



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

Report No. 50-261/82-35

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

Facility Name: H. B. Robinson Steam Electric Plant

Docket No. 50-261

License No. DPR-23

Inspection at H. B. Robinson Unit 2 near Hartsville, South Carolina

Inspector: C. N. Burger, for 10/22/82
S. Weise Date Signed

Approved by: C. N. Burger 10/22/82
C. Burger, Section Chief, Division of Date Signed
Project and Resident Programs

SUMMARY

Inspection on September 11 - October 10, 1982

Areas Inspected

This routine, announced inspection involved 117 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, IE Circular and Notice Followup, emergency exercise, offsite review committee, and violation followup.

Results

Of the 15 areas inspected, no violations or deviations were identified in 14 areas; one violation was found in one area (Paragraph 6, failure to have a survey meter in a high radiation area).

DETAILS

1. Persons Contacted

Licensee Employees

- *R. B. Starkey, Plant 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 & Radiation Control
- *J. Young, Director Corporate QA/QC
- S. Clark, Engineer
- W. Flanagan, Engineering Supervisor

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

Other Organizations

R. Muth, Westinghouse

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 8, 1982 with those persons indicated in paragraph 1 above. The licensee acknowledged the violation and has initiated corrective actions.

3. Licensee Action on Previous Inspection Findings

(Closed) Severity Level V Violation 81-02-03. This item concerned the licensee's Q-list determination criteria. The inspector reviewed CP&L response letter dated March 2, 1981, and held discussions with licensee engineering and quality assurance (QA) personnel. Nuclear Operations Department Procedure (NO)-7.21 was issued May 7, 1982 to provide quality class determination criteria. Using this criteria, CP&L has hired a contractor to write a new Q-list and upgrade Q-list drawings. This project is expected to take two years to accomplish and should result in a computerized equipment data base to the part level. Since current plans imply that operators and technicians will not get more definitive guidance for a year, the inspector reviewed QA records to establish how many Q-list determinations were incorrect on work requests. The error rate for 1981 work requests was about 2% as identified by QA inspectors. Based on the ongoing effort to upgrade this area and the apparent ability of plant

personnel to identify Q-list components, the inspector finds the licensee corrective action acceptable.

(Closed) Severity Level V Violation 82-04-04. This item concerned inadequate annunciator procedures. The inspector reviewed CP&L response letter dated April 15, 1982 and a sampling of annunciator procedures. The inspector found the licensee's corrective action adequate.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. 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 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.

b. On September 23, 1982, the licensee informed the inspector of an unreviewed safety question concerning containment design pressure versus peak accident pressure. In December, 1974, Westinghouse informed CP&L of an error in the containment net free volume used in the FSAR. Because this volume was recalculated to be smaller, the calculated peak accident pressure increased from 37.8 psig to 40 psig. Containment design pressure is 42 psig. This information was reported to the Atomic Energy Commission by letter dated December 26, 1974. During the 1982 FSAR review and upgrading, the issue was restudied. Because the basis for Technical Specification (T.S.) 3.6.2 assumed an allowable internal pressure before a LOCA could be 4 psig, the 1974 analysis reduced the margin of safety and constituted an unreviewed safety question as defined in 10 CFR 50.59. Present T.S. 3.6.2 requires that the plant be shutdown if containment internal pressure exceeds 2 psig for more than eight hours. Licensee administrative controls require venting containment at 2 psig, but venting is normally conducted prior to reaching 1 psig. As a result of the above, the licensee has implemented new controls, such that containment pressure shall not be allowed to exceed 1 psig without management concurrence. The licensee will submit a T.S. amendment to make the T.S. compatible with the analyses and to obtain NRR review of this issue. (IFI, 82-35-01).

6. Plant Tour

a. 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:

1. Selected containment isolation valves
 2. Component cooling water system
 3. Safety injection accumulators and nitrogen supply
 4. DC power system
 5. Motor driven auxiliary feedwater system
- b. During a plant tour on October 5, 1982, the inspector observed a mechanic exiting from the high radiation areas associated with an auxiliary building sump and the spent fuel cask washdown area. The individual did not have a continuous radiation monitoring instrument as required by Technical Specification 6.13.1.a. This failure to have a survey meter in a high radiation area is a violation (82-35-02).

7. 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 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. The inspector had no further comments.
- b. The inspector observed various control board indications which together indicated slight leakage through the pressurizer power operated relief valves (PORVs). This leakage resulted in the safety relief valve line high temperature alarm (due to proximity and setpoint), in slowly increasing pressurizer relief tank (PRT) pressure and level, in high PRT hydrogen concentration, and in about 1/4 gpm increase in reactor coolant system (RCS) leakage. Due to this leakage, the licensee has shut the PORV block valves and informed operations personnel that the

block valves may be opened as necessary to comply with plant procedures. Since shutting the PORV block valves, control board indications verify a reduction in RCS leakage, although slight safety relief valve or PORV block valve seat leakage appears to exist. The inspector will continue to monitor leakage indications. Leakage is presently less than 1 gpm and well within the monitoring ability of the leakage detection systems.

8. 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, 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.

9. Surveillance Activities (92705)

This inspection was conducted to identify the adequacy of the licensee's surveillance test program and consisted of the following:

- a. The inspector reviewed Administrative Instruction (AI)-7, Operating License Changes, Revision 141 and AI-5.5, Changes to the Operating Manual, Revision 143, and held discussions with Regulatory Compliance (RC) personnel. Upon receipt of an NRC approved amendment, RC assigns a date when the amendment is to be incorporated into plant procedures (generally two weeks) and routes a worksheet for cognizant supervisors to identify necessary procedure/setpoint changes. Any identified changes are then entered in the action item tracking system. Additionally, Operating License Changes are handled in accordance with AI-5.5, which requires a quality assurance review and independent nuclear safety reviews. This system appears adequate to ensure that License Amendments are incorporated into plant procedures.
- b. The inspector reviewed License Amendments 69 through 72, 42, and 48 to verify that revisions to appropriate surveillance documents have occurred. As discussed in paragraph 12.a and 12.b of IE Inspection Report 50-261/82-27, several surveillances had been conducted without written implementing procedures (OPE, 82-27-06). The licensee has since implemented Administrative Instruction (AI)-16.0 to provide a cross-reference between Technical Specification (TS) surveillances and plant procedures to establish a formal tracking system to ensure compliance. This cross-reference identified several additional surveillances conducted without a formal procedure. The inspector will monitor licensee corrective action as part of OPE, 82-27-06 above. The licensee uses AI-16.0 to ensure surveillance requirements are implemented. This is conducted on a daily basis (excluding weekends and holidays). Discrepancies are reported to the appropriate supervisor and the Plant Nuclear Safety Committee. This system has not been in

effect long enough to determine its effectiveness. This will be the subject of a future inspection.

c. The inspector selected a sampling of surveillances for review and verification of proper scheduling, technically adequate procedures, and meeting of test frequency. The following discrepancies were noted:

- (1) Periodic Test (PT)-12.2, Radiation Monitoring System, was not adequately established and implemented as discussed in Inspection Report 50-261/82-32.
- (2) PT 20.1, Daily Battery Test, did not contain specific acceptance criteria. A review of 1982 records for this PT revealed no questionable readings. The lack of acceptance criteria was also noted by corporate nuclear safety personnel and is being corrected.
- (3) PT 7.3, Boric Acid Heat Tracing Operability, documentation was missing for June 28-30, 1982. The licensee has been unable to locate the documents, although an informal tracking system indicates they were completed. Subsequent PT's indicated system operability, and the plant was in cold shutdown.
- (4) PT 7.4, Rodding Out Boric Acid Tank Levels, documentation was missing for June 28, 1982. The comments under (3) above are also applicable.

d. The inspector reviewed the onsite and audit group quality assurance (QA) programs to verify these programs audit surveillance activities.

- (1) The onsite QA group conducts surveillances in accordance with QA Procedure-201, Revision 4. The inspector reviewed QAP-201 and Corporate QA Program Section 10. These documents do not explicitly establish the areas or the frequencies for surveillances. The inspector reviewed the 1982 surveillance schedule in use and determined that Technical Specification changes were reviewed in 1982, but daily surveillances and periodic tests were last reviewed in 1981. The licensee uses a two year cycle for schedule completion. The program does not require 100% of T.S. surveillances be audited. Through discussions with the Director QA/QC, the inspector determined that the licensee is developing a procedure that will require 100% review of T.S. surveillance compliance every three years. The program is presently scheduled for implementation by January 1, 1983. This program should also verify that license amendments involving surveillance requirements are incorporated into the licensee's program. This item will remain open until the program has been implemented and reviewed (82-35-03).
- (2) The audit program of the Performance Evaluation Unit reviews periodic tests and T.S. amendments on a random sampling basis and

does not require the auditing of 100% of T.S. requirements or amendments. The technical adequacy of the surveillance procedures is not specifically reviewed, but may be identified if the auditor has specific knowledge of the area.

- (3) The Corporate Nuclear Safety (CNS) Department conducted a technical review of all PTs meeting T.S. requirements in August and September 1982. This was done to ensure compliance, in recognition of the fact that QA personnel were generally not qualified to conduct technical reviews. Having completed the initial review, CNS will review all future procedure changes as part of the safety review process. Additionally, CP&L is contracting for a several year procedure upgrade program which will include indepth technical and format reviews.

10. Surveillance of Core Power Distribution Limits (61702)

The inspector visited the Nuclear Fuel Department at the corporate offices. A document review and discussion with licensee personnel was conducted to verify that changes to calculational methods of Technical Specification related computer codes were controlled and reviewed for correctness. The inspector reviewed Nuclear Fuel Quality Assurance Procedures for review and evaluation of nuclear fuel design (NFQA-4) and records control (NFQA-7). These procedures did not address code changes for other than new fuel cycles. Through discussions and document review, the inspector determined that codes have been changed in format vice algorithm, but without formal, well documented procedures. The licensee has draft Computer Code Quality Instructions (CCQI) which have not yet been implemented. These procedures, if approved, will address code control, modification, verification and qualification and include appropriate documentation. Based on discussions with cognizant personnel and the review of the Cycle 9 Design Review and Evaluation and the draft CCQI, the licensee appears to have controlled his computer codes and is taking steps to better formalize his control program. Personnel stability within this department has contributed to maintaining quality assurance in this area without the benefit of procedures. The licensee expects to implement these quality assurance procedures by January 1983. Until the procedures are implemented, this item is open (50-261/82-35-04). Additionally, licensee fuels personnel appear to adequately understand the importance of code control with respect to Robinson Technical Specification requirements. No violations or deviations were noted.

11. Offsite Review Committee (40701)

The inspector reviewed the Corporate Nuclear Safety (CNS) staff qualifications and verified that independent reviewers met the Technical Specification requirements. The inspector reviewed a sampling of 10 CFR 50.59 evaluation reviews, plant modifications, proposed Technical Specification changes, violations, reportable occurrences, Plant Nuclear Safety Committee minutes and IE Bulletin, Circular, and Notice reviews. Items above were reviewed to verify that the reviewers possessed expertise in the areas

involved and that any concerns were either resolved or designated for followup action. The inspector held discussions with the Manager CNS, the Principal Engineer CNS, and the Principal Engineer Onsite Nuclear Safety concerning implementation of review procedures, interfacing with plant and corporate staff, and plans for staffing improvements. Additionally, the inspector reviewed selected documents and held discussions concerning the Operating Experience Feedback program. The inspector verified that a viable screening program was implemented to supply operating information pertinent to nuclear safety to the operating and training organizations. Based on the above discussions and reviews, the licensee's CNS review activities appear adequate to comply with facility Technical Specifications and the TMI Action Plan. The inspector also noted that the licensee has provided frequent supplemental training opportunities for its review staff. No violations or deviations were noted.

12. Reactor Trips

On September 21, 1982, with the reactor operating at 92% power, a reactor trip occurred on 'B' steam generator (S/G) low level coincident with steam flow-feed flow mismatch. An unusual event was declared, and the NRC notified. Safety systems responded as required. The trip was caused by a switch lineup error during performance of PT-5.7, Steam Generator Pressure Protection Channel Testing. An instrumentation and control technician mistakenly left the compensated steam flow pressure indicators selected to the channel being tested. The 'B' S/G steam-feedwater flow bistable was tripped for the test, and when the channel was placed in test, 'B' S/G steam flow input to the S/G water level control system went to zero. This caused the feed flow signal to decrease, and when S/G level reached the low level setpoint, a trip occurred. The plant was returned to power operation. Licensee corrective actions included personnel counseling and a review of this and related surveillance procedures to determine if revision or clarification is warranted. Additionally, the licensee has provided plant personnel with specific training on procedural compliance and formal guidance via Standing Order-18.

13. Emergency Exercise

On September 8, 1982, the inspector observed a tabletop emergency drill with the major objective of testing team leaders and Technical Support Center (TSC) participants. The drill exercised establishment of the TSC, transfer of Site Emergency Coordinator duties, recognition of and appropriate response to emergency action levels through Site Emergency, and participation by dose assessment and plant and offsite environmental monitoring teams. The drill scenario was adequate, and the inspector identified the following discrepancies:

- a. Dose assessment functions were not completed in a timely manner. Confusion resulted when drill monitors provided source term values vice raw radiation monitor data to assessment personnel. The drill scenario also contributed to the problem by not providing periodic radiation monitor readings off installed instruments. Some of these instruments

(which were installed to meet TMI Action Plan requirements) can be read in mr/hr and quickly converted to dose rates by means of emergency procedure worksheets.

- b. The dose assessment printer located in the TSC is disruptive to TSC communication due to its noise level.

The licensee's corrective actions to address the two discrepancies above were monitored during a tabletop exercise conducted on October 7. Additionally, the annual exercise will be monitored on October 14, 1982.

14. 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 listed events was verified. When licensee identified violations were noted, they were reviewed in accordance with the enforcement policy. The inspector had no further comments.

LER	Event
82-07	'A' Steam generator tube leak

15. Review of IE Circulars and Notices (IEC's and IEN's)

The inspector verified that IE Circulars and Notices had been received onsite and reviewed by cognizant licensee personnel. Selected applicable IE Circulars and Notices were discussed with licensee personnel to ascertain the licensee's actions on these items. The inspector also verified that IE Circulars and Notices were reviewed by the Plant Nuclear Safety Committee in accordance with facility administrative policy. Licensee action on the following IE Circulars and Notices were reviewed by the inspector and are closed.

IE Notices

82-14
82-09
82-18
82-38
81-30
81-33

IE Circulars

IEC 81-12. The inspector reviewed the reactor trip breaker tripping features and discussed actuation and testing with licensee personnel. The breaker can be tripped by the undervoltage (UV) trip or the shunt trip features. The UV trip is actuated by the Reactor Protection System and the

manual trip pushbutton on the control room gauge board. The shunt trip is also operated by the manual trip pushbutton. Monthly testing of the trip breakers tests the UV trip. Manual reactor trips are inserted on plant shutdowns, but do not verify operability of the shunt trip feature, although shunt trip electrical continuity is verified by the breaker shut status light. Due to a previous UV trip mechanical failure, the licensee should periodically conduct an independent test of the shunt trip feature to verify its operability. Licensee personnel discussed the possibility of conducting this test during the annual breaker cleaning and inspection. Until this testing is incorporated in plant procedures and conducted, this item is open (82-35-05). The Circular is closed.

16. Outstanding Items Review

(Closed) Open item 81-27-15. This item concerned the lack of a trending program for the Onsite Quality Assurance (QA) Department. The Onsite Director has instituted a quarterly memorandum to the Plant Manager providing nonconformance trending. Additionally, Corporate QA is developing more formal trending guidance. The inspector reviewed the last two quarterly reports and discussed the trending with the Director, Onsite QA/QC. The trending appeared adequate until more specific criteria are provided.

(Closed) Open item 81-27-32. This Technical Specification deficiency was transmitted to ONRR by an October 26, 1981 memorandum from H. A. Wilber, OIE.

(Closed) Open item 80-30-02. This Technical Specification deficiency was transmitted to ONRR by a September 25, 1981 memorandum from H. A. Wilber, OIE.

(Closed) Open item 81-22-02. This item concerned the adequacy of containment isolation dependability with respect to TMI Action Item II.E.4.2. The inspector has reviewed plant procedures and the CP&L letter dated August 31, 1981. As previously discussed in IE Report 50-261/81-22, the following concerns are resolved:

- a. The errors noted in Table 1 of CP&L's December 31, 1979 letter were corrected by the August 31, 1981 letter.
- b. Those vent or drain valves between manual containment isolation valves, are controlled by licensee operating procedure valve lineups, and have pipe caps installed. This is acceptable by NRR letter dated April 18, 1980. The blind flange installed inside containment for Penetration-67 is tested during local leak rate testing.

CP&L has documented its deviations from NUREG 0737 in correspondence to NRR.

(Open) Inspector followup item 82-20-08. This item concerns the licensee's actions in response to pressurized thermal shock (PTS) concerns. Actions in response to item d. have been completed in that feedback from operations

personnel was obtained, evaluated, and problem resolutions promulgated. Additionally, the training instructions have been revised to solicit participant feedback from training courses. This closes item d. The licensee has also completed their review of simulator response to PTS events. The inspector reviewed CP&L memorandum NO-82-H981 of September 16, 1982. Main steam line break response was found unacceptable and requires blowing down two steam generators (S/G) to get proper response. Blowdown of two S/G's will be used and explained until the necessary software changes are made. Item c. has been reviewed by the licensee and determined to be a beneficial revision. Until the combined curve is implemented, item c. will remain open.