



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

Report No.: 50-261/95-26

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

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson Unit 2

Inspection Conducted: August 27 - September 16, 1995

Lead Inspector: *Guille Harjos Jr* 10-4-95  
W. T. Orders, Senior Resident Inspector Date Signed

Other Inspector: *J Zeiler*, Resident Inspector

Approved by: *David M. Vervelli* 10/4/95  
David M. Vervelli, Chief Date Signed  
Reactor Projects Branch 1A  
Division of Reactor Projects

SUMMARY

SCOPE:

This routine, resident inspection was conducted in the areas of plant operations, maintenance activities, engineering efforts, and plant support functions. As part of this effort, backshift inspections were conducted.

RESULTS:

In the Plant Operations area, one Non-Cited Violation was identified for the failure to follow the applicable procedure which required that the licensee's Examining Physician be contacted regarding an operator's injury [paragraph 3].

## REPORT DETAILS

### 1. PERSONS CONTACTED

#### Licensee Employees:

- W. Brand, Supervisor, Environmental and Radiation Control
- M. Brown, Superintendent, Design Control
- \*P. Cafarella, Superintendent, Mechanical Systems
- A. Carley, Manager, Site Communications
- G. Castleberry, Manager, Plant Electrical Engineering
- B. Clark, Manager, Maintenance
- T. Cleary, Manager, Mechanical Maintenance
- \*D. Crook, Senior Specialist, Licensing/Regulatory Compliance
- \*J. Fletcher, Performance Evaluation Section
- C. Gray, Manager, Materials and Contract Services
- D. Gudger, Senior Specialist, Licensing/Regulatory Programs
- C. Hinnant, Vice President, Robinson Nuclear Plant
- P. Jenny, Manager, Emergency Preparedness
- J. Kozyra, Project Specialist, Licensing/Regulatory Programs
- \*R. Krich, Manager, Regulatory Affairs
- E. Martin, Manager, Document Services
- \*B. Meyer, Manager, Operations
- \*G. Miller, Manager, Robinson Engineering Support Services
- H. Moyer, Manager, Nuclear Assessment Section
- B. Steele, Manager, Shift Operations
- D. Stoddard, Manager, Operating Experience Assessment
- D. Taylor, Plant Controller
- \*R. Warden, Manager, Plant Support Nuclear Assessment Section
- W. Whelan, Industrial Health and Safety Representative
- D. Whitehead, Manager, Plant Support Services
- T. Wilkerson, Manager, Environmental Control
- \*D. Young, Plant General Manager

Other licensee employees contacted included technicians, operators, engineers, mechanics, security force members, and office personnel.

#### NRC Personnel:

- \*W. Orders, Senior Resident Inspector
- \*J. Zeiler, Resident Inspector

\*Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

### 2. PLANT STATUS AND ACTIVITIES

#### a. Operating Status

The unit operated at or near full power for the entire report period.

b. Other NRC Inspections and Meetings

James Moorman and Charles Payne, Region II Operating License Inspectors, were on site during the week of August 28 - September 1, 1995, to conduct an inspection of the licensee's operator requalification program for reactor operators and senior reactor operators. The results of this inspection are contained in NRC Inspection Report 50-261/95-25.

3. OPERATIONS

a. Plant Operations (NRC Inspection Procedure 71707)

The inspectors evaluated licensee activities to determine if the facility was being operated safely and in conformance with regulatory requirements. These activities were assessed through direct observation of ongoing activities, facility tours, discussions with licensee personnel, evaluation of equipment status, and review of facility records. The inspectors evaluated the operating staff to determine if they were knowledgeable of plant conditions, responded properly to alarms, and adhered to procedures and applicable administrative controls. Selected shift changes were observed to determine that system status continuity was maintained and that proper control room staffing existed.

Routine plant tours were conducted to evaluate equipment operability, assess the general condition of plant equipment, and to verify that radiological controls, fire protection controls, physical protection controls, and equipment tagging procedures were properly implemented.

Failure to Contact CP&L Examining Physician for Operator Injury

On August 8, the inspectors observed that one of the control room reactor operators had his left arm in a sling. When questioned about this condition, the operator indicated that his arm had been injured while performing stretching exercises at home the previous week. Use of the sling was a precautionary measure prescribed by his personal physician to reduce further stress on his arm. The inspectors later learned that operations management became aware of the operator's condition the previous week and at that time they had determined that there were no limitations or restrictions in the operator's ability to perform his required duties. As a precautionary measure, however, the operator was restricted from participating in the dedicated shutdown and fire brigade staff. The inspectors questioned whether the CP&L Examining Physician had been contacted regarding the operator's injury to ensure that there were no other medical concerns that might impact the operator's ability to discharge his duties. The inspector learned that this physician had not been contacted.

On August 15, the operator was examined by the licensee's Examining Physician. Based on this examination, the physician believed that the operator had experienced a questionable dislocation of his left shoulder with spontaneously reduction. The condition had apparently resolved itself and the operator had full range of motion when examined. The physician concluded that the operator was capable of performing all of his duties.

The inspectors reviewed the licensee's administrative controls for handling changes in a licensed operator's health status. NGGM 402-04, Administration of Medical Requirements for NRC Licensed Operators, provides guidance for implementing the medical requirements of 10 CFR 55, Operators' Licenses. This procedure requires Licensed Operators to notify his/her line supervisor, as well as the CP&L Examining Physician, of any changes in his/her health status that might affect their ability to perform licensed duties. Upon notification, the physician determines whether there is a need for a clinical assessment of the medical problem. Attachment 1 of this procedure provides examples of health problems that could affect the ability of an operator from performing his duties. Included in this attachment was fracture or joint dislocation. Based on this, the inspectors concluded that the procedure had been explicit in its requirement that the Examining Physician be contacted to determine the need for an evaluation of the change in the operator's medical condition.

The licensee initiated Condition Report Number 95-01944 to address the failure to contact the physician regarding the change in the operator's medical status prior to allowing the operator to assume his shift duties. The licensee determined that the root cause for this problem was the lack of familiarity with the guidance in NGGM 402-04 by both the operator and operations management. The licensee planned to incorporate the guidance contained in this corporate level procedure into their operations management manual and provide training on the expectations for contacting the examining physician for changes in operator medical conditions. The licensee indicated that further reviews would be conducted to ensure the proper implementation of other corporate level procedural requirements. The inspectors determined that the licensee's planned corrective actions for this issue were adequate.

The inspector concluded that the failure to follow the administrative guidance in NGGM 402-04 constitutes a violation of minor significance and is being treated as a Non-Cited Violation, consistent with Section IV of the NRC Enforcement Policy. This item is identified as **NCV 50-261/95-26-01: Failure to Follow Procedures for Handling Licensed Operator Medical Injury.**

### Acid Release in Water Treatment System

On September 5, the inspectors were advised that the pH of the East and West settling ponds were approximately 2.0. The normal pH level for these ponds, as well as the NPDES permit limit is greater than 6.0. The pond discharge to the main effluent canal which discharges back to the lake was immediately secured. The results from sampling the main discharge canal indicated that its NPDES permit limits had not been exceeded. The pH excursion impact to the discharge canal had apparently been mitigated by the acid neutralization portion of the system located upstream of the canal. A Condition Report was initiated and the licensee formed an investigation team to determine the cause of the pH excursion the following day.

The licensee's investigation determined that the excursion was caused by the inadvertent release of sulfuric acid from the acid addition system associated with the Water Treatment System. The release involved leakage through acid block valve QCV-10827 to a plant drain that discharges to the settling ponds. This air operated diaphragm valve leaked by due to the improper manipulation of a handwheel that adjusts the spring tension on valve's seat. The valve had been misadjusted on September 1 when an operator was opening the valve for a tagout clearance. Instead of using the open/close pushbutton, the operator mistakenly operated the spring tension handwheel, thinking that this was the valve position control.

Licensee corrective actions for this issue involved operator training on the proper operation of this type valve. The licensee reported that these type valves are only located in the Water Treatment System. Limited contact with these valves was believed to have contributed to the operator's unfamiliarity with their operation. In addition, shifts rounds log for the Water Treatment System were to be revised to include monitoring of the pH in the settling ponds to provide earlier identification of pH excursions should they occur.

The inspectors reviewed the event and discussed details with plant personnel. It was concluded that the licensee corrective actions were adequate to prevent recurrence of this problem.

- b. Followup - Operations (NRC Inspection Procedure 92901)

#### (Closed) URI 50-261/95-03-01: Chemical and Volume Control System Design Basis TIA

In a previous inspection, the inspectors questioned whether the A CVCS charging pump was an adequate replacement when the other two pumps are removed from service. TS 3.2 requires that two CVCS pumps shall be operable when the reactor is critical. The plant was designed with three charging pumps. The power supply for two

of the three CVCS pumps (B and C) are powered by both normal and emergency power sources, while the third pump (A) is powered from only normal power source. Therefore, the A pump would not be available under conditions where normal electrical power to the charging pump was interrupted. The inspectors noted that the licensee routinely, as part of preventative maintenance, removed the B (or C) pump from service, and considered the A pump as a fully compatible replacement for the inoperable pump. In order to resolve this concern, Region II NRC management requested assistance from NRR in evaluating the design basis of the CVCS charging pumps and the licensee's compliance with TS 3.2.

By letter dated July 7, 1995, NRR completed their evaluation of the design and licensing basis of the CVCS, including a review of the Final Safety Analysis Report Chapter 15 accident analyses. During this review, the staff found that the CVCS pumps are not designed to perform any accident mitigation or given credit in the accident analyses at H. B. Robinson. Since these pumps do not perform any ECCS function, they are not required to be powered from emergency power sources. Therefore, only normal power is sufficient for the pumps to meet their operability requirements. On August 7, the licensee submitted a TS amendment to clarify the definition of operability as it relates to the requirements for emergency electrical power to the charging pumps. This clarification was included in Amendment Number 166 which was approved by the NRC by letter dated September 5, 1995. This URI is considered closed.

(Closed) VIO 50-261/93-21-02: Failure to Follow Procedures, Two Examples Concerning Opening the Incorrect Electrical Breaker, and Sludge Lance Rig Vent Valve

This issue involved two separate examples where personnel failed to follow plant procedures. The first issue involved the inadvertent de-energization of Motor Control Center 5 when an operator opened the supply breaker to the motor control center by mistake. The root cause for this problem was determined to be lack of attention to detail and weak self-checking practices. The second issue involved an incorrectly positioned vent valve in the steam generator sludge lancing equipment as a result of the failure to include the valve and its required position in the applicable sludge lance procedure. The sludge lancing procedure was deficient in specific instructions to ensure that the appropriate valves were in their required position.

The licensee responded to this violation by letter dated December 8, 1993. Licensee corrective actions for the first issue were incorporated into previous corrective steps to improve procedural usage and adherence weaknesses and to raise standards with regard to overall operations personnel performance. As part of these actions, Operations Management Manual procedure OMM-01, Operations - Conduct of Operations, was developed to reinforce

management's expectations in the area of procedural compliance and self-verification. The inspectors reviewed this procedure and determined that adequate guidance was included to address aspects of this issue. Licensee corrective actions for the second issue included developing a new procedure (TMM-039) to provide specific guidance to govern steam generator sludge lancing. The inspectors reviewed this procedure and noted that Section 8.3 provided guidance on controlling the configuration of the equipment for containment integrity purposes. As part of the new procedural requirements, a representative is identified when using the sludge lance equipment to oversee and control the sludge lance operations, and to ensure that configuration control is maintained. The inspector determined that licensee corrective actions for these issues were adequate and had been properly implemented. Based on this review, this violation is closed.

(Closed) VIO 50-261/93-21-04: Failure to Maintain Containment Integrity During Fuel Movement

This violation involved the failure to properly install the containment equipment hatch resulting in the failure to meet TS requirements for containment integrity during reactor fuel movement. The improper hatch installation allowed a leak path from containment to the atmosphere. The root cause of this issue was the lack of adequate procedural controls to ensure that the hatch was bolted properly. The licensee responded to this violation by letter dated December 8, 1993. Licensee corrective actions included revising procedure CM-603, Disassembly and Assembly of the Containment Equipment Hatch and Missile Barrier, to ensure proper installation of the hatch. Included in the procedure revision were specific bolt torque values and sequencing guidelines. The inspectors reviewed this procedure and determined that it was adequate to ensure the proper installation of the hatch. Based on this review, this violation is closed.

One NCV was identified in this functional area. Except as noted above, the operations program was adequately implemented.

4. MAINTENANCE

a. Maintenance Observation (NRC Inspection Procedure 62703)

The inspectors observed safety-related maintenance activities on systems and components to determine if the activities were conducted in accordance with regulatory requirements, approved procedures, and appropriate industry codes and standards. The inspectors reviewed associated administrative, material, testing, radiological, and fire prevention controls requirements to determine licensee compliance.

b. Surveillance Observation (NRC Inspection Procedure 61726)

The inspectors evaluated certain safety-related surveillance activities to determine if these activities were conducted in accordance with license requirements. For the surveillance test procedures listed below, the inspectors determined that precautions and LCOs were adhered to, the required administrative approvals and tagouts were obtained prior to test initiation, testing was accomplished by qualified personnel in accordance with an approved test procedure, test instrumentation was properly calibrated, the tests were completed at the required frequency, and that the tests conformed to TS requirements. Upon test completion, the inspectors verified the recorded test data was complete, accurate, and met TS requirements, test discrepancies were properly documented and rectified, and that the systems were properly returned to service. Specifically, the inspectors witnessed and/or reviewed portions of the following test activity:

OST-201      Motor Driven Auxiliary Feedwater System  
                  Component Test (Monthly)

No violations or deviations were identified. Based on the information obtained during the inspection, the maintenance program was adequately implemented.

5. ENGINEERING (NRC Inspection Procedure 37551)

Throughout the inspection period, engineering evaluations of problems and incidents were reviewed and discussions were held with engineering personnel to assess the effectiveness of the licensee's controls for identifying, resolving, and preventing problems. Based on these inspections, the engineering staff was effective and timely in responding to plant problems and interfacing with operations. The licensee recently implemented a temporary initiative whereby the system engineers are witnessing the performance of selected TS related routine surveillance testing. The purpose of this initiative is to ensure that the surveillance test procedures being utilized are effective and accurate. The inspectors considered that the results from these reviews should help improve the quality of these procedures.

No discrepancies were identified.

6. PLANT SUPPORT (NRC Inspection Procedure 71750)

Throughout the inspection period, facility tours were conducted to observe personnel activities as they relate to radiation protection and security. The tours included entries into the protected areas and the radiologically controlled areas of the plant and included assessment of radiological postings and work practices. During these inspections, discussions were held with radiation protection and security personnel. The inspections confirmed the licensee's compliance with 10 CFR,

Technical Specifications, License Conditions, and Administrative Procedures.

No discrepancies were identified.

## 7. EXIT INTERVIEW

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on September 22, 1995. During this meeting, the inspectors summarized the scope and findings of the inspection as they are detailed in this report. The licensee representatives acknowledged the inspector's comments and did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. No dissenting comments from the licensee were received.

<u>Item Number</u>	<u>Status</u>	<u>Description/Reference Paragraph</u>
NCV 95-26-01	Closed	Failure to Follow Procedures for Handling Licensed Operator Medical Injury, paragraph 3.a.
URI 95-03-01	Closed	Chemical and Volume Control System Design Basis TIA, paragraph 3.b.
VIO 93-21-02	Closed	Failure to Follow Procedures, Two Examples Concerning Opening the Incorrect Electrical Breaker, and Sludge Lance Rig Vent Valve, paragraph 3.b.
VIO 93-21-04	Closed	Failure to Maintain Containment Integrity During Fuel Movement, paragraph 3.b.

## 6. ACRONYMS AND INITIALISMS

CFR	-	Code of Federal Regulations
CP&L	-	Carolina Power & Light
CVCS	-	Chemical and Volume Control System
ECCS	-	Emergency Core Cooling System
LCOs	-	Limiting Conditions for Operation
NGGM	-	Nuclear Generation Group Manual
NCV	-	Non-Cited Violation
NPDES	-	National Pollutant Discharge Elimination System
TIA	-	Task Interface Agreement
TS	-	Technical Specifications
URI	-	Unresolved Item
VIO	-	Violation