



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

Report No.: 50-261/84-14

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

Inspector:

*T. R. Collins*  
T. R. Collins

*5/21/84*  
Date Signed

Approved by:

*G. Jenkins*  
G. Jenkins, Section Chief  
Division of Radiation Safety and Safeguards

*5/21/84*  
Date Signed

SUMMARY

Inspection on April 16-19, 1984

Areas Inspected

This routine, unannounced inspection involved 33 inspector-hours on site in the areas of training and qualifications of contractor H.P. technicians, ALARA Program, internal and external radiation exposures, radioactive waste shipments, training for steam generator replacement project, posting, labeling and control, respiratory protection program and previous inspector followup items.

Results: Violation - Failure to survey material released from RCA for loose contamination.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*R. E. Morgan, Plant General Manager
- \*H. J. Young, Director of QA/QC
- \*R. Wallace, Director of ONS
- \*C. Wright, Senior Specialist Regulatory Compliance
- \*J. Sturdavant, Regulatory Compliance Technician
- \*B. MacCready, Project Specialist, Radiation Control
- \*B. Meyer, Radiation Control Supervisor
- \*R. Denney, Radiation Control Supervisor
- S. Crocker, Manager of E&RC
- B. Snipes, Training Supervisor
- M. Burch, Radiation Control Foreman
- B. Ritchie, Radiation Control Foreman

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

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on April 19, 1984, with those persons indicated in paragraph 1 above. The inspector discussed the apparent violation of failure to perform an adequate survey of material leaving the RCA and the unresolved item concerning exposure termination reports to workers. Licensee management acknowledged the inspectors concern.

### 3. Licensee Action on Previous Enforcement Matters

- a. (Closed) Violation 261/82-31-04 Review controls for locked high radiation areas and training given to personnel when an area cannot be secured. The inspector reviewed the response by the licensee which included additional training for personnel and immediate corrective action to secure high radiation areas when found unsecured. The inspector concluded that this was adequate and had no further questions.
- b. (Closed) Violation 261/82-31-05 Determine if licensee personnel know when personnel contamination record is required. The inspector reviewed the licensee's corrective action which included a revision to their routine Radiation Work Permit (RWP). On this RWP only general area decontamination is allowed. However, previous to the revision decontamination was allowed in high radiation and high contamination areas which the licensee did not have adequate controls to preclude personnel contamination. The inspector concluded since special RWP's are initiated for areas other than general area this corrective action was adequate. The inspector had no further questions.

- c. (Closed) Violation 261/82-31-06 Personnel drumming evaporator bottoms were on the wrong RWP. Personnel drumming evaporator bottoms were apparently using a routine RWP for entry, rather than a special RWP issued for their assigned work. The licensee's corrective action is the same as item 3.b. above which they now initiate a special RWP for this work. The inspector concluded this would apparently preclude future events of this type and had no further questions.
- d. (Closed) Violation 261/82-31-08 Hot machine shop incorrectly posted. The inspector reviewed the licensee's corrective action which included a revision to their HP-001 procedure, Radiation Control Area Surveillance Program. Within this procedure the requirement of posting Contaminated Process Equipment Areas is defined when areas shall be posted. The inspector concluded after a tour of the RCA that areas were posted in accordance with HPP-001. The inspector had no further questions.

#### 4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 6.0.

#### 5. Previous Identified Inspector Followup Items (IFI)

- a. (Closed) IFI 261/81-07-14 Procedural criteria for Bioassay Program. The inspector reviewed R&C Support Instruction , RC-PD-12/Collection and Handling of Samples for Bioassay and concluded that this procedure was adequate. The inspector had no further questions.
- b. (Closed) IFI 261/82-13-01 Evaluate air sampling program during normal operation. The inspector observed that continuous air monitors (CAM's) were procured and appropriate procedures were written to monitor airborne radioactivity during normal operation. The inspector concluded that this was adequate and had no further questions.
- c. (Closed) IFI 261/82-13-02 Review Radiation Work Permit (RWP) record system. At the time of this inspection the inspector was unable to locate the original copy of an RWP and its termination record. However, the licensee was able to locate them at a later date as required by procedure HP-007. The inspector had no further questions.
- d. (Closed) IFI 261/82-25-01 Licensee should evaluate release criteria of 0.25 MR/HR. The inspector reviewed procedures HP-004 and HP-003 which have been revised to incorporate a release criteria of 0.025 MR/HR on equipment released to the unrestricted area. The inspector had no further questions.

- e. (Closed) IFI 261/82-31-02 Review Radiation Work Permit (RWP) and supporting survey. The licensee revised the routine RWP for decontamination personnel to perform only general area decontamination under this RWP. Also, supporting radiation surveys are to be conducted by authorized personnel (H.P. Technicians). The inspector observed the work performed under this RWP #2 and supporting surveys and concluded that the corrective action was adequate. The inspector had no further questions.
- f. (Closed) IFI 261/82-31-03 Review contamination survey techniques. The inspector reviewed the licensee's contamination survey techniques to verify that an adequate survey was conducted to detect surface (smearable) contamination. The inspector concluded that the techniques used were adequate and had no further questions.
- g. (Closed) IFI 261/82-31-09 Expended resin from the make-up water treatment system containing natural occurring radioactive material. The inspector reviewed a response from the state of South Carolina Department of Health and Environmental Control (S.C.D.H.E.C) to CP&L, which stated their analyses of the resin was natural radioactivity and therefore was not considered licensed material. The inspector had no further questions.
- n. (Closed) IFI 261/83-03-03 More than one (1) data point is needed for calibration of RMS-14. The inspector reviewed an evaluation performed by the licensee which concluded that additional data points on RMS-14's were not necessary for accurate calibration. The inspector concluded from his review that the evaluation appeared to be adequate and had no further questions.
- i. (Closed) IFI 261/83-06-01 Review computer study of dosimetry area. The inspector reviewed an evaluation performed by the licensee which included a computer analysis of pocket dosimeter totals versus TLD results. Also, the inspector reviewed the licensee's corrective action on investigations of TLD/PD discrepancies. The inspector concluded that the evaluation performed by the licensee appeared to be adequate and had no further questions.
- j. (Closed) IFI 261/83-06-02 Determine adequacy of current TLD/PD investigation procedure. (See item 5.i.) This item is considered closed.

#### 6. Internal and External Radiation Exposure Control

The inspector selectively reviewed radiation exposure records of transient (contractors) workers on site for the Steam Generator Replacement Project (SGRP) as required by 10 CFR 20.102. The inspector concluded after his review that no violations or deviations have occurred. However, the inspector observed that upon termination, workers previous whole body counts (internal exposure) were not reported to the workers in their termination letter. The licensee stated they did not consider it to be required and that it was standard practice in the industry not to do so. The inspector

informed the licensee that failure to report whole body count results, other than the exit count, could constitute a violation of 10 CFR 20.409 and 10 CFR 19.13(a) which requires that the results of any measurements of radioactive material deposited or retained in the body and exposures to radioactive material incurred during the period of employment be reported to terminating employees. This matter will be carried as an Unresolved Item until such time as a clarification of the requirements can be obtained. (UNR 261/84-14-01)

7. Steam Generator Replacement Project (Training)

On a previous inspection the inspector reviewed the licensee's steam generator replacement project (SGRP) training requirements for contractor personnel. At that time the licensee was approximately 95% complete with lesson plans and actual training. However, during this inspection the inspector concluded by his review that all required training and lesson plans have been completed (i.e., decontamination, shielding, mock-up's, ALARA, and plant familiarization.) The inspector also selectively reviewed training records to ascertain that the required training for contractors had been conducted. The inspector concluded that this program was adequate and had no further questions.

8. Man-Rem Projection for the SGRP (ALARA)

The inspector discussed with licensee personnel their man-rem projection for the SGRP and was informed that a 2372 man-rem was projected for the SGRP and for the year of 1984. The inspector also was informed that a total of 648 man-rem had been expended for the first quarter of 1984 and concluded that this value was within their projected exposure total for the year. The inspector stated that this item would be reviewed in more detail upon future inspections. The inspector had no further questions.

9. Radwaste Shipments for Burial

On April 18, 1984, the licensee was preparing a radwaste shipment to Chem Nuclear Systems for burial. The radwaste shipment consisted of evaporator concentrates and compacted trash. The inspector observed the loading and handling of the Chem Nuclear 21-300 shipping cask, to ascertain that the requirements of HPP-207/21-300 and HPP-201/Shipping Radioactive Materials procedures were followed. The inspector concluded after his observation that the shipment in question met all procedure requirements, and state and federal regulations. The inspector had no further questions.

10. Contract Health Physics Technicians

The inspector discussed with licensee personnel their program for interviewing, training, and review of resumes of contract health physics technicians to ascertain that these personnel met ANSI 18.1 requirements. The inspector was informed by the licensee that they do review resumes, conduct personnel interviews, and train contract technicians on specific health physics procedures. Also, the individual has to score at least 80% on an examination to be considered qualified. The inspector concluded that

this program appeared to be adequate. However, the program is not formalized. The inspector informed licensee management that this program should be developed into a formal program. Licensee management acknowledged the inspectors concern. The inspector informed the licensee this would remain an inspector followup item to be reviewed upon subsequent inspections. (IFI 261/84-14-02)

11. Posting, Labeling and Control

During tours of the facility and the Radiation Control Area (RCA) the inspector observed posting of radiological areas, labeling and control of radioactive material for compliance to 10 CFR 19.11, 10 CFR 20, plant technical specifications and licensee procedures. No violations or deviations were observed. The inspector had no further questions.

12. Respiratory Protection Program

The inspector selectively reviewed respiratory training records of contract workers on site for the steam generator replacement project (SGRP). The training records consisted of current medical qualifications, training, and respiratory fit test. The inspector concluded after his review that the respiratory protection program appeared to be adequate and had no further questions.

13. Tour of Containment Vessel

The inspector toured the Containment Vessel (CV) with a licensee representative to verify controls being performed by the licensee during the SGRP. The inspector observed various types of work being performed by personnel. It appeared from the inspectors observation that all workers were properly dressed in Anti-C's, and following RWP requirements. The inspector was impressed with the house keeping controls and decontamination efforts which have taken place within the CV. Also, during the CV tour the inspector observed posting of high radiation areas, locked high radiation areas and shielding of hot spots in areas which would have created an ALARA problem. General area dose rates throughout the CV were relatively low, (less than 10 MR/hr). The inspector informed licensee management that efforts afforded in the CV by the health physics personnel were adequate and inspector had no further questions.

14. Tools and Equipment Control

On April 20, 1983, the inspector observed personnel releasing equipment over the RCA fence to other personnel outside the RCA fence. The inspector did not observe a health physics technician survey the material being released from the RCA. The inspector asked licensee personnel if a survey had been conducted of this material being released. A licensee representative told the inspector that this equipment had been properly surveyed. Later it was concluded that a direct survey for fixed radioactivity had been performed however, a smear survey for loose radioactivity had not been performed. The

inspector told licensee management that failure to perform an adequate survey constituted a violation of procedure HPP-004 and Technical Specifications (VIO 261/84-14-03)

15. Dosimetry Control

The inspector reviewed a program which has been established by the licensee to verify that personnel working in the containment vessel (CV) are wearing their assigned TLD's. The licensee has spot checked to date approximately 100 contract workers upon entry and exit of the CV to assure workers are wearing their assigned dosimetry. The inspector reviewed these records and concluded that the program appeared to be adequate. No violations or deviations were identified. The inspector had no further questions.