



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

Report No.: 50-261/86-15

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

Inspection Conducted: June 11 - July 10, 1986

Inspector:	<u>f. S. Melh</u>	<u>7/14/86</u>
	For H. E. P. Krug, Senior Resident Inspector	Date Signed
	<u>f. S. Melh</u>	<u>7/14/86</u>
	For R. M. Latta, Resident Inspector	Date Signed
Approved by:	<u>f. S. Melh</u>	<u>7/14/86</u>
	For P. E. Fredrickson, Section Chief	Date Signed
	Division of Reactor Projects	

SUMMARY

Scope: This routine, announced inspection was conducted in the areas of Technical Specification (TS) compliance, plant tour, operations performance, reportable occurrences, housekeeping, site security, surveillance activities, maintenance activities, quality assurance practices, radiation control activities, outstanding items review, IE Bulletin and IE Notice followup, organization and administration, independent inspection, Systematic Assessment of Licensee Performance (SALP) and enforcement action followup.

Results: No violations or deviations were identified within the areas inspected.

## REPORT DETAILS

### 1. Licensee Employees Contacted

R. Barnett, Maintenance Supervisor, Electrical  
G. Beatty, Manager, Robinson Nuclear Project Department  
A. Beckman, Principal Specialist, Planning and Scheduling  
J. Benjamin, Supervisor, Operations  
R. Chambers, Engineering Supervisor, Performance  
D. Crocker, Principal Health Physics Specialist  
J. Curley, Director, Regulatory Compliance  
J. Eaddy, E&C Supervisor  
W. Flanagan, Manager, Design Engineering  
W. Gainey, Maintenance Supervisor, Mechanical  
E. Harris, Director, Onsite Nuclear Safety  
D. Sayre, Senior Specialist, Regulatory Compliance  
D. Knight, Shift Foreman, Operations  
E. Lee, Shift Foreman, Operations  
F. Lowery, Manager, Operations  
D. McCaskill, Shift Foreman, Operations  
A. McCauley, Principal Specialist, Onsite Nuclear Safety  
R. Moore, Shift Foreman, Operations  
P. Harding, Project Specialist (Acting), Radiation Control  
M. Marquick, Senior Specialist, Planning and Scheduling  
R. Morgan, Plant General Manager  
M. Morrow, Specialist, Emergency Preparedness  
D. Nelson, Operating Supervisor  
B. Murphy, Senior Instrumentation and Control Engineer  
M. Page, Engineering Supervisor, Plant Systems  
R. Powell, Principal Specialist, Maintenance  
D. Quick, Manager, Maintenance  
B. Rieck, Manager, Control and Administration  
W. Ritchie, Supervisor (Acting), Radiation Control  
D. Seagle, Shift Foreman, Operations  
R. Smith, Manager, Environmental and Radiation Control  
R. Steele, Shift Foreman, Operations  
R. Wallace, Manager, Technical Support  
L. Williams, Supervisor, Security  
C. Wright, Senior Specialist, Quality Assurance/Quality Control  
H. Young, Director, Quality Assurance/Quality Control

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

### 2. Exit Interview (30702, 30703)

The inspection scope and findings were summarized on July 10, 1986, with the Plant General Manager. The licensee acknowledged the findings without exception. The licensee did not identify as proprietary any of the

materials provided to or reviewed by the inspectors during this inspection. No written material was given to the licensee by the Resident Inspectors during this report period.

3. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Violation 50-261/83-24-05: This violation resulted from the licensee's failure to establish adequate post maintenance testing requirements for return to service of safeguards system test switches. The inspectors reviewed the latest revision of procedure CM-306, titled "Replacement of Test Switches in Nuclear Safeguards Systems" and determined that the licensee had taken corrective steps to provide continuity checks of safeguards test switches in the normal position following installation. This item is closed.

(Closed) Violation 50-261/84-44-02: The licensee modified the control air vent lines, from the main steam isolation valves (MSIV) to include solenoid operated valves which close to prevent control air depressurization after closure. The modification prevents the MSIV from drifting open after closure. This item is closed.

(Closed) Violation 50-261/84-44-03: The violation was based on the fact that a modification to the condensate storage tank prevented a manway from serving as an alternate over-flow path. This violation was deleted because licensee personnel performing safety reviews on the modification could not have been reasonably expected to know that the manway was, under certain circumstances, serving as an alternate over-flow path. This item is closed.

(Closed) Violation 50-261/84-44-04: The licensee cut off the condensate storage tank over flow line above the point where it entered the drainage system so that the discharge flow rate is not limited by the drainage system. In addition, the condensate pump discharge line back to the CST is now normally locked closed, and is to be opened, by procedure, only in the event of high hotwell level. This item is closed.

(Closed) Violation 50-261/86-07-01: The licensee's violation resulted from an inadequate procedure, and a failure to follow a procedure. As corrective action, the licensee modified the inadequate procedure, MST-013 "Steam Generator Water Level Protection Channel Test," to provide definitive verification of plant status prior to the execution of steps which could cause trips. The licensee also reviewed the event with the personnel involved.

With respect to the execution of LP-705 "NIS Power Range Channel N41, N42, N43, and N44," the licensee added labels inside each cabinet beside the bistable switch which identifies the associated nuclear instrumentation channel (NIS). Additional labeling clearly identifying the NIS via color coding has been installed near the lock on each cabinet door. The technician who failed to follow LP-705 was counseled and formally reprimanded by his management. This item is closed.

## 4. Licensee Action on Previously Identified Inspection Items (92701)

(Closed) Inspector Followup Item 50-261/81-31-03. The inspectors determined by review of licensee documentation, revised procedures and a physical walkdown of the Containment Air Recirculation Cooling Unit System (HVH) that the licensee has installed a system designed to preclude the possibility of an uncontrolled release from this source. This has been accomplished by installing a sample line from each HVH motor cooler discharge line in the auxiliary building to the existing radiation monitor RMS-16 which presently monitors the HVH fan cooler discharge lines.

(Closed) Inspector Followup Item 50-261/83-02-09. The inspectors reviewed the latest revision of procedure RST-001 "Radiation Monitoring Source Checks" and determined that adequate administrative controls appear to exist for the isolation valves in the sampling lines for R-34 and R-36 (fan valves) and the toggle switch on the vacuum pump for R-36.

(Closed) Inspection Followup Item 50-261/84-44-05: Review by the inspector discloses that the licensee's performance of partial test acceptance has been functioning without problems. This item is closed.

(Closed) Inspection Followup Item 50-261/84-44-06: The quantitative acceptance criteria format in OST-501 is in conformance with the requirements of the TS. This item is closed.

(Closed) Inspector Followup Item 50-261/84-52-02. Based on a review of operating procedure OP-603 (Revision 12) titled "Electrical Distribution", the inspectors determined that administratively there is now a requirement to maintain spare breakers in instrument bus cabinets in the open position. The inspectors determined that identification of spare instrument bus breakers is currently delineated in system description procedure SD-16 (Revision 20) titled "Electrical System".

## 5. Plant Tour (71707, 62703, 71710)

The inspectors 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 maintenance activities, and plant housekeeping efforts were adequate. The inspectors 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 fire fighting equipment, and instrument calibration dates. Some tours were conducted on backshifts. Plant housekeeping and contamination control were observed to be outstanding.

The inspectors performed system status checks on the following systems:

- a. Safety Injection System
- b. Component Cooling Water System
- c. Auxiliary Feedwater System
- d. Vital Station Batteries
- e. Electrical Switchgear
- f. Chemical and Volume Control System
- g. Containment Fan Coolers

No violations or deviations were identified within the areas inspected.

6. Technical Specification Compliance (71707, 62703, 61726)

During this reporting interval, the inspectors verified compliance with selected limiting conditions for operation and reviewed results of certain surveillance and maintenance activities. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions, and review of completed logs and records.

No violations or deviations were identified within the areas inspected.

7. Plant Operations Review (71707, 62703, 61726, 61707, 61711)

Periodically during the inspection interval, the inspectors reviewed shift logs and operations records, including data sheets, instrument traces, and records of equipment malfunctions. This review included control room logs, maintenance work requests, auxiliary logs, operating orders, standing orders, jumper logs, and equipment tagout records. The inspectors routinely observed operator alertness and demeanor during shift changes and plant tours. The inspectors conducted random off-hours inspections during the reporting interval to assure that operations and security were maintained in accordance with plant procedures.

The inspectors periodically verified the reactor shutdown margin. The inspectors also periodically observed the reactor axial flux difference and compared the observed values with those required by the TS.

While the inspectors were in the control room at 6:06 a.m. on June 27, 1986, they witnessed the response of the fire brigade to an unannounced fire drill. The simulated fire was located in the "B" diesel room. The inspectors witnessed the response of the fire brigade team leader (senior reactor operator on duty) as well as the actions of other operations personnel who were utilizing Fire Protection Procedure FP-001 (Revision 8) titled "Fire Emergency".

The inspectors observed the starting of the motor driven fire pump from the control room, the donning of full turn-out apparel and self-contained breathing apparatus by all fire brigade members, and the control of the radiologically controlled area access by security personnel.

The subject drill appeared to be well executed and the responding fire brigade personnel performed their required functions expeditiously.

No violations or deviations were identified within the areas inspected.

8. Physical Protection (71707)

In the course of the monthly activities, the Resident Inspectors included a review of the licensee's physical security program. The inspectors verified by general observation, perimeter walkdowns and interviews that measures taken to assure the physical protection of the facility met current requirements. The inspectors routinely observed the alertness and demeanor of security force personnel during plant tours.

The performance of various shifts of the security force was observed in the conduct of daily activities to include; protected and vital areas access controls, searching of personnel, packages and vehicles, badge issuance and retrieval, escorting of visitors, patrols and compensatory posts. In addition, the Resident Inspectors observed protected area lighting, protected and vital areas barrier integrity and verified an interface between the security organization and operations or maintenance.

During the inspection period, the inspectors continued to monitor the progress and activities of the HBR Security System Upgrade Project. The inspectors attended the June 11, 1986, meeting of the Security Project Implementation Task Force and determined that the licensee was actively pursuing corrective measures to previously identified inspector followup items and facility improvements in the area of physical security.

No violations or deviations were identified within the areas inspected.

9. Target Axial Flux Difference Calculation (61711)

On July 2, 1986, the licensee performed a measurement of the target axial flux difference using Procedure EST-002, Revision 4, titled "Nuclear Instrumentation System Power Range Axial Offset Calibration". The inspectors determined that Revision 4 was the most current version and that the measurement was performed by qualified personnel. The inspectors verified that the subject procedure was technically adequate and that the target flux difference updating occurred at the frequency prescribed by the TS. Specifically, the inspectors verified (1) that appropriate prerequisites and initial conditions for the measurements were delineated in the procedure and were met, (2) that appropriate precautions and/or limitations were delineated in the procedure and were observed for the measurements, (3) the correctness of the calculations for establishing the target axial flux difference for each of the excore detectors, and (4) that the process computer was updated to reflect the current target axial flux difference and that the plant operators were utilizing the current target flux valves.

No violations or deviations were identified within the areas inspected.

10. Monthly Surveillance Observation (61726, 61700, 71710)

The inspectors observed certain surveillance related activities to ascertain that these activities associated with the plants permanently installed radiological instrumentation were conducted in accordance with license requirements. The procedure used to control the surveillance was "Operations Surveillance Test - Radiation Monitoring System (Daily) OST-905 (Revision 5) which was the current revision. The inspectors determined that the surveillance test procedure conformed to TS requirements, that Limiting Conditions for Operations (LCO's) were met and that the surveillance test was completed at the required frequency. The inspectors also verified that the required administrative approvals and precautions were obtained prior to initiating the test, that the testing was accomplished by qualified personnel in accordance with an approved test procedure and that the required test instrumentation was properly calibrated. Upon completion of the testing, the inspectors observed that the recorded test data was accurate, complete and met TS requirements; and independently verified that the systems were properly returned to service.

Additionally, the inspectors witnessed major portions of MST-014 (Revision 8) titled "Steam Generator Pressure Protection Channel Testing". This maintenance surveillance test is conducted monthly to determine the operability of the Steam Generator Pressure Protection Channel Sets II, III, and IV. As noted in the subject procedure, the successful completion of this surveillance test satisfies the requirements of TS table 4.1-1, item 24.

The inspectors determined that the surveillance test procedure conformed to TS requirements, that all precautions and limitations were met and that the surveillance test was completed at the required frequency. The inspectors also verified that the required administrative approvals were obtained prior to initiating the test, that the testing was accomplished by qualified personnel in accordance with an approved test procedure and that the required test instrumentation was properly calibrated. Upon completion of the testing, the inspectors observed that the recorded test data was accurate, complete and met procedural requirements; that there were no test discrepancies; and independently verified that the system was properly returned to service.

In particular, for those portions of the surveillance test observed, the inspectors confirmed that the annunciators gave the proper status, that the associated alarms responded as required, and that the specified test voltages were within the required tolerance.

No violations or deviations were identified within the areas inspected.

11. Monthly Maintenance Observation (62703)

The inspectors observed the performance of maintenance surveillance test MST-010 (Revision 7), "Reactor Protection Logic Train 'A' and 'B' at Power and Safeguards Relay Rack Train 'A' and 'B'" to ascertain that this test was

conducted in accordance with approved procedures, TS, and appropriate industry codes and standards. The inspectors determined that these activities were not violating LCO's and that redundant components were operable. The inspectors also determined that the procedures used were adequate to control the activity, that required administrative approvals and tagouts were obtained prior to work initiation, that proper radiological controls were implemented, and that these activities were accomplished by qualified personnel using approved procedures. The inspectors independently verified that the equipment involved was properly returned to service.

Specifically, the inspectors observed the briefing of the operations and I&C personnel by the shift foreman prior to starting the tests as well as the conduct of the individuals involved in the surveillance. During the execution of this test, the inspectors noted that all prerequisites and precautions were observed by the personnel involved including the limitation that only one reactor protection logic train bypass breaker was racked out at any given time. The inspectors witnessed the return to service of the 'A' train of the reactor protection logic system as well as the restoration of the safeguard relay logic train 'B'. Both of these operations were conducted adroitly by the licensee personnel involved.

Additionally, the inspectors reviewed several outstanding job orders to determine that the licensee was giving priority to safety-related maintenance and that a backlog which might affect its performance was not developing on a given system.

No violations or deviations were identified within the areas inspected.

12. Operational Safety Verification (71707)

The inspectors observed licensee activities to ascertain that the facility was being operated safely and in conformance with regulatory requirements, and that the licensee management control system was effectively discharging its responsibilities for continued safe operation by direct observation of activities, tours of the facility, interviews and discussions with licensee management and personnel, independent verification of safety system status and limiting conditions for operation, and reviewing facility records.

No violations or deviations were identified within the areas inspected.

13. ESF System Walkdown and Monthly Surveillance Observation (71710, 61726, 56700)

The inspectors verified the operability of an engineered safety features system by performing a walkdown of the accessible portions of the safety injection and containment spray systems. The inspectors confirmed that the licensee's system lineup procedures matched plant drawings and the as-built configuration. The inspectors looked for equipment conditions and items that might degrade performance (hangers and supports were operable, housekeeping, etc.) and inspected the interiors of electrical and instrumentation cabinets for debris, loose material, jumpers, evidence of rodents, etc. The



inspectors verified that valves were in proper position, power was available, and valves were locked as appropriate. The inspectors compared both local and remote position indications.

No violations or deviations were identified within the areas inspected.

14. Onsite Followup of Events and Subsequent Written Reports of Nonroutine Events at Power Reactor Facilities (92700, 90714, 93702)

For onsite followup of nonroutine events, the inspectors determined that the licensee had taken corrective actions as stated in written reports of the events and that these responses to the events were appropriate and met regulatory requirements, license conditions, and commitments. During this reporting period, the inspectors reviewed the following LERs 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. When licensee identified violations were noted, they were reviewed in accordance with enforcement policy. The inspectors had no further comments.

<u>LER</u>	<u>EVENT</u>
80-30	Design Deficiencies Resulted In Cracked and Leaking Weld
82-11	Valve SI-861A Failed to Open Fully Due to Deformation of Valve Discs
84-12	Low Temperature Over Pressure Protection Operating Procedures In Error

No violations or deviations were identified within the areas inspected.

15. Organization and Administration (36700)

The inspectors reviewed the on-site licensee organization to ascertain whether changes made to the licensee's onsite organization are in conformance with the requirements of the TS by verifying that (1) the established organization is functioning as described in the TS and is functioning effectively, (2) personnel qualification levels are in conformance with applicable codes and standards, and (3) the lines of authority and responsibility are in conformance with TS and applicable codes and standards.

Comprehensive discussions of current safety-related activities were conducted with plant management and technical personnel during this reporting period including, and in particular, Environmental and Radiation Controls, Quality Assurance, Regulatory Compliance and Onsite Nuclear Safety organizations. Topics discussed included licensee activities associated with plant operations activities; plant modifications, including the

security system upgrade; the fire protection system; ongoing construction activities; and communications interfaces.

No violations or deviations were identified within the areas inspected.

16. Onsite Review Committee (40700)

The inspectors reviewed certain activities of the plant nuclear safety committee (PNSC) to ascertain whether the onsite review functions were conducted in accordance with TS and other regulatory requirements. The inspectors followed up on previously identified PNSC activities to independently confirm that corrective actions were progressing satisfactorily.

No violations or deviations were identified within the areas inspected.

17. Response to Headquarters Request (92704)

TI 0110/3, dated May 8, 1986 delineates the requirements for the inspection of support pads for the Dry Storage Container System for spent nuclear fuel and roadway modifications of H. B. Robinson.

In support of the program, the inspectors have become familiar with the project schedules and site construction personnel involved with this modification. The inspectors have also attended project presentations and briefings as well as keeping IE Headquarters and the Region II staff advised of the licensee's plans and progress.

The inspectors will continue to provide regional staff with schedule updates and notifications of significant project events.

No violations or deviations were identified within the areas inspected.