CP&L

Carolina Power & Light Company

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SERIAL: NLS-86-266

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E. E. UTLEY
Senior Executive Vice President
Power Supply and Engineering & Construction

Dr. J. Nelson Grace, Regional Administrator
United States Nuclear Regulatory Commission
Suite 2900
101 Marietta Street, NW
Atlanta, GA 30303

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
REGION II INSPECTION REPORT 86-09

Dear Dr. Grace:

Carolina Power & Light Company (CP&L) provides the following responses to the two violations identified in Inspection Report 86-09.

Severity Level III Violation Part A (RII-86-09-SL3)

10 CFR 20.311(d)(1) requires that licensees who transfer radioactive waste to a land disposal facility prepare all wastes so that the waste is classified according to 10 CFR 61.55.

10 CFR 61.55, Table 2, Column 1 specifies that the Class A concentration limit for Strontium-90 is 0.04 curies per cubic meter.

Contrary to the above, on July 31 and August 1, 1985, the licensee failed to classify radioactive waste transferred to a land disposal facility according to 10 CFR 61.55 in that several radioactive waste packages classified as Class A within shipment number OT-85-6 and OT-86-7 contained Strontium-90 concentrations in excess of 0.04 curies per cubic meter.

RESPONSE TO PART A:

1. Admission or Denial of the Violation

   CP&L acknowledges the violation.

2. Reason for the Violation if Admitted

   The Shipping Technician who entered the isotopes into the WASTETRAK program was unaware that appropriate scaling was dependent on the sequence of data input. The amount of Strontium-90 in the shipments was incorrectly scaled from Cobalt-60 instead of Cesium-137 because the isotopes were input alphabetically from the gamma analysis. Therefore, the calculated level of Strontium-90 was erroneously higher than had it been scaled off of Cesium-137.

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A secondary cause of the errors involved the WASTETRAK program itself. In order to obtain shipment classification, the main program must be exited and a separate program entered. In this second program, data from each container must be entered to obtain the correct classification. Over 100 individuals containers were included in the shipments in question and the technician relied on past history and "rule of thumb" to determine classification rather than using the computer.

Together, the combination of erroneous judgments on the part of the Technician resulted in the shipment being considered Class A.

3. Corrective Steps Which Have Been Taken and Results Achieved

Shipping Technicians have been retrained in the proper method for entering isotopic input to the WASTETRAK program. The Technicians have also been counseled to ensure they understand that the computer is to classify the waste.

The State of Washington changed the shipping manifests to reflect Class B stable waste and the shipping containers have been interred.

Chem-Nuclear Systems, Inc., the broker for the shipments, has responded to the State.

Since August of 1985, two shipments comprised of five liners containing oil and/or oil sludge have been made without incident.

Long-term corrective actions were completed as of May 1986. The WASTETRAK 2C program has been superseded and replaced by WASTETRAK 3D. This version of WASTETRAK will automatically classify waste without exiting the main program. The applicable radioactive waste shipping procedures have been revised to provide direction in the use of the 3D version of WASTETRAK and in the transfer of data to shipping manifests.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

Completed.

5. Date When Full Compliance Will Be Achieved

With the completion of the corrective actions identified above, full compliance has been achieved as of May 1986.

Severity Level III Violation Part B (RII-86-09-SL3)

10 CFR 71.5(a) requires that each licensee who transports licensed material outside of the confines of its plant or other place of use comply with the applicable requirements of the Department of Transportation (DOT) in 49 CFR Parts 170 through 189.

49 CFR 173.425(b)(1) requires that Low Specific Activity (LSA) materials consigned as exclusive use be packaged in DOT Specification 7A Type A packages or in strong, tight packages so that there will be no leakage of radioactive material under conditions normally incident to transportation.

Contrary to the above, on November 14, 1985, LSA radioactive material consigned as exclusive use within shipment number D-85-20 was not packaged in a DOT Specification 7A Type A package or in a strong, tight package. A hole was found in the bottom of the package upon its arrival at the Chem-Nuclear Systems, Inc., low-level radioactive waste disposal site near Barnwell, South Carolina, and some of the nonradioactive package contents had leaked onto the trailer bed.

RESPONSE TO PART B:

1. Admission or Denial of the Violation

   CP&L acknowledges the violation.

2. Reason for the Violation if Admitted

   Several 98-cf (cubic feet) boxes were sent to Barnwell for burial in the shipment in question. Upon arrival at the South Carolina site, one of the boxes was found to have a hole in its bottom measuring approximately 1/8" in diameter. This box contained chunks of concrete, pieces of wood, and oil-dry to collect incidental condensation. The Robinson Plant dispatched three individuals to investigate the cause of the hole. Their investigation noted that a small amount of oil-dry had apparently escaped through the hole and onto the trailer bed, but no evidence was found of any contamination. Based on the investigation, the cause was determined to be that the box had become punctured during transportation.

   Because of this incident, CP&L was fined $1,000 by the State of South Carolina.

3. Corrective Steps Which Have Been Taken and Results Achieved

   The Chem-Nuclear forces at the Barnwell waste disposal site properly wrapped the box and interred it as part of the entire shipment. Shortly following the incident, members of Robinson Plant management held discussions with South Carolina State officials and assured them each box on site had been independently verified to ensure container integrity.

   In December of 1985, the applicable radioactive waste shipping procedure was revised to require independent verification of container integrity and to assure the use of shock absorber materials when necessary.

   Since the end of 1985, stronger boxes have been obtained for the shipment of radioactive waste. The new box design involves a 10-gage steel bottom rather than the previous 12-gage steel. A number of shipments have since been accomplished using the new box design and the shipments have been without incident.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

   Completed.

5. Date When Full Compliance Will Be Achieved

   With the completion of the corrective actions identified above, full compliance has been achieved as of March 1986.

Severity Level III Violation Part C (RII-86-09-SL3)

10 CFR 30.41(c) requires that no licensee transfer by-product material except as authorized pursuant to that section. 10 CFR 30.41(b)(5) only permits the transfer of by-product material to a person authorized to receive such by-product material under terms of a specific or general license or their equivalent issued by the Commission or an Agreement State.

Condition 8.B of the State of Maryland radioactive material license number MD-31-076-01, Amendment 8, July 8, 1980, issued to Science Applications International (SAI) requires that each sample possessed by SAI not contain in excess of one millicurie of radioactive material.

Contrary to the above, on February 13, 1986, the licensee transferred a reactor coolant system filter sample to SAI for analysis which contained 12.73 millicuries of radioactivity.

RESPONSE TO PART C:

1. Admission or Denial of the Violation

   CP&L acknowledges the violation.

2. Reason for the Violation if Admitted

   A small sample of a reactor coolant system filter was collected for 10 CFR 61 Analysis. For gamma analysis, only 1/200 of the sample was used to identify the isotopic composition. In the instance of the sample sent to SAI, it is apparent the sample sent for gamma analysis was not representative of the total sample curie content. In addition, the total sample was allowed to evaporate prior to shipping offsite. Both situations, combined, led to the violation.

3. Corrective Steps Which Have Been Taken and Results Achieved

   As soon as the millicurie content of the sample was noted, SAI split the sample into smaller, separate amounts to comply with their license. The Robinson Plant voluntarily imposed a 10-day stay in radioactive material shipments to allow for the shipping staff to complete an internal assessment of the situation. In addition, the Carolina Power & Light Corporate Shipping Group performed an independent assessment of the Robinson shipping program.

   The assessment by Plant Staff and the assessment by the Corporate Shipping Group compared favorably.

   Also, a request was made for Technical Support personnel to be present during preparation and loading of radioactive material shipments to provide extra quality control measures.

   Chemistry analysis procedures and a sample collection procedure have been developed to provide direction on obtaining representative samples.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

   Completed.

5. Date When Full Compliance Will Be Achieved

With the completion of the corrective actions identified above, full compliance has been achieved as of June 1986.

Severity Level IV Violation (RII-86-09-02-SL4)

Technical Specification 6.13.1.a requires that each High Radiation Area in which the intensity of radiation is greater than 100 millirem per hour be barricaded and conspicuously posted as a High Radiation Area and entrance thereto be controlled by issuance of a Radiation Work Permit. Each individual or group of individuals permitted to enter such areas shall also be provided with a radiation monitoring device which continuously indicates the radiation exposure rate in the area.

Contrary to the above, on April 18, 1986, the licensee failed to barricade and post as a High Radiation Area and to provide the other specified access controls for an area in the vicinity of the safety injection piping in the middle pipe gallery of the auxiliary building where the intensity of radiation at eighteen inches from the piping was approximately 180 millirem per hour.

RESPONSE:

1. Admission or Denial of the Violation

CP&L acknowledges the violation.

2. Reason for the Violation if Admitted

At approximately 1700 hours on April 18, 1986, an NRC inspector found the radiation level at a point on the Residual Heat Removal (RHR) discharge piping to the Safety Injection and Containment Spray suction line to be 130 millirem per hour. The discharge line had been surveyed for radiation earlier that day for a job-specific survey with a reading of 80 millirem per hour.

This discharge line is isolated during power operations. It appears that after the job-specific survey, a periodic surveillance test was performed on the RHR system. During the test, vibrations in the discharge line mix the precipitate back into solution. Upon completion of the test, the precipitate settles back to the bottom of the line and the radiation readings increase.

3. Corrective Steps Which Have Been Taken and Results Achieved

The Radiation Control Supervisor immediately had the area posted as a High Radiation Area. In addition, shift surveys were started to track the fluctuations in the exposure rates. Recent evaluation of the shift surveys have found that the radiation levels have decreased due to radioactive decay and other factors. The shift surveys are no longer required and a weekly survey is sufficient to alert personnel to exposure changes and to assure proper radiation area posting in

accordance with the Technical Specifications. Administratively, the Environmental and Radiation Control Manager has requested his supervisory personnel to be more aware of changes in radiation levels.

No personnel quarterly exposure limits were exceeded because of the incident.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

Completed.

5. Date when Full Compliance Will Be Achieved

With the completion of the corrective actions identified above, full compliance has been achieved as of April 18, 1986.

If you have any questions concerning these responses, please contact my staff or me.

Yours very truly,

E. E. Utley

JSK/pgp (4015JSK)

cc: Mr. R. E. Morgan
Mr. J. M. Taylor
Mr. G. Requa (NRC)
Mr. H. Krug (NRC Resident Inspector - RNP)