questions on open book examinations. In one example, the operator only needed to read the given step of the EOP and note the RWST level given in the stem. Some questions had inadequate distractors. For example, one question had two technically equivalent distractors therefore, neither of the distractors could be the correct answer.

(3) Simulator Examinations

The inspectors judged the dynamic simulator scenarios to be comprehensive and representative of an operationally challenging series of events. The facility maintains a separate bank of simulator evaluation scenarios, independent of scenarios used for training. The facility used the evaluation bank for both annual operating tests and weekly evaluation scenarios. The evaluation bank had thirty scenarios.

(4) Walkthrough Examinations

Each operator walkthrough examination contained five JPMs. None of the proposed examinations for the entire five week requalification evaluation contained alternate path JPMs as defined in ES-603. The JPM bank contained only five alternate path JPMs. TUI-21 paragraph VI.H.5.a states that JPMs shall be developed to meet NUREG-1021 requirements. ES-603 Attachment 1 of NUREG-1021 states that licensees are expected to be able to use alternative methods to perform tasks. Alternate path JPMs test the operator's ability to use procedures under abnormal conditions. They also preclude operators from rote memorization of the JPM exam bank instead of acquiring understanding of the task. The inspectors identified the lack of alternate path JPMs used in evaluations and the small number of them available in the facility exam bank as IFI 50-261/94-01-01.

b. Examination Administration

(1) Dynamic Simulator Examinations

The licensee conducted simulator examinations by the guidelines of NUREG-1021. The inspectors noted problems in Operations Department's participation in the examination process and SRO procedure reader evaluation.

Inspectors observed the licensee administer five crews of licensed operators' simulator examinations. Two SROs, two ROs, and an STA comprised the crews. The SROs filled the positions of SS and Control Room Supervisor. Each evaluator observed one operator. No one evaluated the STA individually. The inspectors judged that the training department evaluators gave an objective critical evaluation of the operators. They effectively determined if the operators met the minimum requirements and identified areas for remediation. When operator performance satisfied established minimum criteria but showed weaknesses, the training department evaluators identified the operator as "pass with remediation." The inspectors identified the evaluators' ability to give critical objective evaluations of the operators as a strength.

The evaluators identified weaknesses during the scenarios then discussed them among themselves and documented the weaknesses in crew and individual written evaluations. The Operations Department assigned one representative to observe each simulator examination. The Operations representative did not participate in the post scenario evaluator caucus. This resulted in the trainers resolving operational methodology issues. The trainers noted specific items that they felt needed operations resolution. On one day of scenarios, no Operations representative attended as required by TUI-21.

TUI-21 section VIII.E.3 states that each SRO shall be evaluated in his usage of EOPs and TS. The licensee did not evaluate one of the SROs on a staff crew in the position of procedure reader (control room SRO) during his operating test. He stood RTGB and SS. TUI-21 section VIII.E.1, states that each simulator evaluation should place individual crew members in the most senior watch standing position in which the individual normally operates on shift. This particular individual was soon to return to Operations as a control room SRO.

(2) Walkthrough Examinations

The licensee administered JPMs in accordance with NUREG-1021 and TUI-21 with one exception. TUI-21 section VIII.G.5.g provided that an extra person will perform actions not relevant to the JPM as directed by the operator. The extra operator in the simulator silenced alarms without direction from the examinee.

### (3) Evaluators

Evaluators effectively identified operator weaknesses. The inspectors identified a need for improvement in simulator followup questioning and inconsistent documentation of individual simulator evaluations.

The lack of on the spot followup questioning hindered evaluators' ability to focus on the root cause of operators' problems. The post scenario evaluator caucus made this evident. The evaluators speculated as to operators' motives for actions or inactions. The evaluators could have resolved these speculations through directed followup questioning. For a given performance deficiency, evaluators did not probe to identify if the operator failed to diagnose a problem, lacked knowledge of the appropriate actions, or could not carry out those actions. This is important in determining proper remediation and program feedback.

Evaluators inconsistently documented individual operator simulator performance. The amount of detail and focus of operator deficiencies depended on the evaluator. Some evaluators gave written comments for a competency score of two, which indicated minor problems, while others did not. Some evaluators associated comments with a specific competency while others gave general observations. Licensee procedures contained no guidance to standardize the format and extent of operator feedback.

### (4) Operator Performance

Operator performance on the examinations revealed problems in ROs' ability to effectively manipulate RTGB controls, SRO procedure usage and crew oversight.

The facility evaluators identified deficiencies in the ROs' ability to effectively manipulate RTGB controls to operate the plant. One crew energized heaters during a SGTR and raised the RCS pressure, increasing the leak rate. During the same SGTR scenario, another crew did not reset SI when required and overfilled the S/G. Most of the crews had errors in control board manipulation of the steam dump controls. For example, one operator attempted use of the steam dumps without the condenser available. Another failed to set the controller to the proper mode for cooling down. The inspectors considered the operator problems associated with the steam dump system a weakness.

Several of the SROs made errors in procedure usage such as skipping steps, misuse of the RNO column, and not completing procedures prior to transition. Usually other crew members detected and corrected these errors.

On some crews, the SRO assigned the STA to complete EOP supplements. This hindered the STA in maintaining an independent overall view of the plant. The facility also identified the use

of STAs in this role as a problem and pursued resolution. On one crew, the SS made control manipulations, removing him from his position of oversight.

(5) Exam Security

The inspectors saw no evidence of exam compromise. However, they identified a need of improvement in the areas listed below.

One security agreement covered all of the examinations for all five weeks. This system could not determine who had prior knowledge of a particular examination. The licensed instructors signed the security agreement that encompassed their own examination. Instructors who trained the operators Monday, administered their examinations Tuesday. This is contrary to their signed security agreement which states: "I understand that I am not to participate in any instruction involving those licensees scheduled to be administered this requalification examination from this date until completion of examination administration." In reality instructors did not see the exam material until after the training session. The use of one security agreement for all examinations did not aid in preventing examination compromise.

An NRC inspector heard operators discussing their simulator scenario while leaving the simulator. An inspector heard one of the operators from around the corner describing an event from the scenario. This could have been within audible range of another operator scheduled for the same scenario that afternoon. This particular operator exited the training staff offices moments prior to the crew walking through the area. This contradicted the guidance of TUI-21 section VII.e.19 which states that the crew will be separated from subsequent crews taking the same examination.

c. Conformance with Operator License Conditions

The licensee did not have information available in the control room for the SS to determine active license status, requalification failure, or license conditions (e.g. eyeglasses, no solo etc.). One SS stated that they previously had a book in the control room but moved it to the Operations' office. Training sends the SS a letter quarterly stating who has become inactive. However, this was not available in the control room.

For tracking hours on shift, operators sent a sheet to the License Training Technical Aide showing their hours for the month. She sends a letter identifying anyone going inactive to the Scheduler, Operations Manager, the operator and the operator's SS. Due to receiving some operator hour sheets two to three weeks after the end of the quarter, she sent the letter for the last quarter of 1993 on January 31, 1994. She believed that Operations tracked operator hours to determine active status and was not aware that Operations relied on

her letter for active and inactive status of operators. She maintained records for license renewal data and forwarded a letter to Operations as a courtesy. The Scheduler said he relied on her letter to know who is inactive. Although it is the individual operator's responsibility to perform licensed duties only with an active license, the facility's instructions would not have prevented a person with an inactive license from performing the functions of a licensed operator as occurred at another CP&L site. The inspectors identified the inability to effectively track the active status of operator licenses and other license conditions as IFI 50-261/94-01-02.

TS 6.3.2.c requires only the positions of Shift Foreman and an RTGB operator during cold shutdown. The form for reporting hours on shift noted that only the RO who was the RTGB operator got credit toward 55.53 active license requirements when in cold shutdown. However, the form did not make the same distinction for the SROs. The form merely asked for time logged as SRO or SS for all plant operating modes. Thus, operators may have been taking credit during cold shutdown for standing watch in positions not required by TS. The failure to credit only persons in a TS defined position for purposes of maintaining an active license in accordance with 10 CFR 55.53 is identified as URI 50-261/94-01-03.

d. Procedures

The licensee's procedure change request program had a massive backlog. When operators or other plant personnel find a deficiency in a procedure, they document their concerns and forward them to the Operations Department for resolution. The backlog contained more than 1600 requests dating back as far as three years. The procedure change process did not address operator's concerns timely. The inability to effectively address operator procedure concerns is identified as IFI 50-261/94-01-04.

The inspectors identified five out-of-date controlled copies of emergency or abnormal procedures in the simulator control booth, and one as missing. Procedure control records indicated that the changes had been made in May 1993, however, the controlled documents had not been updated. Examination Report 50-261/93-301 previously addressed out-of-date procedures in the simulator control booth. Inspectors verified current revisions of the controlled procedures in the control room and on the simulator floor. The failure to maintain controlled copies of procedures is identified as VIO 50-261/94-01-05.

3. Action on Previous Inspection Findings

(Closed) IFI 50-261/93-300-01, "Inadequate guidance for the accomplishment of FRP-H.1 (Rev. 4) step 13.a, Response Not Obtained." This item concerned a step in the Loss of Secondary Heat Sink procedure for aligning any low pressure water sources to a depressurized steam generator. The procedure did not contain sufficient instructions to accomplish the task. Revision 7 of FRP-H.1, dated 1/20/94, directs operators to align fire water to the depressurized steam generator using a procedure attachment.



Sufficient guidance is available in the attachment. Interviews with licensed operators indicated some lack of familiarity with the locations of equipment identified in the new attachment. The inspectors determined the corrective action for the procedure to be adequate and this item is closed.

(Closed) IFI 50-261/93-301-01, "EOP RCP trip criteria discrepancies between Path 1 and Foldout A." This item concerned a conflict between the two procedures for RCP trip criteria when at exactly 25° F. The inspectors reviewed the licensee's revision to Path 1 RCP trip criteria and determined that the Path 1 criteria now agrees with Foldout A criteria. This Inspector Followup Item is closed.

(Open) IFI 50-261/93-301-02, "Mounting screws missing on rear of containment high range radiation monitors R-32 A & B." This item noted that mounting screws identified in the Radiation Monitoring System procedure, OP-920 step 8.1.4.1, were missing from the rear of the drawer. The radiation monitors remained without rear mounting screws during this inspection. The inspector and the containment systems/seismic engineer reviewed the licensee's close-out of this item and determined it to be inadequate. The licensee had analyzed the wrong screws and wrong type monitors to determine seismic requirements. This item will remain open pending further corrective action.

(Open) IFI 50-261/93-301-03, "Ineffective Control of Operator Aids." This item concerned the lack of effectiveness of procedure OMM-016, "Control of Operator Aids". The plant program to track operator aids did not include two Halon fire suppression placards. The licensee did not monitor these operator aids and subsequent changes for correctness. An interview with the person responsible for the operator aids program revealed that no action had been taken to incorporate these items into the program. The licensee initiated action during this inspection to include the placards in question, as well as several similar licensee identified placards into the Operator's Aid Log. This item will remain open pending finalization of the program update.

(Closed) VIO 50-261/93-301-04, "Licensee failure to report changes to licensed operator medical status within 30 days as required by 10 CFR 50.25." This item concerned the facility failure to report operator medical status changes, specifically the need for corrective lenses. The licensee determined their procedure, "CP&L Corporate Medical Procedure for NRC License Applications and Renewals" to be inadequate and issued procedure NGGM-402-04, Administration of Medical Requirements for NRC Licensed Operators, in December 1993 to supersede the former procedure. This latter procedure explicitly assigns the Training Section Coordinator the task to compare current medical statements with previous statements and process NRC Form 396 via the licensee's Regulatory Affairs group within the required time limit. This Inspector Followup Item is closed.

#### 4. Exit Interview

At the conclusion of the site visit, the inspectors met with representatives of the plant staff listed in paragraph one to discuss the

results of the inspection. The licensee did not identify as proprietary any material provided to, or reviewed by the inspectors. The inspectors further discussed in detail the inspection findings listed below. The licensee did not express any dissenting comments.

<u>Item Number</u>	<u>Description and Reference</u>
IFI 50-261/94-01-01	The lack of alternate path JPMs used in evaluations.
IFI 50-261/94-01-02	Inability to effectively track operator license conditions.
URI 50-261/94-01-03	The use of hours in a position other than those required by Technical Specifications for purposes of maintaining an active license.
IFI 50-261/94-01-04	Inability to effectively address operator concerns in the procedure change program.
VIO 50-261/94-01-05	Failure to maintain control of procedures.

#### 5. List of Acronyms

FR	Functional Recovery
IFI	Inspector Follow-up Item
JPM	Job Performance Measure
LER	Licensee Event Report
LOR	Licensed Operator Requalification
NGGM	Nuclear Generation Group Manual
OMM	Operations Management Manual
OP	Operating Procedure
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RNO	Response Not Obtained
RO	Reactor Operator
RTGB	Reactor Turbine Generator Board
RWST	Refueling Water Storage Tank
S/G	Steam Generator
SGTR	Steam Generator Tube Rupture
SI	Safety Injection
SRO	Senior Reactor Operator
SS	Shift Supervisor (SRO licensed)
STA	Shift Technical Advisor
TI	Training Instruction
TS	Technical Specifications
TUI	Training Unit Instruction
URI	Unresolved Item
VIO	Violation