UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 50-261/82-07

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

Facility Name: H. B. Robinson

Docket No. 50-261

License No. DPR-23

Inspection at H. B. Robinson site near Hartsville, S.C.

Inspector: C. Julian for S. Weise — Date Signed: 3/25/82

Approved by: C. W. Burger, Section Chief, Division of Project and Resident Programs — Date Signed: 3/31/82

SUMMARY

Inspection on February 11 - March 10, 1982

Areas Inspected

This routine, announced inspection involved 158 resident inspector-hours on site in the areas of technical specification compliance, plant tour, operations performance, reportable occurrences, housekeeping, site security, surveillance activities, maintenance activities, quality assurance practices, radiation control activities, outstanding items review, TMI Action Item review, containment integrated leak rate test, refueling surveillance, and refueling preparation.

Results

Of the 15 areas inspected, no violations or deviations were identified in 13 areas; two violations were found in two areas (Failure to conduct surveillance, paragraph 6.b. and failure to establish and implement adequate procedures, paragraph 8.).

DETAILS

1. Persons Contacted

Licensee Employees

*R. B. Starkey, Plant General Manager
*J. Curley, Manager Technical Support
*F. Gilman, Senior Specialist, regulatory Compliance
F. Lowery, Unit 2 Operations Supervisor
*W. Crawford, Manager, Operations and Maintenance
R. Chambers, Unit 2 Maintenance Supervisor
*C. Wright, Specialist, Regulatory Compliance
*S. Crocker, Manager, Environmental and Radiation Control
L. Williams, Senior Specialist, Security
*M. Page, Engineering Supervisor
B. Snipes, Senior Specialist, Training
C. Bethea, Training Supervisor

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

Other Organizations

S. Oliver, General Physics

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 26 and March 10, 1982, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspector's findings and stated that corrective action was in progress.

3. Licensee Action on Previous Inspection Findings

(Open) Severity Level V Violation 81-12-02. This item concerns requalification training program deficiencies in the areas of lesson plans and modifications. The inspector reviewed CP&L response dated June 5, 1981. Date of full compliance for this item is July 1, 1982, but some progress was to be made by December 1, 1981. CP&L has contracted out much of the work. The contractor is to supply lesson plans, training aids, and reference materials. The inspector verified that these materials were being developed, reviewed by CP&L, and changed as necessary. About 55% of the work is completed on lesson plans. In the areas of plant modifications, licensee personnel review modifications for training significance and determine what training materials need revision and what items will get incorporated into requalification training. In that the lesson plans in this area have not been received from the contractor, this area requires

further inspection. Compliance with lesson plan requirements and examination requirements will be reviewed after July 1, 1982.

4 Unresolved Items

Unresolved items were not identified during this inspection.

5. Plant Operations Review

a. The inspector periodically during the inspection interval reviewed shift logs and operations records, including data sheets, instrument traces, and records of equipment malfunctions. This review included control room logs, auxiliary logs, operating orders, standing orders, jumper logs and equipment tagout records. The inspector routinely observed operator alterness and demeanor during plant tours. During abnormal events, operator performance and response actions were observed and evaluated. The inspector conducted random off-hours inspections during the reporting interval to assure that operations and security remained at an acceptable level. Shift turnovers were observed to verify that they were conducted in accordance with approved licensee procedures.

b. The inspector witnessed portions of an audit conducted by licensee corporate personnel to verify conformance to quality assurance/quality control requirements. The inspector verified that the auditor was independent of the audited organization and verified that the required audit frequency was met. The inspector reviewed the auditor's findings and followup on previous concerns requiring corrective action. The inspector verified for the previous audit that the required written response with corrective actions was submitted. Corrective actions were verified to either be complete or scheduled, and the auditor's review of their adequacy appeared to meet requirements. The inspector had no further comments.

c. The licensee commenced a normal plant shutdown on February 28, 1982, in preparation for a three month outage. When the plant separated from the grid, a safety injection (SI) actuation occurred. Apparently, an electronic spike occurred when the electrohydraulic control system shifted from load to speed control. This spiked the governor valves open resulting in a high steam flow and low T-average SI. All safety equipment responded as required, and the plant was restored to a normal shutdown lineup. Both the NRC and the State of South Carolina were notified. No violations or deviations were noted. The planned ninety-day outage will encompass refueling, ten year inservice inspection and testing, steam geneator eddy current inspection, and condenser tube replacement.

6. Technical Specification Compliance

a. During this reporting interval, the inspector verified compliance with selected limiting conditions for operation (LCO's) and reviewed results of selected surveillance tests. These verifications were accomplished by direct observation of mor toring instrumentation, valve positions, switch positions, and review of completed logs and records. The licensee's compliance with selected LCO action statements were reviewed as they happened.

b. The inspector reviewed refueling surveillance tests PT 2.1, Safety Injection Test, and PT 23.2, Emergency Diesel Auto Start on Loss of Power and Safety Injection. During the review, the inspector noted that the refueling water storage tank (RWST) outlet valves were not cycled during the test. Technical Specifications require these valves to be tested at each cold shutdown of longer than 48 hours, but not more often than quarterly. A further review of procedures determined that PT 42.0, ISI Primary Side Valve Test, was the procedure for testing these valves. A review of completed copies of PT 42.0 indicated that the valves were last tested on May 19,1981, but were not tested during subsequent cold shutdowns in August and November, 1981. Failure to perform required surveillance is a violation. (50-261/82-07-01).

7. Plant Tour

The inspector conducted plant tours periodically during the inspection interval to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspector determined that appropriate radiation controls were properly established, excess equipment or material was stored properly, and combustible material was disposed of expeditiously. During tours the inspector looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger and seismic restraint abnormal settings, various valve and breaker positions, equipment clearance tags and component status, adequacy of firefighting equipment, and instrument calibration dates. Some tours were conducted on backshifts. The inspector performed major flowpath valve lineup verifications and system status checks on the following systems:

a. Selected containment isolation valves

b. DC power supply system

c. Motor Driven Auxiliary Feedwater System

8. Containment Integrated Leak Rate Test (CILRT)

During the inspection period, the licensee conducted a CILRT at 21 psig pressure as allowed by Technical Specifications. The inspector reviewed procedures and valve lineups, and observed key containment parameters. A complete discussions of the test and results is presented in IE Inspection Report 50-261/82-09.

During the conduct of the CILRT on March 4, 1982, the inspector conducted independent visual valve lineups to ensure compliance with test requirements. During this inspection, the inspector determined that the following were not properly aligned for the test:

a. The nitrogen supply to accumulators regulator (PCV-346) was not shut.

b. The nitrogen supply to accumulators pressure indicator was not removed to provide a vent path upstream of nitrogen supply to accumulators containment isolation valve (SI-855).

Special Procedure-361 (SP-361) was written and approved to conduct the CILRT, including prerequisite valve lineups, and specified that PCV-846 be shut and the pressure indicator removed. Further investigation revealed that the regulator is isolated by turning the operator in the opposite direction of that for standard valves and that the pressure indicator removal was not a separate step in the valve lineup. These errors resulted in about 1080 psig pressure being applied on valve SI-855, providing a potential pressure supply to containment which violates 10 CFR 50 Appendix J requirements. Further investigation revealed other steps in the systems lineup attachments to SP-361 which did not require individual signoffs. The licensee agreed to re-check those system lineup steps outside containment which did not have individual signoffs or covered pressure regulators. The licensee found one other system lineup error during this review. The accumulator sample line isolation valve (PS-989E) was found shut vice open to provide a vent path. Failure to adequately establish and implement procedures for conducting the CILRT is a violation. (50-261/82-07-02). As further corrective action, the licensee agreed to recheck similar valve lineups inside containment after the CILRT was completed and report the results to the inspector. Valve lineup verifications had not been completed at the end of the reporting period.

9. Preparation for Refueling

The licensee determined that in order to meet moderator temperature coefficient requirements and maximize cycle length, twenty-eight of the new fuel assemblies required use of gadolinia containing pins for use as a burnable poison. These fuel assemblies were returned to the fuel vendor for modification. Upon return of the assemblies, the inspector observed the receipt inspection and storage of a sampling of the fuel assemblies. During the inspection, assemblies M45 and M31 were determined to have damage to spring clip grid assemblies. Vendor technicians were used to repair the minor damage on M45. M31 was returned to the vendor for examination and

repair. This assembly was returned to the licensee post-repair, inspected, and accepted. The licensee also intends to submit proposed Technical Specification changes to NRR, dealing with the proposed core reload.

10. Refueling Surveillance

The inspector reviewed and observed the licensee's planned surveillance, Safety Injection Test, PT 2.1, and the Loss of Offsite Power and Safety Injection Test, PT 23.2. The inspection included review of the applicable procedures for licensee approval, verification that the testing met Technical Specification requirements, witnessing of selected portions of the testing and re-testing, and review of the test results for acceptability.

a. PT 2.1 was conducted on March 2, 1982. All equipment was tested with the exception of the containment ventilation isolation valves. These valves are to be tested subsequent to the integrated leak rate test and are an inspector followup item (50-261/82-07-03). Portions of the test were run several times due to problems encountered with the event recorder, the agostat timing settings for load sequencing and breaker problems on 'B' Auxiliary Feedwater pump (AFWP) and 'A' Safety Injection Pump (SIP). The licensee took corrective action to adjust those agostat timers which were out of tolerance. 'B' AFWP breaker did not operate on the first run, but was repaired by cleaning dirty contacts on the pump start permissive relay. 'A' SIP breaker locked out on the third test run, but maintenance personnel could find no problems in the breaker. The breaker performed correctly on two subsequent tests.

The inspector is concerned that the 'A' SIP may be sufficiently degraded to affect its reliability. As reported by Licensee Event Reports (LER 79-08, 80-20, and 81-23, 'A' SIP has had several failures and did not start during PT 2.1 testing during the 1980 refueling outage. Based on a lack of similar problems on 'B' and 'C' SI pumps, the inspector feels additional licensee investigation of these failures is necessary during this refueling outage. Open item 50-261/82-07-04.

b. PT 23.2 was conducted on March 2, 1982. This test verified that the initiation of a safety injection actuation coincident with a loss of vital busses power will auto start the diesel generators, cause load shedding to occur, and restore to operation all appropriate safety equipment. Additionally, the test verifies that nonessential diesel trips are defeated and demonstrates operability of the pressurizer heater emergency power supply for use in natural circulation. The test was performed satisfactorily with the following exception.

Failure to energize 125 KW of pressurizer heaters from B diesel generator: This portion of the test recorded only 50 KW of energized pressurizer heaters vice 125 KW. Investigation by the licensee revealed that power was available to the appropriate heaters, but the variable controller was set for only 50 KW to be

energized. The licensee stated that the procedure would be revised to ensure proper controller setting.

11. Physical Protection

The inspector verified by observation and interview during the reporting interval that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the organization of the security force, the establishment and maintenance of gates, door and isolation zones in the proper condition, that access control and badging was proper, that search practices were appropriate, and that escorting and communications procedures were followed.

12. TMI Action Item Followup

a. TAP No. II.F.2.3 NUREG-0737. Section 2.1.3.b. NUREG-0578. Reactor Vessel Level Indication System (RVLIS).

As documented in a CP&L letter dated February 8, 1982, the licensee intends to delay implementation of this item until the first refueling after January 1, 1983, assuming NRC system design approval. This item will remain open pending NRR resolution.

b. TAP No. II.K.3.b., NUREG-0737, Automatic Trip of Reactor Coolant Pumps During Loss of Coolant Accident.

This item required the inspector to verify that any necessary modifications were performed as committed. As documented in CP&L letter NO-80-1871 dated December 15, 1980, studies have been conducted by the Westinghouse Owner's Group and results have been submitted to the NRC Staff. Based on these Studies, CP&L believes that the resolution of this issue will not require any design modifications. CP&L has committed to submit a modification schedule should modifications be found necessary. This item is closed.

c. TAP No. II.B.3., NUREG 0737, Post Accident Sampling (PAS).

As documented in a CP&L letter dated March 2, 1982, the licensee does not expect to meet their previous commitment to have their PAS system completed during the present refueling outage. The new commitment is to have the PAS system operational by September 1, 1982. This item will remain open pending system installation completion and any statement of position from NRR.

13. Licensee Event Report (LER) Followup

The inspector reviewed the following LER's to verify that the report details met license requirements, identified the cause of the event, described appropriate corrective actions, adequately assessed the event, and addressed any generic implications. Corrective action and appropriate licensee review of the below events was verified. The inspector had no further comments.

LER	Event
81-29	Chemical and Volume Control System Leak
82-01	Overpower Delta-T Comparator Failure
81-34	Steamline Pressure Channel Inoperable

14. Outstanding Items Review

a. (Closed) Inspector Followup Item 80-23-01. The inspector reviewed Section 4.7 and 12.6 of the Administrative Instructions which delineates inservice inspection (ISI) testing bases, responsibilities, general requirements, conduct of program, and records. These sections appeared to incorporate all items. The inspector noted that Section 4.7 will require revision due to the licensee's submittal of a new ISI program by letter dated December 31, 1981.

b. (Closed) Open item 81-31-01. This item concerned incorporation of memoranda having long term plant operations impact into the plant operating manual. The licensee agreed to incorporate such items consistent with regulatory requirements and plant commitments.

c. (Closed) Open item 81-15-02. This item concerned a need for additional systems training for chemistry personnel in the area of sampling system containment isolation. The inspector reviewed training records which verified that additional training had been held. Revision 5 to Training Instruction-103 Qualification Card CH-12 requires that chemistry personnel demonstrate understanding of major plant systems, sampling locations, and precautions. Discussions with the supervisor indicated that qualification testing would also cover this subject.

d. (Closed) Inspector Followup Item 81-15-09. Separation of circuits was accomplished under Modification 581. The inspector reviewed the modification package and verified that the modification corrected the original deficiency and was handled in accordance with licensee procedures. The inspector had no further questions.

e. (Closed) Inspector Followup Item 81-16-01. This item concerned the licensee's system for ensuring that craftsmen complete appropriate required reading/qualifications prior to performing work. The inspector reviewed licensee procedures and held discussions with licensee and contractor personnel. Spot checks were made to verify that selected crafts had completed their required reading. The present system appears adequate and the inspector had no further questions.

f. (Closed) Inspector Followup Item 81-31-05. This item concerned an inadvertent release which required procedural changes and training to correct. The inspector reviewed Revision 4 to Environmental Surveillance Procedure-3 for sampling liquid waste tanks and Revision 7 to Environmental Surveillance Procedure-4 for sampling gaseous waste

tanks and containment. The procedures appeared adequate to prevent future inadvertent releases. Training was held for Chemistry and Operations personnel to enhance communication between the groups and increase the understanding of system valve lineups. The inspector had no further questions.

g. (Closed) Inspector Followup Item 81-13-01. This item was previously inspected in IE Inspection Report 81-27, paragraph 8.b.

15. Independent Inspection

The inspector toured the area of the containment and plant vent stack gaseous and particulate monitors (R-11 and R-12). The lines to and from containment and to and from the plant vent stack were traced. During the inspection, the inspector noted that the discharge line from R-11 and R-12 to the plant vent stack had been disconnected at the back of the monitoring panel and the line to the stack capped. This condition would cause the release of activity from the plant stack to this area of auxiliary building should R-11 and R-12 be selected to the plant vent. Licensee emergency procedures provide for the use of R-11 and R-12 to sample the plant vent stack during an accident-related release in order to provide dose estimates. In the system's present configuration, this could lead to high airborne radioactivity in the upper level of the auxiliary building. A review of plant modifications revealed no authorized change to disconnect this piping. This condition is being further investigated by the licensee and is an ope item (50-261/82-07-06).