



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

JUN 29 1984

Report No.: 50-261/84-17

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 Dates: May 29 - June 1, 1984

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

Inspector: T. R. Collins

6/29/84
Date Signed

Approved by: G. R. Jenkins
G. R. Jenkins, Section Chief
Emergency Preparedness and Radiation Protection
Branch
Division of Reactor Safety and Safeguards

6/29/84
Date Signed

SUMMARY

Areas Inspected

This special unannounced inspection involved 28 inspector-hours on site during regular hours inspecting: NUREG-0737, Item II.F.1, Containment High Range Radiation Monitors; Quality Assurance Surveillance Program; Posting of Notices to Workers; External and Internal Exposure Control; Respirator Protection Program; Radiation Work Permits for Steam Generator Replacement Project; Posting, Labeling and Control of Radiological Areas; and Facilities and Equipment.

Results

Three violations - 1) Failure to calibrate containment high radiation monitors as required and in accordance with NUREG-0737. 2) Failure to take a representative air sample for detecting and evaluating airborne radioactivity in restricted areas as required by 10 CFR 20.103. 3) Failure to follow Radiation Work Permits, Procedure HP-006.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *G. P. Beatty, Project Manager
- *C. W. Crawford, Acting Plant General Manager
- *S. Crocker, Manager of E&RC
- *J. M. Culey, Manager Technical Support
- *R. Denney, Radiation Control Supervisor
- *B. MacCready, Project Specialist, Radiation Control
- *F. M. Gilman, Regulatory Compliance
- *J. C. Sturdavant, Regulatory Compliance
- *C. L. Wright, Regulatory Compliance
- *H. J. Young, Director of QA/QC
- *A. R. Wallace, Director of ONS
- *J. F. Benjamin, Principal Engineer OPS

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

NRC Resident Inspector

- *S. Weise

*Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on June 1, 1984, with those persons indicated in paragraph 1 above. The inspector discussed the apparent violation of failure to adequately calibrate containment high radiation monitors as required by NUREG-0737. This issue is addressed in paragraph 11 in the Report Details. Licensee management acknowledged the violation.

On June 6, 1984, the inspector informed the licensee that two additional violations would be issued concerning an internal exposure event that occurred on May 24, 1984. These issues are addressed in paragraph 4 of the Report Details.

3. Licensee Action on Previous Enforcement Matters

(Closed) Unresolved Item (261/84-10-01): Electronic calibration of high-range containment monitors. This is cited as a violation in this report. See paragraph 11 of Report Details for discussion.

4. Internal Exposure Control for the Steam Generator Replacement Project (83729)

- a. The inspector reviewed the licensee's internal exposure controls for the steam generator replacement project. This review included followup on an exposure event which occurred on May 24, 1984. By review of licensee records and discussions with licensee representatives, the inspector determined that on May 24 three workers entered the radiation control area (RCA) to perform work in the "A" steam generator channel head under Radiation Work Permit (RWP) 2651. Continuous health physics coverage for the job was being provided by a qualified radiation control technician. When the individuals left the job site they were found to have facial and nasal contamination. A preliminary whole body count revealed the three individuals had received internal depositions of radioactive material of 7, 4 and 2% of a maximum permissible body burden.
- b. The inspector reviewed the radiological survey results for the "A" steam generator and noted that the contamination levels in the "A" steam generator channel head were approximately 100,000 dpm/100 cm². In discussions with licensee representatives, the inspector ascertained that the air samples taken while the workers were in the channel head were collected at the manway to the channel head. The results of these air samples were all less than 25% of the maximum permissible concentration (MPC) specified in 10 CFR 20, Appendix B, Table I, Column I. A HEPA filtered ventilation unit provided air flow from the containment through the manway into the channel head and out. The inspector stated that an air sample performed at the manway was not representative of the air concentrations the workers were exposed to inside the channel head.
- c. 10 CFR 20.103(a)(3) states that for purposes of determining compliance with the requirements of this section the licensee shall use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas. The inspector stated that failure to take air samples near the breathing zone of the workers was a violation of 10 CFR 20.103(a)(3) (261/84-17-02).
- d. Technical Specification 6.5.1.1.1 requires that written procedures be established, implemented and maintained covering applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Rev. 2, February 1978. Appendix "A" Regulatory Guide 1.33 states that the licensee should have procedures for a Radiation Work Permit (RWP) System.

Health Physics Procedure HPP-006, Radiation Work Permit, Attachment 11.6 requires individuals to know and understand the RWP they are working under prior to entering the RCA. RWP 2651 required that individuals entering the "A" steam generator channel head wear respiratory protection equipment. The inspector stated that failure of

the three workers to adhere to the requirements of the RWP by not wearing the specified respiratory protective equipment was a failure to follow procedure HPP-006 and a violation of Technical Specification 6.5.1.1.1. Section 3.4 of Procedure HPP-006 states that when a radiation control technician is rendering continuous coverage for a job he is responsible for assuring that protective requirements as specified by the RWP are met. The inspector stated that failure of the technician who provided continuous coverage for the entries to ensure that the appropriate respiratory protective equipment was used is another example of the violation of Technical Specification 6.5.1.1.1 (261/84-17-01).

5. Quality Assurance Surveillance Program (83724)

The inspector reviewed Quality Assurance (QA) Surveillances (Audits) of the health physics program as required by QAP-201, Surveillance Program from May 1983 to May 1984. The inspector noted that the majority of the audits performed were in the radwaste shipping area. In discussion with licensee personnel the inspector was informed that all shipments of radioactive material are reviewed by QA prior to shipment. Also, the inspector noted that the licensee has assigned a full time person with health physics experience to the QA department to perform future health physics audits.

During the review of audits performed by the QA department the inspector noted that only minor discrepancies were identified. The QA Surveillance Program appeared to be adequate. No violations or deviations were identified.

6. Posting of Notices to Workers (83724)

10 CFR 19.11 requires licensee's to post current copies of Form NRC-3 (Revision 6-82 or later) "Notices to Employees" in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to or from any particular licensed activity location. Also, 10 CFR 19.11 requires that licensee post current copies of any notice of violation involving radiological working conditions, or proposed imposition of a civil penalty within two working days after receipt of the documents from the Commission. On May 29, 1984, the inspector observed the posting of current copies of Form NRC-3 "Notice to Employees" and a proposed imposition of a civil penalty issued by the Commission. Also, on May 31, 1984, the inspector noted that the licensee posted two notices of violations involving radiological working conditions as described in NRC Report Nos. 84-10 and 84-14. No violations or deviations were identified.

7. Radiation Work Permit Program (83729)

The inspector reviewed current radiation work permits (RWP's) for containment vessel (CV) entries for the period of April and May 1984. Additionally, the inspector reviewed supporting radiation surveys for the current RWP's as required by HP-006, Radiation Work Permits. No violations or deviations were identified.

8. External Exposure Control (83724)

10 CFR 20.101 in part requires that no licensee shall possess, use, or transfer licensed material in such a manner as to cause any individual in a restricted area to receive in any period of one calendar quarter from radioactive material and other sources of radioactive material a total occupational dose in excess of the standards as specified in the table of 10 CFR 20.101(a). The inspector reviewed occupational dose records for April and May 1984. No violations or deviations were identified.

9. Respiratory Protection Program (83725)

10 CFR 20.103(c)(2) requires in part that the licensee maintain and implement a respiratory protection program that includes written procedures regarding supervision and training of personnel and issuance records. The inspector observed that the licensee had moved the respirator issuance and storage area to better facilitate and control the issuance of respiratory equipment during the Steam Generator Replacement Project (SGRP). The inspector reviewed respirator issuance records for April and May 1984. No violations or deviations were identified.

10. Posting, Labeling and Control (83725)

10 CFR 20.203 in part requires the licensee to post, label and control radiation areas, high radiation areas, airborne radioactivity areas and radioactive material areas. The inspector toured the licensee's facility and observed the posting, labeling and control of radiological control areas. No violations or deviations were identified.

11. TMI - Action Items (25559)

NRC Order dated March 14, 1983 requires, in part, that the licensee implement and maintain the post accident monitoring capability set forth in NUREG 0737, Item II.F.1. NUREG 0737, Item II.F.1, Attachment 3, required the licensee to provide two containment high-range radiation monitors which meets the requirements of Table II.F.1-3. Table II.F.1-3 specifies that a on site calibration by electronic signal substitution is to be performed for all range decades above 10 R/hr. The licensee has installed two of these monitors in containment. The inspector discussed calibration of the containment high range radiation monitors with licensee personnel. The initial electronic calibration was apparently performed using the vendor technical manual. The technical manual describes an electronic calibration for ranges up to 10^5 R/hr. The full range of the monitors is 10^1 to 10^7 R/hr. This issue was addressed in a previous inspection report NRC Report No. 84-10 which identified this as an unresolved item (261/84-10-01) until calibration data could be reviewed. The inspector reviewed the initial source and electronic calibration data for these monitors and noted that the licensee had only electronically calibrated these monitors to 10^5 R/hr. The inspector stated that failure to perform the electronic signal calibration over all range decades above 10 R/hr is a violation of NRC Order to the licensee dated March 14, 1983 (261/84-17-03).