



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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

JUN 19 1984

Report No.: 50-261/84-19

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 Date: May 11 - June 10, 1984

Inspection at H. B. Robinson site near Hartsville, South Carolina

Inspectors: <u>A. K. Harden for</u>	<u>6/18/84</u>
S. Weise	Date Signed
<u>PK Harden for</u>	<u>6/18/84</u>
L. Garner	Date Signed
Approved by: <u>P. Bemis for</u>	<u>6/18/84</u>
Paul R. Bemis, Section Chief	Date Signed
Division of Reactor Projects	

SUMMARY

Scope: This routine, announced inspection involved 109 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, Robinson Improvement Program followup, and enforcement action followup.

Results: Of the 13 areas inspected, no violations or deviations were identified in ten areas; three violations were found in three areas (Failure to implement procedures, paragraph 9; Inaccurate statement in a licensee event report, paragraph 11.d; Failure to adequately establish surveillance procedures, paragraph 5.b.); no apparent deviation was found in any area.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- +\*G. P. Beatty, Jr., Manager, Robinson Nuclear Project Department
- R. E. Morgan, General Manager
- \*J. Curley, Manager, Technical Support
- +\*F. Gilman, Project 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
- W. Brown, Senior Specialist, Fire Protection
- \*R. Denney, Radiation Control Supervisor
- \*J. Benjamin, Project Engineer - Operations
- +\*J. Young, Director, Onsite QA/QC
- +\*R. Wallace, Director, Onsite Nuclear Safety
- +\*R. Barnett, Principal Specialist - Maintenance
- \*M. Reid, Construction Project Manager

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

#### Other Organizations

R. Lee, Metric Construction

\*Attended exit interview on June 1, 1984

+\*Attended exit interviews on June 1 and 8, 1984

### 2. Exit Interview

The inspection scope and findings were summarized on June 1 and 8, 1984, with those persons indicated in Paragraph 1 above. The licensee acknowledged the violations and indicated that prompt corrective actions to Violation A were being implemented. At no time during this inspection was written material provided to the licensee by the inspectors.

### 3. Licensee Action on Previous Inspection Findings (92702)

(Closed) Violation 261/83-33-01. The inspector reviewed site Nuclear Safety Bulletin 84-01 dated May 8, 1984. The information associated with this violation has been disseminated to the plant staff.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

## 5. Technical Specification Compliance (71707/61726/61700)

- a. During this reporting interval, the inspector verified compliance with selected limiting conditions for operation (LCOs) and reviewed results of selected surveillance tests. These verifications were accomplished by direct observation of monitoring 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. No violations or deviations were identified.
- b. The inspector reviewed the licensee's program for conducting surveillance testing required by Technical Specifications (TS). The review was performed to assure that test procedures were technically adequate to meet the TS requirements and contain the necessary prerequisites, acceptance criteria and system restoration steps. Record reviews of completed test were conducted to ascertain that acceptance criteria were met, appropriate action was taken if any test failed, test results were reviewed in accordance with administrative procedures, and tests were performed within the time frequency specified in TS. The following test procedures were reviewed:

EST-006	Containment Spray Nozzles
EST-012	Station Battery Load Test
MST-010	Reactor Protection Logic Train A and B at Power/Safeguard Relay Rack Train A and B (only containment spray, steam line isolation and a portion of safety injection initiation logics inspected)
MST-016	Containment Pressure Protection Channel Testing
MST-902	Battery Test - Daily
MST-903	Battery Test - Monthly
OST-351	Containment Spray System
OST-501	Main Steam Isolation Valves

One apparent violation was found. Safeguard logic drawing CP-300-5379-2758 shows that High Steam Line Flow coincident with either Low Steam Line Pressure or Low Tavg will initiate the safety injection system. Drawing CP-380-5379-3232 shows the circuit path to contain contact 4-8 of relay SL1. No procedure existed which, upon simulation of the above signals, would verify continuity across this contact and associated circuit pathway. Failure to establish an adequate surveillance procedure for test activities of safety-related equipment is a violation. (261/84-19-01)

## 6. Plant Tour (71707/62703)

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

determine 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 hangar 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. Emergency Diesel Generators
- b. Spent Fuel Cooling Systems

No violations or deviations were identified.

7. Plant Operations Review (71707/62703)

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, maintenance work requests, auxiliary logs, operating orders, standing orders, jumper logs, and equipment tagout records. The inspector routinely observed operator alertness 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. No violations or deviations were identified.

8. Physical Protection (71707)

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, doors 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. No violations or deviations were identified.

9. Dose Investigation (71707)

- a. On May 15, 1984, CP&L Radiological Control (RC) management informed the inspector of a dose investigation conducted due to a higher than expected dose reading on a TLD worn by a radiographer conducting steam generator repair activities. The inspector held discussions with licensee and contractor personnel, reviewed pertinent procedures,

surveys, and dose documents, and was provided with statements of the personnel involved. The inspector determined that the individual was conducting radiography activities on May 13, 1984, on 'B' steam generator (S/G) bowl, and had multiple dosimetry (TLD and pocket dosimeter on head, chest, back, groin and each leg), a survey meter, and health physics coverage. General area radiation level in the S/G bowl was 50 mrem/hr, with a contact reading as high as 300 mrem/hr. The individual entered the bowl to set up for radiographs and made entries between radiographs to realign equipment and film. Upon exiting the bowl after setup for the second radiograph, the individual found his back dosimetry bag torn with pocket dosimeter hanging out and the TLD gone. He found the TLD under the steps leading to the manway after a brief search and returned it to his back dosimetry bag. After completion of radiography activities, the individual left containment. The containment checkpoint technician trainee read his pocket dosimeters and found readings of 50-75 mrem/hr, except that the pocket dosimeter for his back was offscale. The individual told the checkpoint technician trainee he thought he had bumped the dosimeter but did not mention having dropped the TLD. The checkpoint trainee assigned a dose of 75 mrem to the individual and the TLDs were not read. The individual conducted further radiographic activities in containment on May 13 and 14, 1984. On May 14, he lost his left leg TLD and correctly left containment and reported the loss to health physics personnel. His TLDs were read, as required, with doses from 338 to 391 mrem, except the back TLD read 1.71 Rem. CP&L initiated a dose investigation and stopped radiography work in order to read out all radiographers' TLDs. Their investigation determined that:

- (1) no other radiographers had unexpectedly high TLD readings.
  - (2) the TLD reading of 1.71 Rem was accurate.
  - (3) the individual lost the TLD prior to the first radiograph. The individual's other dosimetry and survey meter indicated that the individual had not been exposed to a radiation field capable of producing the 1.71 Rem dose. Co-workers had no unusual TLD readings. Calculations of dose to the TLD from the radiograph exposure compare well with the additional 1.3 Rem seen by the back TLD.
  - (4) the checkpoint technician should have initiated a dose investigation when the offscale dosimeter was identified. The technician reviewed the trainee's handling of the chit, but did not note that a dose had been entered on the front of the chit. A dose should not have been entered, which would have initiated a dose investigation by dosimetry personnel.
- b. The inspector's review of the events and CP&L investigation produced the following findings:
- (1) The licensee took prompt corrective action when aware of the dosimetry problem. The exposure investigation appeared adequate and of sufficient depth to justify assigning a lower dose. The

licensee has verbally implemented additional administrative controls on the dose tracking system to identify offscale dosimeters and has provided guidance to checkpoint technicians on when offscale dosimeters require dose investigations and on control of trainees. Appropriate plant and construction craft staff were informed of the event to emphasize the need for informing health physics personnel of lost dosimetry. The individuals involved were counseled on their errors of judgement.

- (2) Procedure DP-003, Revision 0, Exposure Tracking, paragraph 4.3.9 requires that when an individual exits the checkpoint, the highest whole body pocket dosimeter reading shall be recorded as dose out. Procedure DP-004, Revision 0, Personnel Exposure Investigation, paragraph 4.3.3.2 requires that if a pocket dosimeter goes offscale under conditions such that a high exposure to the individual is possible, the TLD shall be read. DP-004, paragraph 4.3.3.3 requires that if a pocket dosimeter is bumped and goes offscale and the reading immediately prior to being dropped is unknown, the TLD must be read. The containment checkpoint technician trainee failed to follow these procedures and the technician did not detect the error. This constitutes a licensee identified violation in accordance with the NRC enforcement policy of 10 CFR 2. The inspector will monitor CP&L long-term corrective action for appropriate training and procedural revisions.
- (3) Procedure DP-004, paragraph 4.3.3.3 also requires that all pocket dosimeters that are dropped or bumped offscale shall be removed from service until calibration is verified. The inspector determined on May 17, 1984, that pocket dosimeter #6233, which was bumped offscale during the event of May 13, had not been removed from service for calibration check and was still in use. Failure to implement procedures for dosimetry control and assurance of quality is a violation (261/84-19-02). The licensee removed dosimeter #6233 from service on May 17 and had it calibrated. The dosimeter was found acceptable for use. As corrective action, the licensee conducted training sessions May 21 - 24, 1984, for licensee and contractor health physics technicians and supervisors responsible for dose monitoring and dosimeter handling. This training included instructions on the responsibility of technicians and supervisors for trainees and on the proper method of dose chit handling and documentation to ensure procedural implementation. The training also covered other deficiencies associated with item (2) above. The licensee's corrective actions appeared adequate to prevent recurrence, and the inspector noted that dosimetry personnel were routinely taking self-reading dosimeters out of service when bumped or dropped.

- (4) General Employee Training module 6NR61N and the attendant self-study instruction provide clear guidance on what actions an individual should take if a dosimetry device is lost. However, it allows the individual to briefly search the area for the lost dosimeter prior to leaving the area. It does not address what action should be taken if the dosimeter is found. CP&L should provide definitive guidance on this issue. Additionally, more definitive procedural guidance is needed to ensure that a dose investigation is initiated for an off-scale dosimeter. Until the licensee addresses these items, this is an inspector followup item (261/84-19-03).

10. Robinson Improvement Program (92706)

The inspector reviewed the Operations Improvement Program for Robinson, as submitted by CP&L letter dated March 18, 1983. The following action items were reviewed, with status as indicated.

- a. Items III.3 and III.5. The inspector reviewed present CP&L contractor procedure drafting status and CP&L review and approval status. The program is behind schedule for procedure approval in both the operations and maintenance areas. As of April 30, the operations staff had approved about 75% of the procedure approval goal. Achieving the December 1984 completion date requires approving 45 procedures per month. Operations has approved 36 procedures in their most productive month. As of April 30, the maintenance staff had approved about 80% of the approval goal. Achieving the December 1984 completion date requires approving 30 procedures per month. Due to the impact of the steam generator repair outage, startup testing, and modification training necessary to support startup, the inspector questions the ability of CP&L to meet its commitment. This was discussed with licensee management. CP&L agrees that the December 1984 date appears unattainable without impacting operations or procedure quality and is developing a proposed action plan for completion of these procedures. This action plan is to be available to the inspector in June.
- b. Item VII.4. The inspector reviewed the draft training summary format for the modification procedure. Comments are still being resolved from the CP&L Departments involved. Approval is planned for June 1984.
- c. Item IX.4. The inspector reviewed the draft training control format for procedure revisions. Comments from plant units are still being resolved. Incorporation into Administrative Procedure-004 is scheduled for June 1984. This is a seven month slippage, but has not impacted training implementation.

d. Items X.5 and X.6. The inspector held discussions with cognizant licensee personnel and reviewed appropriate documentation. The status of the following recommendations was reviewed:

- (1) 5.1.2. The inspector reviewed CP&L memo 84-294 dated April 5, 1984 and routinely observes commitment tracking systems and commitment completion. CP&L has reviewed their commitment task lists and assigned specified tasks offsite. Use of corporate personnel onsite has increased. The Robinson Nuclear Project Department (RNPD) reorganization appears to be removing demands from the plant staff, with additional support from the Corporate Nuclear Support Section. The new site Planning and Scheduling Section is now responsible for maintaining a master site commitment list. Full implementation of this responsibility is not scheduled until after the Steam Generator Replacement outage, since workload is heavy and a significant number of commitments are to be completed during the outage. This area will be further reviewed after the steam generator outage.
- (2) 5.2.5. The final implementation concept and schedule has been approved by corporate management. This item is closed.
- (3) 5.3.6. Report reduction has been achieved through the RNPD reorganization. The locating of the Department Head onsite with additional staff members has significantly reduced the need for offsite reports. This item is closed.

Item X.5 is closed and X.6 is open.

e. Item XVII.6. A report (CP&L Memo No. 84-032 dated January 19, 1984) on work assignment interface evaluation was completed with no significant problems identified. New interface agreements to cover the reorganization have been written and approved. The interface agreement between Radiation and Chemistry Support and the plants has been approved. The inspector reviewed selected documents and found no deficiencies or concerns. Item XVII is closed.

#### 11. Licensee Event Report (LER) Followup (92700)

a. The inspector 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. Corrective action and appropriate licensee review of the below events was verified. When licensee identified violations were noted, they were reviewed in accordance with the enforcement policy. The inspector had no further comments.

<u>LER</u>	<u>Event</u>
83-14 and Rev. 1	Service Water Leak in Containment

- b. LER 82-19, Boron Injection Tank (BIT) Level. The inspector held discussions with plant engineering and operations personnel. Daily recirculation of the BIT has proven effective in eliminating solidification events. While the licensee has not installed an alternate level indication system due to efforts to reanalyze the necessity for the BIT, TS 3.0 provides appropriate action requirements should this event recur. The LER is closed.
- c. Special Report - Fire Suppression Water System. The inspector reviewed CP&L's Special Report dated March 6, 1984 and held discussions with appropriate licensee personnel. The report appears accurate and corrective actions adequate. This Special Report is closed.
- d. (Open) LER 84-02, Fire Damper Inoperable. The inspector reviewed the LER, held discussions with appropriate fire protection personnel, and toured selected fire dampers to verify that they were properly labeled. The inspector determined that the following fire dampers had not been labeled: 10, 65, 75, 82, and 85. The LER states that the fire dampers had been properly labeled as corrective action. This statement is false and constitutes a violation (261/84-19-04). This violation is also recurrent in that it is similar to violation B of IE Report 261/84-09. The licensee should address those corrective actions to their management controls which are necessary to prevent issuance of correspondence to the NRC with false statements. The licensee subsequently inspected the above fire dampers and labeled them. The LER will remain open until all fire dampers are checked and labeled and until the fire damper failure is corrected.

## 12. Outstanding Items Review (92701)

(Closed) Inspector Followup Item 261/82-27-07. The inspector reviewed Section 5.2 of procedure PLP-024, Revision 3, TS Surveillance Program. Section 5.2 assigns surveillance schedule responsibilities, provides generic scheduling guidance, and requires that Regulatory Compliance personnel review and verify the schedule adequacy monthly. This appears to provide adequate programmatic controls to ensure scheduling of TS required surveillances.

(Closed) Inspector Followup Item 261/83-32-04. The inspector verified that Revision 1 to the Procedures Administration Manual (PAM) was issued December 27, 1983. The inspector reviewed Administrative Procedure-004, Revision 1, concerning procedure development, review, and approval. This procedure appears to appropriately implement the PAM guidance while meeting TS requirements.

(Closed) Inspector Followup Item 261/82-27-08. Revision 1 to MST-911 added procedure MST-551 to the checklist. Additionally, a surveillance tracking system and an audit system have been implemented.

(Closed) Inspector Followup Item 261/82-04-08. This item is under review by NRR for generation of a safety evaluation report. No further inspection is necessary at this time.

(Closed) Inspector Followup Items 261/82-41-01 and 261/83-24-08. These items have been incorporated into the inspector's concern that maintenance procedures and operations work procedures are weak in the area of independent verification for instrumentation channel maintenance and surveillance. This is inspector followup item 261/83-26-03.

(Closed) Inspector Followup Item 261/83-18-04. The inspector reviewed the completed audit checklist Section 4.0 for surveillance of TS surveillance, which was documented in CP&L audit report QAA/127-5. The checklist and audit appeared adequate.

(Closed) Inspector Followup Item 261/83-02-08. The inspector held discussions with cognizant radiological controls and engineering personnel and reviewed the following source and electronic calibration procedures:

- RST-002, Revision 1, Quarterly Accident Radiation Monitor Source Check
- RST-005, Revision 0, Calibration of Radiation Monitor System
- LP-256, Revision 0, Loop Calibration of Containment High Range Monitors
- LP-257, Revision 0, Loop Calibration of Harshaw Accident Radiation Monitors
- LP-258, Revision 0, Loop Calibration of Victoreen Accident Radiation Monitors

Present procedures require that an electronic calibration be performed prior to the source calibration and that post calibration operability verification be performed prior to return to service. The procedures and acceptance criteria appeared adequate to maintain operability of the monitors.

(Closed) Inspector Followup Item 261/82-04-15. The inspector reviewed CP&L memo NPERO-246 dated April 10, 1984. CP&L is pursuing this issue through the Seismic Qualification Utilities Group for resolution of Unresolved Safety Issue A-46.

(Closed) Inspector Followup Item 261/82-04-02. The inspector reviewed this issue, including appropriate design documents, physical layout, and interconnection with other portions of the safety injection system. Due to the cool, reactor coolant system fluid downstream of the relief valve, plugging of the line is not expected to occur.

(Closed) Inspector Followup Item 261/83-32-06. The inspector reviewed CP&L memorandum 84-214 dated February 29, 1984. The control room servicing methods have been reviewed and appropriate changes made.

(Closed) Inspector Followup Item 261/83-32-07. The inspector reviewed CP&L memo 84-256 dated February 29, 1984 and procedures OMM-004, Revision 1, Operations Work Procedure, and PLP-013, Revision 0, Maintenance Program. Revisions to address the post-maintenance testing program recommendations have been incorporated.

(Closed) Inspector Followup Item 261/83-32-11. This item was previously inspected in LER 261/84-09. The inspector reviewed fuel handling procedures (FHP) FHP-005, Revision 3 and FHP-036, Revision 1. These procedures, respectively, specify checking the instrument tubing penetrations and verifying the radiation monitor isolation function.

(Closed) Inspector Followup Item 261/83-32-02. The inspector reviewed the appropriate documents and verified that corrections had been made. Additional Regulatory Compliance personnel have been trained on and have performed surveillance checks.

(Closed) Inspector Followup Item 261/84-02-01. The inspector reviewed the following drawings and determined that the appropriate corrections had been made.

G-190196	Sheet 1	Revision 16
5379-685	Sheet 1	Revision 17
G-190204A	Sheet 1	Revision 7
G-190204D	Sheet 2	Revision 2

(Open) Inspector Followup Item 261/84-02-04. The inspector held discussions with the Director-Onsite Nuclear Safety and his staff. A twelve point program has been outlined for pre-startup readiness evaluation. This program is ultimately intended to be a permanent program for implementation following outages greater than a specified length. The program outline appeared adequate, but will take significant licensee manpower and management oversight and support to be effective. Further inspector review of this area will be conducted prior to plant heatup.

(Open) Inspector Followup Item 261/83-26-02. Item e. is closed by the issuance of Chemistry Procedure-028. Item h. is closed by Revision 1 to Chemistry Procedure-085.

(Closed) Inspector Followup Item 261/83-09-05. The inspector reviewed Preventive Maintenance Procedure-424, Reactor Trip Breaker Timing Measurement. The procedure appeared to perform adequate testing.