



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No.: 50-261/85-05

Licensee: Carolina Power and Light Company
411 Fayetteville Street
Raleigh, NC 27602

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson

Inspection Conducted: January 14 - 18, 1985

Inspectors:	<u><i>[Signature]</i></u>	<u>2/22/85</u>
	B. T. Debs	Date Signed
	<u><i>[Signature]</i></u>	<u>2/22/85</u>
	L. P. Modenos	Date Signed
	<u><i>[Signature]</i></u>	<u>2/22/85</u>
	F. R. McCoy	Date Signed
Approved by:	<u><i>[Signature]</i></u>	<u>2/22/85</u>
	C. Julian, Section Chief	Date Signed
	Division of Reactor Safety	

SUMMARY

Scope: This routine, unannounced inspection involved 105 inspector-hours on site in the areas of maintenance activities, non-licensed employee training, and licensed operator requalification training.

Results: Of the 3 areas inspected, no violations or deviations were identified in 1 area and 2 apparent violations were found in 2 areas. (Failure to follow written procedures in that dye penetrant was not removed from service water piping; see paragraph 5.a and failure to adequately implement the licensed operator requalification program in accordance with 10 CFR 50 Appendix A in that licensed training staff personnel were exempted from annual requalification written examinations contrary to Training Instruction requirements which define the requalification program and contrary to 10 CFR 55 Appendix A; see paragraph 7.d).

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REPORT DETAILS

1. Licensee Employees Contacted

- *J. M. Curley, Manager, Technical Support
- *W. J. Flanagan, Manager, Design Engineering
- *F. L. Lowery, Manager, Operations
- *A. R. Wallace, Director, Onsite Nuclear Safety
- *H. S. Young, Director, QA/QC
- *D. C. Stadler, Director, Regulatory Compliance
- *E. Paine, Technical Support
- *R. Chambers, Maintenance Supervisor
- *S. W. Farmer, Senior Engineer
- *R. Allen, Senior Specialist, Training
- *V. L. Smith, Senior Specialist, Training
- C. Bethea, Director, Training

NRC Resident Inspectors

- *H. E. P. Krug, Senior Resident Inspector
- *H. Whitcomb, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on January 18, 1985, with those persons indicated in paragraph 1 above and by telecon (Fredrickson, Region II NRC/Curley, H.B. Robinson, Manager Technical Support) on January 24, 1985.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. One unresolved item was identified in the area of licensed operator requalification training and is discussed in paragraph 7.

5. Inspection of Maintenance Activities

(a) Service Water System Piping

An inspector entered the licensee's Unit No. 2 Containment and inspected selected sections of Service Water piping. A majority of the system within containment had recently been insulated. The inspector observed wetted insulation on one run of Service Water piping. At the inspector's request, the licensee removed approximately two feet of

wetted insulation. An inspection of this section of pipe indicated that the wetting was due to condensation and not pipe leakage. On January 16, 1985, while in containment, the inspector observed a vertical run of uninsulated Service Water piping associated with HVH-2 (Containment Ventilation Cooler) with apparent dye penetrant over an approximate two foot section of the pipe. A member of the licensee's engineering staff acknowledged the inspector's observations. On January 17, 1985, the inspector was informed by the licensee that this section of piping had subsequently been insulated; however, the licensee was making preparations to remove the insulation to clean the pipe. The inspector informed licensee management that the aforementioned situation was contrary to licensee procedure NDEP-201, revision No 6, Liquid Penetrant Examination (visible dye, solvent removable) which states, in part, that penetrant examination materials shall be removed from the subject surface(s) after completion of the examination. Licensee management was also informed that the aforementioned procedural violation is contrary to 10 CFR 50, Appendix B, Criteria V, which states that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instruction, procedures, or drawings. (Violation 261/85-05-01).

(b) Component Cooling Water System Corrosion Inside Containment

The inspector requested that the lagging be removed from Component Cooling Water valve 728C for inspection of external surface corrosion. This valve and associated piping is designed to contain Reactor Coolant System pressure should a leak develop in a reactor coolant pump thermal barrier heat exchanger (2503 psi). Upon inspection of the carbon steel valve and visible sections of associated piping, the inspector expressed concern regarding the apparent deteriorative external condition of the valve and piping.

On January 21, 1985, the inspector was telephonically informed that the subject valve and piping had been evaluated by a Carolina Power and Light corporate metallurgist who found that the corrosion was acceptable in that no pitting or cracking was observed and the corrosion that was evident is expected for a cold water carbon steel system which is subject to sweating (condensation).

(c) Cold leg Accumulator Injection Line Corrosion

While inside containment on January 15, 1985, an inspector observed corrosion on a 10 inch diameter elbow located in the injection line associated with Cold Leg Accumulator "B". This corrosion gave a freckled appearance to the external surface of this stainless steel section of pipe. The inspector expressed concern to licensee management that this corrosion should be evaluated to determine whether it was a result of metal or chemical contamination and whether this corrosion was detrimental to the pipe. The inspector was telephonically informed by licensee management that a corporate metallurgist had inspected this area of concern and tentatively identified the subject corrosion as being resultant from chemical attack. Licensee management

further indicated that a chemical analysis was to be performed to determine the causal agent.

The inspector was telephonically informed by the licensee on January 24, 1985, that the chemical smears of the suspect area and dye penetrant tests were acceptable.

(d) Corrosion of Seismic Supports

The inspector observed apparent corrosion of a seismic support associated with the Service Water piping identified in subparagraph 5a of this report. This support was identified by the inspector to licensee management. The inspector expressed concern regarding apparent galvanic corrosion of the hanger as a result of metal to metal contact between the stainless steel Service Water piping and the carbon steel support (sacrificial anode) resulting in consumption of the carbon steel and weakening of the support. A review of the last in service inspection of the support in 1982 performed under procedure ISI-8-Rev. 8 indicated no remarkable corrosion.

A licensee certified visual inspector was sent to inspect the suspect support. The licensee inspector indicated that although there was discoloration of the support, it was apparently due to past evaporation (possibly of condensation) and that there was small indication of corrosion on the hanger. None was observed at the suspect area identified by the inspector. Furthermore, it was reported by the licensee that the Service Water pipe did not make contact with the support. The inspector had no further comments.

- (e) The inspector reviewed selected inservice inspection pressure testing procedures. The inspector noted that the licensee categorizes leakage as a deficiency or exception. Leakage, or evidence of leakage, from valve and pump packing glands without leakage collection systems, and component mechanical connections within the area to be inspected are identified as exceptions. Deficiencies are flow impairments and leakage, or evidence of leakage except as previously described as an exception. The licensee routinely repairs deficiencies; however, the determination to repair exceptions is left to the engineering judgment of the test coordinator. The inspector observed several instances where mechanical fitting leakage had been categorized as an exception without apparent corrective maintenance followup. The inspector stated to licensee management that a good engineering practice would be to followup all leakage identification with repair. The inspector did not identify any violations or deviations in this area.

Violations and deviations were not noted in this area.

6. Non-Licensed Employee Training

The inspector reviewed the overall training and retraining activities for non-licensed employees and general training for licensed employees to assure conformance with the licensee commitments. The following procedures from the Training Instruction Manual were reviewed:

- (a) "Retraining and Replacement Training for Non-licensed Operating Personnel" Rev. 8 dated November 20, 1984.

The purpose of this procedure is to establish a retraining and replacement training program for the following personnel:

1. Instrumentation and Control Technicians
2. Electricians
3. Mechanics
4. E&RC Group
5. Auxiliary Operators
6. Stockroom personnel

This procedure met the requirement of ANSI-N18.1-1971.

- (b) "Replacement Training for Instrumentation and Control Technicians and Electricians" Rev. 8 dated August 29, 1984.

The purpose of this procedure is to provide for the qualification and requalification training of plant I&C personnel and Electricians to meet the minimum qualification requirements of ANSI-N18.1-1971 and any additional requirements listed under NUREG-0737 Item II.B.4.

- (c) "Replacement Training for Mechanics" Rev. 5 dated November 24, 1981.

The purpose of this procedure is to provide for the qualification and requalification of the plant mechanics to meet the requirements of ANSI Standard N18.1-1971.

- (d) "Qualification program for Auxiliary Operators" Rev. 18 dated October 5, 1984.

The purpose of this procedure is to provide a qualification program for plant Auxiliary Operator as described in ANSI Standard N18.1-1971.

- (e) "Qualification Program for Shift Engineer" Rev. 3 dated October 24, 1983.

The purpose of this procedure is to ensure the Shift Engineers are provided with sufficient formal and on-the-job training to meet or exceed the recommendations of NUREG-0578.

The review of these procedures revealed that an adequate program exists for non-licensed personnel.

The inspector interviewed and reviewed the training records of several I&C, Mechanics and Auxiliary Operator personnel. The inspector confirmed that the formal technical and on-the-job training was provided to the employees as required by the licensee's committed program.

The inspector reviewed the Nuclear Safety Reviewers training course and their training records to verify the qualifications of the reviewers. A letter from Guy P. Beatty, Jr., to Site Manager (Robinson File No. 13510H) on January 10, 1985 identified a list of Qualified Nuclear Safety Reviewers. These reviewers are authorized in accordance with Technical Specifications 6.5.1.1.4 to perform nuclear safety reviews of procedures, tests, experiments and modifications.

On the basis of the inspector's review of Modification packages 748 and 655 and a letter written by Guy P. Beatty, Jr., on January 2, 1985 (Robinson File No. 13510H) where the Onsite Nuclear Safety (ONS) Unit identified deficiencies with some initial reviews, the ONS group has recommended to the site management that all qualified safety reviewers be retrained beginning the first quarter of 1985. The inspector could not determine the manner in which qualified personnel are selected. No written criteria was found to identify the selection process and the required training for the qualified personnel. This item will be identified as Inspector Followup Item (261/85-05-03).

7. Licensed Operator Requalification Training

An inspection was performed in the area of Licensed Operator Requalification Training in order to verify that the program is in conformance with NRC requirements, that the program is properly implemented, and that the program is technically adequate. With the exception of those specific deficiencies noted herein, it was determined that in general the program was satisfactory and that significant improvements had been made in this program over the past five years. Training Instruction (TI) 200 defines and implements the Licensed Operator Requalification Training Program which is divided into four major sections: preplanned lecture series, simulator retraining, on-the-job training, and evaluation.

- (a) The preplanned lecture series consists of 80 hours of classroom lectures which are repeated 4 to 6 times (as circumstances warrant) annually. The lectures are conducted in accordance with a preplanned schedule and formal detailed lesson plans and outlines. Provisions are in place for ensuring that generic weaknesses noted in the previous year's annual written requalification examination are factored into the upcoming year's lectures. The inspector was unable to attend lectures since none were scheduled to be conducted during the inspection period. A review of TI-200, a 1984 plant readiness summary which delineated the 1984 operator requalification program, selected lesson plans, examinations, and records, and interviews with selected operators and training individuals indicated that the program is adequate and complies with NRC regulations.
- (b) The simulator retraining consists of each licensed individual participating in 2 sessions annually; each session being approximately 32 hours in length. This training is conducted at the Harris E&E

Center on the Shearon Harris simulator and consequently could not be observed by the inspector. A review of TI-200, selected simulator training evaluation records, and selected simulator control manipulation charts indicate that this training is in accordance with 10 CFR 55 Appendix A and the "Qualification of Reactor Operators" letter issued by Harold R. Denton on March 28, 1980, and is properly implemented. One concern was addressed to training department management with respect to simulator retraining. This concern was that copies of the control manipulation charts which specify the control manipulations performed each year on the simulator by each licensed individuals and which are maintained as records at the site by the Robinson training department, are not signed to certify correctness. The inspector considers that certification of these documents would be desirable for record maintenance purposes.

- (c) The on-the-job training consists of (1) a quarterly review of selected Administrative Procedures, Abnormal Operating Procedures, Emergency Operating Procedures, Technical Specifications, Environmental and Radiation Control Procedures, Plant Emergency Procedures, and Fuel Maintenance Procedures, (2) An annual walkthrough of control room inaccessibility and loss of emergency buses/station batteries, (3) Required reading of appropriate design changes, facility license changes, significant plant modifications, procedure changes and significant operating experiences and (4) for licensed staff personnel, 4 hours watch in the control room each month as an extra man on shift (75% of which can be satisfied on the simulator).

A review of TI-200 and selected records yielded one concern in this area regarding a licensed individual standing control room watches subsequent to not actively performing the functions of an operator or senior operator for a period in excess of four months. 10 CFR 55.31e states that if a licensee has not been actively performing the functions of an operator or senior operator for a period of 4 months or longer, he shall, prior to resuming activities licensed pursuant to this part, demonstrate to the commission that his knowledge and understanding of facility operation and administration are satisfactory. The Commission may accept as evidence, a certification by an authorized representative of the facility licensee by which the licensee has been employed.

The inspector noted one case where a licensed training instructor had not stood watch as a shift complement member for approximately sixteen months and then subsequently stood four 12 hour watches (November 27 - 30, 1984) as both the Shift Operator and Senior Operator. There was no evidence of demonstration to the NRC that the individual's knowledge and understanding of facility operation and administration was satisfactory as specified in 10 CFR 55.31e. The licensee interprets the phrase actively performing the function of an operator or senior operator in this application to mean that active status will be maintained by participating in the annual requalification program (paragraph 3.1.7, TI-200). Although for staff personnel, this includes an average of four hours per month in the control room as an extra man on shift (75% of which can be satisfied on

the simulator), the inspector does not consider that the licensee's interpretation of "actively performing functions of an operator or senior operator" is a valid or adequate interpretation.

Consequently, it is considered in this case, that the licensee should have demonstrated to the NRC that the individual's knowledge and understanding of facility operation and administration was satisfactory prior to his standing watch as a shift complement member in order to meet the requirements of 10 CFR 55.31e. This is classified as an unresolved item (261/85-05-04) pending NRC evaluation and interpretation of what constitutes "actively performing the functions of an operator or senior operator".

- (d) The evaluation phase consists of an annual written qualification examination, oral examination (once every five years) and, where necessary, accelerated training. In this area the inspector reviewed annual written requalification examinations and accelerated training. During the course of this review it was noted that the four licensed training staff personnel are routinely exempted from taking the annual written requalification examination since they participate in preparation and/or review of the annual requalification examination. Specifically one of these individuals was exempted from the written examination for the past 6 years, two for the past 3 years, and one for the last year since becoming licensed as Senior Reactor Operator. TI-200 requires that an annual written examination shall be administered to all licensed personnel each calendar year and does not contain any provision for exemptions unless an individual successfully completes an NRC exam in less than 6 months prior to the requalification exam. This condition was not met in the cases cited above. Additionally, prior to 1983, Administrative Procedure 10.2 required that a comprehensive written examination be given annually to each licensed operator without any provisions for exemption.

This is contrary to 10 CFR 55 Appendix A and 10 CFR 50 Appendix B Criterion V and is a violation (261/85-05-02).

A review of selected examinations and answers key reflected that for those examinations reviewed, the questions were comprehensive. It was noted that a minimum of two examinations are made up and used during a given requalification period.

A review of accelerated training for three individuals who failed the 1984 annual written requalification examination reflected that the training was self study with a unique individual study plan directing the study. This was considered adequate for the weaknesses noted in the 1984 examinations for these individuals. In all cases reviewed, the involved individuals were removed from licensed duties, pending completion of training and reexamination. A review of the new examinations indicated that they were adequate.

- (e) At the exit interview, a concern was expressed with the fact that the licensee was unable to demonstrate during the inspection that the NRC had ever formally approved the Robinson licensed operator

requalification program. Subsequently on January 22, 1985, the licensee produced documentation that the program was NRC approved by letter dated January 30, 1974. This item is satisfactorily resolved.