



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

Report No.: 50-261/79-1

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

Facility Name: H. B. Robinson Unit 2

Docket No.: 50-261

License No.: DPR-23

Inspection at H. B. Robinson Site

Inspector: G. R. Jenkins

2/16/79
Date Signed

Approved by: A. F. Gibson
A. F. Gibson, Section Chief, FFMSB

2/16/79
Date Signed

SUMMARY

Inspection on January 8-12, 1979

Areas Inspected

This routine unannounced inspection involved 31 inspector-hours onsite in the areas of effluent control instrumentation, filter testing, tests of reactor coolant and secondary water, and followup on previous noncompliance, unresolved, and inspector identified items.

Results

Of the 5 areas inspected, no apparent items of noncompliance or deviations were identified.

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DETAILS

1. Individuals Contacted

*R. B. Starkey, Plant Manager
*D. S. Crocker, E&RC Supervisor
*C. W. Crawford, Maintenance Supervisor
*H. S. Zimmerman, Engineering Supervisor
*J. M. Curley, Senior Engineer
R. Dayton, Engineer
D. R. Gainey, Jr., RC&T Foreman
W. L. MacCready, Engineer
J. Sawyer, Engineering Technician
One Reactor Operator
One RC&T Technician
One I&C Technician

*Denotes those present at the Exit Interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (78-21-02) Radiological controls associated with fuel cask loading. An inspector toured the fuel building, reviewed radiation work permits and records of contamination surveys on crane hook and yoke. This item is closed (Details I, paragraph 4).

(Closed) Infraction (78-23-02) Waste drums not smeared prior to shipment. By review of contamination survey records and discussion with RC&T personnel, an inspector verified corrective actions as stated in CP&L's letter of November 27, 1978.

(Closed) Unresolved Item (78-23-03) Interpretation of "package" for spent fuel shipments. An inspector reviewed records of recent spent fuel shipments to Brunswick Plant, and discussed the NRC position relative to "package" interpretation as applied to Certificate of Compliance No. 9001. This item is closed (Details I, paragraph 5).

(Closed) Open Item (78-28-01) Computer errors in gas effluent calculations. An inspector reviewed an RC&T memorandum which documented the licensee's review of effluent gas data. The review identified errors in both plant vent and condenser off-gas data, but concluded that they were conservative and well within the total estimated error of plus/minus 10 percent. The inspector had no further questions.

3. Unresolved Items

No new unresolved items were identified during this inspection.

4. Radiological Controls Associated with Fuel Cask Loading (78-21-02)

An inspector toured the fuel handling building and reviewed status of the following activities which were previously discussed (RII Report Number 50-261/78-23) with the E&RC Supervisor:

- a. Availability of frisker. At the time of the tour by the inspector, no frisker was available in the change area at the base of the stairs leading to the fuel building, although an operator was in the fuel building in anti-C clothing. An RC&T foreman said that a frisker had been located there, but was relocated to the cask decon area after the fuel cask was removed from the fuel building. The inspector stated that a frisker should be available at the base of the stairs anytime that personnel have to exit from the fuel building. The RC&T foreman concurred and had a frisker installed in that location.
- b. Contamination surveys of crane hook. By review of contamination survey records and discussion with an RC&T foreman, an inspector verified that the cask crane hook and yoke had been surveyed and decontaminated after the three most recent cask loading evolutions.
- c. Radiation Work Permits (RWP). An inspector reviewed about 18 RWP's issued during December, 1978, for work in the fuel building or cask decon area. The specificity of protective clothing requirements on the RWP's appeared to be adequate.

The inspector had no further questions on this item.

5. Spent Fuel Shipments (78-23-03)

- a. An inspector reviewed shipping documentation associated with transfers of spent fuel from H. B. Robinson to Brunswick made on December 6, 1978, December 15, 1978, and January 2, 1979. The inspector noted that radiation survey records for each shipment were being maintained, as well as contamination survey records for the cask and railcar.
- b. The inspector had previously questioned CP&L's interpretation that the aluminum enclosure, rather than the spent fuel cask is the "package" for purposes of determining contamination levels and the transport index of a shipment. Based on subsequent guidance received, the inspector stated that the aluminum enclosure was an acceptable reference point for monitoring radiation levels external to the

package, but that "the external surfaces of the package" for radioactive contamination purposes should be considered to include the cask surface. Licensee management acknowledged the inspector's comments. The inspector's review of fuel shipment records during this inspection as well as during the inspection of October 2-6, 1978 revealed no case where the fuel cask was not surveyed for contamination both prior to shipment and upon receipt, and revealed no case where the cask surface contamination exceeded 22,000 dpm/100 square centimeters. The inspector had no further questions.

6. Effluent Control Instrumentation

a. Radiation Monitor Tests and Calibration

Technical Specification Table 4.1-1 requires that the radiation monitoring system be checked daily, tested monthly, and calibrated at refueling intervals. An inspector reviewed completed P.T.12.1, "RMS Daily Check" for the first week of each month of fourth quarter 1978; completed P.T.12.2, "RMS Bi-Weekly Test" for the fourth quarter, 1978; completed P.T.12.3, "Process Monitor Source Check (Bi-Weekly)" for the fourth quarter, 1978 and completed P.T.29, "RMS Refueling Interval (Calibration)" for the 1978 refueling. Based on this review, the inspector stated that the licensee appeared to be in compliance with item 19 of TS Table 4.1-1. The calibrations for gaseous monitors R-12, R-14, R-20 and R-21 were completed in August 1978 as discussed in RII Rpt. Nos. 50-261/78-13 and 50-261/78-23; the other monitor calibrations were completed in March 1978, except R-18 which was replaced and calibrated in May 1978. During review of the Periodic Tests described above, the inspector offered comments and suggested improvements to P.T.12.2 and P.T.29; these were acknowledged by the cognizant licensee representatives.

b. Correlation of Monitor Readings with Laboratory Measurement of Concentrations

In response to the inspector's questions, licensee representatives said that, although some monitor comparisons have been made at times in the past, there is no program established for periodically correlating process monitor readings with laboratory measurement of concentrations. The inspector said that such correlations are important to establish and maintain confidence that the monitor calibration curves, which are determined infrequently and, in some cases, with point sources, accurately reflect the monitored concentrations. The E&RC Supervisor concurred, and stated that a more formal correlation program would be established for periodically evaluating the monitors for systems where radioactive samples could be obtained (79-01-01).

c. Settings for Trips and Alarms

An inspector reviewed Standing Order No. 4, "Radiation Monitor Setpoints", which sets forth area and process monitor setpoints, their basis, and the mechanism for changes. At the inspector's request, a reactor operator demonstrated the process monitor setpoints on January 11, 1979; these were compared with the values on the current Setpoint Log and no discrepancies were identified. Three setpoints are established for the liquid effluent monitor (R-18), with the selected setpoint based on the number of circulating water pumps running at the time of a liquid discharge. The procedure does not specify reducing the setpoint to its minimum value during periods when no release is in progress. The inspector stated that this would be good practice, to provide an earlier alarm in the event of an unanticipated release. Management representatives agreed and stated that a procedure change would be made if evaluation showed no adverse operational problems (79-1-2). The inspector had no further questions regarding setpoints.

d. RMS Trip Circuitry

An inspector questioned licensee representatives regarding a situation at another facility where the radiation monitor system trip relays were found to be not failsafe. Based on a schematic review and discussion with an I&C technician, the inspector determined that loss of circuit power will actuate the trip functions for the H. B. Robinson RMS system.

7. Testing of Air-Cleaning Systems

- a. An inspector reviewed P.T.24.0, "Fans and Associated Charcoal and Absolute Filters (Refueling and Filter Change)" for the 1978 refueling outage. The test was completed on March 20, 1978, and results approved on April 9, 1978. The inspector also had discussions with the cognizant Engineer, Senior Engineer, and Engineering Supervisor regarding the test program.
- b. Technical Specification Table 4.1-3, Item 14, specifies testing fans and filters for the control room and RHR compartments at each refueling shutdown. The review of P.T.24.0 verified that fan and charcoal and HEPA tests were conducted and met the specified acceptance criteria for the control room ventilation and the auxiliary building charcoal systems.
- c. Technical Specification 4.12.1 requires pressure drop and air distribution tests be conducted each operating cycle for Spent Fuel Building and Containment Purge filter systems. The review of P.T.24.0 verified that these tests were conducted and met the acceptance criteria.

- d. Technical Specification 4.12.2.a. states: "The tests of Specification 3.8.2.a for the refueling filter systems shall be performed initially and at least once per operating cycle, prior to each refueling outage operation or after every 720 hours of system operation". Technical Specification 4.12.2.b states: "The tests and sample analysis of Specification 3.8.2.b for the refueling filter systems shall be performed initially, at least once per operating cycle prior to each refueling outage operation or after every 720 hours of system operation, and following significant painting, fire, or chemical release in any ventilation zone communicating with the filter systems." Neither the in-place tests (T.S. 3.8.2.a) nor the laboratory carbon test (T.S. 3.8.2.b) were performed for the Spent Fuel Building filter system during the 1978 refueling outage. A "Comments Section" in P.T. 24.0 states that due to the fact that HV-5A had been operated for less than 720 hours and the possibility of exceeding this limit prior to the next refueling is remote, the system was not subjected to the in-place or iodine removal tests. The Engineering Supervisor stated that the licensee interpreted T.S. 4.12.2.a and b as not requiring the tests as long as 720 hours of filter system operation had not been exceeded. He stated this interpretation was influenced by discussions he had with NRC licensing personnel at the time (1973 or 1974) this technical specification was revised. This interpretation was discussed and approved during a PNSC meeting on February 20, 1978. The Engineer responsible for filter testing stated that, while attending a course on filter testing in late Spring or early Summer, 1978, he talked informally with NRC representatives and was informed that the tests should be conducted at least once each operating cycle. Subsequently, he began drafting a proposed change to the technical specification to clarify its intent; that proposed change is still in draft form. When questioned, the Engineering Supervisor stated that he still believed his interpretation to be correct at that time and did not consider having the tests done at that time (Summer, 1978), even though spent fuel was being handled frequently throughout C-1978 for transfer to the Brunswick Plant. On January 18, 1979, the inspector contacted the Plant Manager by telephone and stated that RII management had concluded that T. S. 4.12.2.a and b were worded and punctuated sufficiently vague to technically permit the licensee's interpretation and, for this reason, no noncompliance had occurred. The inspector stated that the intent of the technical specification was to require testing at least once per operating cycle, and more frequently if 720 operating hours were reached. The Plant Manager stated that a proposed Technical Specification change to clarify T.S. 4.12.2, along with a number of other sections, will be submitted in the future. He stated that, until the Technical Specification is revised, the testing will be accomplished at least

each operating cycle if 720 operating hours have not been reached, and confirmed that this will commence with the 1979 refueling outage. The inspector had no further questions.

- e. Technical Specification 3.8.2.b states, in part, that the results of laboratory carbon sample analysis from the Containment Purge filter system shall show >90% radioactive methyl iodide removal at 0.05 to 0.15 mg/m³ inlet methyl iodide concentration. The carbon in the containment purge system was replaced during the 1978 refueling outage. In reviewing test data, performed in November, 1977, by a sub-contractor, the inspector noted that the carbon was tested at an inlet methyl iodide concentration of 2.0 mg/m³. A licensee representative said that this was done pursuant to a statement in the Basis for T.S. 4.12 which states: "If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent qualified according to Table 1 of Regulatory Guide 1.52". R.G. 1.52 (June 1973), Table 1 references RDT Standard M16-1T, which specifies an upstream methyl iodide concentration of 1.5 to 2.0 mg/m³. By telephone on January 18, 1979, the inspector informed the Plant Manager that the methyl iodide test was acceptable as performed, based on the guidance provided in the Technical Specification Basis as well as the fact that the test concentration used did not degrade the quality of the test and met accepted industry practice. The Plant Manager stated that the proposed technical specification change discussed in paragraph d., above would eliminate any discrepancy between T.S. 3.8.2.b and the Basis to T.S. 4.12. He stated that, in the interim, testing of charcoal samples would be conducted under the conditions specified in T.S.3.8.2.b. The inspector had no further questions.
- f. The inspector identified no items of noncompliance associated with T.S.3.8.2 or T.S. 4.12.2.

8. Tests of Reactor Coolant and Secondary Water

An inspector reviewed Daily Chemistry Reports for the 4th quarter 1978, and verified that chemistry and radiochemistry sampling met or exceeded the requirements of T.S. Table 4.1-2, Item 1, that the reactor coolant activity limit of T.S.3.1.4 was not exceeded, and that the reactor coolant chemistry limits of T.S.3.1.6 were not exceeded. The inspector also reviewed the Chemistry Reports for September 1978, and verified that the secondary water activity did not exceed the limit of T.S.3.4.2 during the most recent steam generator tube leak of September 21, 1978.

9. Air Supply for Respirators

In response to the inspector's questions, the E&RC Supervisor said that instrument air is used to supply respirators for air-line operation. Based on discussion with the E&RC Supervisor and an I&C technician, the inspector stated that there appeared to be no mechanism where this breathing air could become radioactively contaminated.

10. Exit Interview

The inspector met with management representatives (denoted in paragraph 1) on January 12, 1979, and discussed the scope and findings of the inspection. In addition, matters relating to testing of air-cleaning systems were discussed with the Plant Manager by telephone on January 18, 1979.