



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II

101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

December 3, 1982

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Report No. 50-261/82-40

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

Facility Name: H. B. Robinson

Docket No. 50-261

License No. DPR-26

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

Inspector: R. H. Albright 11-30-82
R. H. Albright Date Signed

Approved by: K. P. Barr 11/30/82
K. P. Barr, Section Chief Date Signed
Operational Programs Branch
Division of Engineering and Technical Programs

SUMMARY

Inspection on November 10, 1982

Areas Inspected

This special, announced inspection involved 6 inspector-hours on site in the areas of radioactive material shipments.

Results

Of the one area inspected, one apparent violation was found.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *R. B. Starkey, Plant General Manager
- *S. Crocker, Manager, Environmental and Radiation Control
- *G. Hudson, Project Engineer, Environmental and Radiation Control
- *A. Eaddy, Environmental and Chemistry Supervisor
- *M. Layton, Project Specialist, Environmental and Chemistry
- *R. Hitch, Senior Specialist, Environmental and Chemistry
- W. MacCready, Radiation Control Supervisor
- W. Ritchie, Radiation Control Foreman
- *C. Wright, Specialist, Regulatory Compliance

NRC Resident Inspector

S. Weise, Senior Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 10, 1982, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Shipment of Radioactive Material

On November 2, 1982, the licensee delivered a radioactive waste shipment for transport (CP&L Shipment No. D93-82) to the Barnwell Waste Management Facility in Barnwell, South Carolina. Following arrival of the shipment at the waste facility, an inspector for the State of South Carolina found two of the 55 gallon drums to be leaking. The inspector found that a small amount of the fluid material inside the drum had leaked through the bottom of one drum onto the pallet. In addition, the floor under this pallet was damp due to leakage during transit. The bottom of the second drum on this same pallet was moist and highly corroded. A closer examination of the corroded area revealed small holes in the container bottom.

Burial grounds personnel and the state inspector punctured the two drums to determine if there was liquid in the drums and a black sludge leaked out at the puncture.

The waste burial ground is an Agreement State licensee and has a license condition which requires all liquids to be solidified. Improper solidification of the radioactive sludge is a violation 10 CFR 30.41 which requires that before transferring byproduct material to a specific licensee of the Commission or an Agreement State or to a general licensee who is required to register with the Commission or with an Agreement State prior to receipt of the byproduct material, the licensee transferring the material shall verify that the transferee's license authorizes the receipt of the type, form, and quantity of byproduct material to be transferred.

The licensee was then contacted and sent the Radiation Control Supervisor and the Radiation Control Foreman responsible for radioactive materials shipments to the Barnwell site to examine the drums. At that time three additional drums on the pallet were punctured by licensee personnel and found to have fluid sludge in the lower third of the drums.

The licensee personnel obtained a sample of the sludge for analysis. The analysis determined the sludge to be a mixture of iron, copper and chlorides with a pH of 10.2 and radioactivity concentration of $4.2 \text{ E-3 } \mu\text{Ci/gm}$ mainly Co-60.

The inspector interviewed the Radiation Control Supervisor and Radiation Control Foreman who went to the Barnwell site. They indicated that during August, 1982, radioactive sludge from the unit 1 boiler decontamination work was transferred from used 55 gallon drums to new 55 gallon drums for solidification. The Manager, Environmental and Radiation Control commented during the inspection that the sludge in its fluid form had been stored in 55 gallon drums for several months without problems developing. Cement was mixed with the sludge and allowed to solidify. After an appropriate time the drums were checked for adequate solidification by tamping the top of the cement in the drums. Two of the drums checked indicated sludge had leaked around the outside edge of the concrete crust in the top of the barrel. These two barrels were then set aside for further evaluation and the other barrels were again tamped. No attempt was made to perform additional investigation of the adequacy of solidification other than by tamping.

The Radiation Control foreman responsible for radioactive material shipping stated that prior to the shipment leaving the plant site, the technician surveying the shipment notified him that the barrels were rusty near the bottom. He instructed the technician to probe the area and determine if the container wall was intact. The bottom of the containers were not examined prior to shipment. This test did not indicate any problem areas and the shipment was allowed to leave.

Subsequent to this inspection the licensee examined and tested the affected drums and on November 24, 1982, during the enforcement conference stated that the drums had rusted through from the outside and therefore the holes in the drum bottoms were not due to a chemical reaction between the packaged material and the drum. The licensee stated that the material apparently was packaged into rusting drums. This is a violation of 49 CFR 173.392(c)(1) which requires a consignor of low specific activity radioactive material to package the material in strong, tight packages so that there will be no leakage of radioactive material under conditions normally incident to transportation.

In a letter dated November 9, 1982, the State of South Carolina, Department of Health and Environmental Control, notified the licensee of three violations of South Carolina law against the radioactive waste shipment and assessed a civil penalty of \$1500.00 against the licensee.

Violations cited by the state are as follows:

1. A thick black sludge not properly solidified in a number of the drums inspected, contrary to the requirements of Condition No. 28 of S.C. Radioactive Material License No. 097;
2. Numerous corroded drums to be used as burial containers, contrary to the requirements of Condition No. 49 of S.C. Radioactive Material License No. 097; and
3. Corroded drums with holes leaking the contents onto the drum pallets and trailer floor, contrary to the requirements of 49 CFR 173.392-(c)(1).

6. Enforcement Conference

a. Attendees

Licensee Employees

L. Eury, Senior Vice President, Power Supply
 P. W. Howe, Vice President, Brunswick Nuclear Project
 B. J. Furr, Vice President, Nuclear Operations
 W. Webster, Manager, Radiation Control Chemistry Support

U. S. Nuclear Regulatory Commission, Region II

J. Olshinski, Director Division of Engineering and Technical Programs, RII
 P. Bemis, Technical Assistant to the Director, Division of Engineering and Technical Programs, RII
 D. Verrelli, Chief, Projects Branch 1, DPRP
 A. Gibson, Chief, Technical Inspection Branch

C. Burger, Chief, Project Section 1C, DPRP
K. Barr, Chief, Facilities Radiation Protection Section
A. Hardin, Project Inspector, Project Section 1C
W. Hehl, Project Inspector, Project Section 1C

- b. NRC Region II representatives discussed the apparent violations of Radioactive Material Shipments with licensee management representatives on November 24, 1982. Licensee management acknowledged the NRC's concerns and stated their corrective action should preclude any future occurrence. The corrective actions will be reviewed during future inspections.