UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

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Report Nos.: 50-325/93-09 and 50-324/93-09

Licensee: Carolina Power and Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket Nos.: 50-325 and 50-324 License Nos.: DPR-71 and DPR-62

Facility Name: Brunswick Nuclear Power Plant

Inspection Conducted: February 8-12, 1993

Inspector: Robert P. Carrion 22 MAR '93
R. P. Carrion, Radiation Specialist Date Signed

Approved by: Thomas R Decker 23 March '93
T. R. Decker, Chief Date Signed
Radiological Effluents and Chemistry Section
Radiological Protection and Emergency Preparedness Branch
Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of the organization of the Chemistry/Effluent Department and Radioactive Waste Group, the Post Accident Sampling System (PASS), effluent processing and monitors, status of the Hydrogen Water Chemistry (HWC) Program, the Standby Gas Treatment System (SGTS), the Meteorological Monitoring Program, the Turbine Building negative pressure issue, management of solid radioactive material, contaminated onsite soil, and records for decommissioning planning.

Results:

The Chemistry Department and the Radwaste Group were staffed by knowledgeable, competent personnel (Paragraph 2).

The licensee had taken measures to upgrade the PASS (Paragraph 3).

The licensee's program to process and release liquid radioactive effluents was effective (Paragraph 4).

The licensee planned to utilize HWC on both units when they start up (Paragraph 5).

The licensee was taking a proactive position in the resolution of potential inleakage of the SGTS (Paragraph 6).

The licensee had implemented a good Meteorological Monitoring Program and maintained the onsite instrumentation well (Paragraph 7).

The licensee had made great progress in returning the Turbine Building to a slightly negative pressure to be in compliance with the Final Safety Analysis Report (Paragraph 8).

Radioactive material processing and shipping was conducted in a competent, professional manner (Paragraph 9).

The licensee continued to move cautiously before removing some slightly-contaminated soil from the Protected Area (Paragraph 10).

The licensee will develop a system to identify and maintain events/incidents significant with respect to decommissioning planning (Paragraph 11).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

G. Baird, Specialist, Environmental and Chemistry (E&C)
*H. Beane, Manager, Quality Control
*J. Brown, Unit 2 Plant Manager
J. Casteen, Records Management Supervisor
*J. Cowan, Manager, Technical Support and Regulatory Compliance
R. Garber, Technical Support, HVAC Engineer
*R. Godley, Manager, Nuclear Regulatory Commission (NRC) Compliance
*J. Gurganious, Senior Specialist, Nuclear Assessment Department (NAD)
D. Hunt, System Engineer, Standby Gas Treatment System (SGTS)
R. McGowan, Supervisor, E&C
W. Nurnberger, Supervisor, E&C
G. Raker, Senior Specialist, E&C
*C. Robertson, Manager, Environmental and Radiation Control (E&RC)
*R. Smith, Manager, Radiation Control (RC)
*P. Snead, Manager, RC
L. Tice, Senior Specialist, Technical Training
*J. Titrington, Manager, Operations Unit 1
*S. Watson, Manager, E&C
G. Worley, Supervisor, RC

Other licensee employees contacted during this inspection included engineers, operators, technicians, and administrative personnel.

Nuclear Regulatory Commission

P. Byron, Resident Inspector
D. Nelson, Resident Inspector
*R. Prevatte, Senior Resident Inspector

*Attended exit interview

Acronyms and Initialisms used throughout this report are listed in the last paragraph.

2. Organization (84750)

Technical Specification (TS) 6.2.2 describes the licensee's onsite facility organization. The inspector reviewed the licensee's organization, staffing levels, and lines of authority as they related to the Environmental and Chemistry (E&C) Department and Radioactive Waste Group to verify that the licensee had not made organizational changes which would adversely affect the ability to control radiation exposures or radioactive material.

Both groups were organized within the Environmental and Radiation Control (E&RC) Unit, under direction of the E&RC Manager. Although there were no structural changes in the referenced groups, some personnel changes had occurred due to promotions, resignations, and personnel rotations. The E&C Manager, who reported directly to the E&RC Manager, directed a staff of thirty-two, including an aide, four specialists, three supervisors, twenty-two technicians, and two contractors. At the time of the inspection, one technician position was vacant. The supervisor position vacant during the last inspection had been filled by the promotion of a senior technician within the unit. The Radiation Control (RC) Manager reported directly to the E&RC Manager and had three primary areas of responsibility, including the handling and shipping of radioactive materials. The group responsible for those activities consisted of a supervisor, nine technicians, and four contractors. Changes since the last inspection in this area included the rotation of one technician out of and two technicians into the group. Seven experienced technicians had been unaffected by the personnel rotations and remained in the unit. In addition to preparing the normal radwaste shipments, this group was also responsible for receiving the empty spent fuel casks from the Harris plant and assuring that they may be released from the Brunswick site upon loading of the spent fuel, prior to transport to Harris.

The inspector concluded that the licensee's E&C and Radwaste Management organizations and personnel therein were capable of effectively discharging their duties as related to chemistry/effluents and radioactive waste management and that TS requirements were satisfied.

No violations or deviations were identified.

3. Post Accident Sampling System (PASS)

NUREG-0737 requires that the licensee be able to obtain a sample of the reactor coolant and containment atmosphere. Furthermore, the sample must be promptly obtained and analyzed (within three hours total) under accident conditions without incurring a radiation exposure to any individual in excess of 3 and 18 3/4 rem to the whole body or extremities, respectively. Furthermore, TS 6.8.3.c requires that a program shall be established, implemented, and maintained which "will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions." The program shall include: training of personnel; procedures for sampling and analysis; and provisions for maintenance of equipment.

The licensee had initiated Plant Modification (PM) 92-114 to replace the PASS small volume sample valve (2-RXS-CV-616) and associated actuator and 3-way solenoid valve with a 4-way air-operated piston-type sample valve and associated two-piston pneumatic actuator and 4-way solenoid valve. The currently-installed valve was to be replaced because it was unable to take a consistent, repeatable volume of RCS fluid. The replacement valve, Rheodyne Model 7010 injection valve, was designed to

deliver a repeatable 0.1 milliliter (ml) sample over the complete range of possible system pressures. The injection valve was a six-port rotary valve with a removable external sample loop, designed for long-term dependable service and easy maintenance for high-performance liquid chromatography. Installation was expected to be completed by the end of February 1993.

Discussions with the cognizant licensee Technical Training Senior Specialist identified fourteen technicians who were trained and qualified to operate the PASS. The annual requalification process had been strictly a "hands on" exercise, requiring the technician to touch and otherwise indicate which knobs, buttons, and gauges were required to operate the PASS panel. This year's requalification would include a classroom presentation as well as the "hands on" practical. The classroom information was expected to be presented by mid-March and would include instruction about manipulation of the newly-installed sample valve.

The inspector concluded that the licensee was taking proactive measures to upgrade the PASS.

No violations or deviations were identified.

4. Process and Effluent Monitors (84750)

a. Status of Monitors

TSs 3/4.3.5.8 and 3/4.3.5.9 define the operation and surveillance requirements for monitors of radioactive (or potentially radioactive) streams. This instrumentation is provided to monitor and control the releases of radioactive materials during normal and abnormal plant conditions as well as in effluents during effluent releases. The alarm/trip setpoints for the effluent monitors are calculated in accordance with the procedures in the Off-site Dose Calculation Manual (ODCM) to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR 20.

The inspector walked down five TS Radiation Monitors to become familiar with their physical location in the plant and to observe their state of maintenance and operability. The following monitors were included: 1-AOG-RTS-103, 2-D12-RM-23, 2-D12-RM-23S, 2-AOG-RTS-103, and 2-AOG-RM-103. All of the monitors were found to be well-maintained and operable.

In the fourth quarter of 1992, the licensee organized a Radiation Monitor Task Force to resolve significant issues pertaining to the operation of effluent radiation monitors. The team was composed of representatives from Operations, Technical Support, Maintenance, Training, and E&RC. The team planned to analyze radiation monitor Limiting Conditions for Operation (LCOs) initiated during a two-year period for cause and evaluate them against the following problem areas identified: inadequate

training; organizational deficiency; unacceptable monitor performance; and administrative process control failures. The task force had developed a tracking system which summarized TS radiation monitor operability which was included in a monthly report to the E&RC Manager. The licensee's efforts were undertaken to enable the licensee to quickly identify a problem monitor and rectify an adverse condition.

The inspector concluded that the program for maintaining and tracking/trending the plant's process and effluent radiation monitors was being successfully implemented.

b. Release Permit Review

TSs 3.11.1.1, 3.11.1.2, 3.11.1.3, 3.11.2.1, 3.11.2.2, 3.11.2.3, and 3.11.2.4 define the requirements for liquid and gaseous effluent concentrations, doses and dose rates, and waste treatments released to Unrestricted Areas. These requirements are intended to ensure that the limits of 10 CFR 20 and 10 CFR 50 are satisfied. TSs 4.11.1.1.1, 4.11.1.1.2, 4.11.1.2, 4.11.1.3, 4.11.2.1.1, 4.11.2.1.2, 4.11.2.2, 4.11.2.3, and 4.11.2.4 define the surveillance requirements for the sampling and analysis program.

The inspector reviewed three randomly-selected Liquid Release Permits (92-0320, 92-0328, and 92-0330) and a randomly-selected Gaseous Release Permit (93-0025) from November 1992 through January 1993 to verify compliance. The permits included both release information and projected dose calculations and were found to be complete, including the identification of the source of the release, the activity released (identified by isotope), and the volume of the effluent discharged.

The inspector concluded that the release permits were complete and well-maintained.

c. Monitor Calibrations

The inspector reviewed calibrations of three radiation monitors: the main steam line monitor; a drywell radiation monitor; and a liquid radwaste effluent monitor. The calibration of the main steam line monitor of Unit 2 was performed on January 13, 1993, using Environmental and Radiation Surveillance Test Procedure 0-RST-72.1, "NUMARC Main Steam Line Monitor Channel Calibration," Revision (Rev.) 1c, approved September 28, 1992. The calibration of the drywell radiation monitor was performed on November 6, 1992 using Periodic Test PT-74.0, "Drywell Radiation Monitor CAC-AQH-1261 Channel Calibration," Rev. 7, approved April 5, 1991. The calibration of the liquid radwaste effluent monitor was performed on December 13, 1991 using Periodic Test PT-78.2, "Liquid Radwaste Radioactivity Effluent Monitor Channel Calibration (D12-RM-K604)," Rev. 6, approved February 23, 1989.

For the Main Steam Line Monitor Channel Calibration, a Cs-137 source was used to calibrate the four channels of the monitor. The procedure was closely followed and each of the four channels produced a plot of detector output vs actual dose rate. The plots checked for linearity by a licensee's computer program which determined that a linear correlation existed.

For the drywell radiation monitor channel calibration, Cs-137 sources were used for the gaseous and particulate channels and Ba-133 was used for the iodine channel. The procedure was closely followed and each of the three channels produced a plot of voltage vs counts to determine the operating voltage to be used by the monitor.

For the liquid radwaste effluent monitor, Am-241, Cd-109, Co-57, and Ba-133 were used to generate a plot of discriminator voltage vs source energy. The procedure was closely followed and the resulting plot was linear.

The inspector noted that each of the sources had been properly decay corrected to reflect their activity at the time of the calibration.

The inspector concluded that the calibrations were properly done and that the radiation monitors produced accurate readings.

No violations or deviations were identified.

5. Hydrogen Water Chemistry (HWC) (84750)

The inspector reviewed the status of the licensee's HWC Program. Although both units had been in cold shutdown since the second quarter of 1992, the licensee planned to operate Unit 2 under HWC during Fuel Cycle 10, as referenced in Paragraph 16.c of Inspection Report (IR) 50-325, -324/92-06. The program was originally established to mitigate the phenomenon of Intergranular Stress Corrosion Cracking (IGSCC) of the reactor coolant system. However, since its introduction, high dose rates built up during plant operation, especially in the piping of the reactor's recirculation system. The licensee was evaluating the trade off between the benefits of reduced IGSCC versus the disadvantages of higher doses to plant personnel as additional operational experience is gained. The Hydrogen Injection System for Unit 2 was fully operable at the time of this inspection. The Hydrogen Injection System for Unit 1 had been installed by PM 86-080 and was operational. Turnover to Operations took place in late December 1992, upon completion of walkdown packages and full-final operability of the Unit 1 Hydrogen Injection System was expected within a week, as only one signature was needed for final closure.

On December 3, 1992, a meeting of the Brunswick Elevated Exposure Rate Task Force was held. The inspector reviewed the information presented by a General Electric (GE) presentation about optimum Boiling Water

Reactor (BWR) water chemistry. Optimum BWR water chemistry simultaneously addressed BWR chemistry, materials, waste, and operational issues. Specific objectives considered included: no new IGSCC initiation or growth; yearly exposure less than one hundred man-rems; reduction in dry well dose rates; reduction in radwaste volume to less than 100 cubic meters; and no fuel clad corrosion issues. It was noted that concentrating on the changing of one of the objectives could have a negative impact on one or more of the others. For example, by applying HWC to reduce IGSCC, operating and shutdown dose rates would increase.

To achieve optimum BWR water chemistry, four major elements were required:

- Reduce and control iron input to vessels.

- Minimize radwaste generated by water treatment.

- Control of Co-60 in reactor water.

- Implement "low impact" IGSCC mitigation.

Each element was discussed in detail. For the first three, both currently-available technology as well as future/developing technologies were discussed. The last element referenced to IGSCC protection without adversely affecting the other parameters. This element illustrated the use of HWC plus additional measures such as the addition of depleted zinc oxide and/or the application of noble metal coatings to stainless steel and/or other alloys. Studies and tests of these two synergistic measures were in progress and were expected to be completed by the end of 1993. A concept to be explored in the future was an Internal Catalytic Recombiner (ICR).

In addition to information presented by GE, the inspector also reviewed information presented by the Electrical Power Research Institute (EPRI) in December 1992. EPRI was establishing a committee to revise present BWR water chemistry guidelines. The committee's first meeting was scheduled for February 24, 1993, at which topics such as zinc injection, chromate recommendations, "soft" shutdown, and HWC issues were to be discussed. Also, on the agenda was consideration that the committee would produce a single guideline, covering both Normal Water Chemistry (NWC) and HWC. It was also noted that in-core HWC tests would not be completed until 1994 and that there was the possibility of an interim NWC guideline in 1993 (with the final in 1994).

The inspector concluded that the licensee's HWC Program was being carefully evaluated to maximize its effectiveness.

No violations or deviations were identified.

6. Standby Gas Treatment System (SGTS) Inleakage (84750)

During a Dioctyl Phthalate (DOP) test and inspection of the SGTS at another BWR facility in mid-1992, it was noted that the location where the fan shaft penetrated the fan housing was not sealed. Also, the SGTS was designed with the fan located downstream of the filter trains (High Efficiency Particulate Air (HEPA) and charcoal). This configuration could allow unfiltered air to be drawn into the fan housing and released to the environment, resulting in an unfiltered release.

As referenced in IR 50-325, -324/92-25, the licensee had initiated tests to evaluate current/potential inleakage problems with the system. The tests consisted of spraying DOP on the fan shaft seal and reading the concentration from the test penetration downstream of the fan wnile the train was operating. The tests were completed in mid-September 1992. Test results were qualitative in that inleakage of DOP, which is a whitish gas, could not be visibly detected. The flow rate of the SBGT train was 3000 $\pm$ 300 cubic feet per minute (cfm), with a required efficiency of $\geq$ 99%. Therefore, a 1% efficiency would correlate to 30 cfm of inleakage. Because the inleakage of the DOP could not be visually detected, the licensee believed it to be significantly less than 30 cfm. Some indication of inleakage was expected, because the shaft seals were originally designed to be leak limiting, rather than leak proof. Furthermore, a visual inspection by the licensee determined that the seals had hardened over time. The licensee had initiated work orders to replace them but had experienced some difficulty in procuring qualified replacements. The licensee also planned to establish a preventative maintenance program to periodically r lace/refurbish the seals. The inspector walked down the condition in the field and noted that the flow path from the filter train was to the plant stack and that the plant stack was equipped with a radiation monitor. Therefore, activity levels of gaseous effluents were monitored and appropriate corrective action could be taken if excessive activity was indicated.

The inspector concluded that the licensee was taking a proactive position in the resolution of this issue.

No violations or deviations were identified.

7. Meteorological Monitoring Program (84750)

The information obtained from the Meteorological Monitoring Program is integral to the determination of offsite dose projection. TS 6.9.1.10.a requires an annual summary of hourly meteorological data collected over the previous calendar year, including wind speed, wind direction, atmospheric stability, and precipitation (if measured).

The inspector reviewed the Meteorological Monitoring Program at Brunswick. The review included direct observation, discussions with the licensee, and the review of records. The inspectors determined that Brunswick had one meteorological tower. The tower had two sets of instrumentation, located at the 30- and 105-meter levels. Wind speed,

wind direction, wind variance, dew point, and differential temperature were measured at both levels. Total precipitation, solar radiation, and barometric pressure instrumentation were also located near ground level, inside the equipment enclosure. The program utilized two systems; the primary system was an ADAC System 1200, with a visual display readout of fifteen variables, and the secondary system was a Westinghouse system pulse counter, with four channels and a 36-day continuous-recording tape, which could be monitored from corporate headquarters. The location of the tower was such that there was no interference with the flow of air. In the event that the tower was out of service, there was no back-up system on the site. However, the essential parameters could be obtained from nearby commercial airports (Myrtle Beach, South Carolina and Wilmington, North Carolina).

The inspector verified by direct observation and by records review that the meteorological monitoring instrumentation channels were operable and maintained. The inspectors reviewed selected portions of meteorological monitoring instrumentation channel calibration records and procedures for the time period of February 1992, to the time of the inspection. These calibrations included the following instruments: wind speed and direction monitoring systems, the ambient temperature and differential temperature monitoring system, barometric pressure, and solar radiation instrumentation.

The calibration of the various meteorological instrumentation sensors was performed by personnel from the Meteorology Unit from Carolina Power and Light's (CPL's) corporate office. Personnel from this unit perform six-, twelve-, and eighteen-week interim verifications, and semiannual and annual calibrations. The semiannual and annual calibrations included the change out of many of the monitoring systems (i.e. wind and temperature systems, etc.).

Based on the scope of this review, the inspector determined that the Meteorological Measurement System was capable of fulfilling its required functions.

No violations or deviations were identified.

8. Turbine Building Ventilation Status (84750)

Final Safety Analysis Report (FSAR) Section 9.4.5.2 states that the Turbine Building is to be maintained at a negative pressure to assure that no unmonitored releases of radioactive gases occur. Inspection Reports 50-325, -324/92-06 and 50-325, -324/92-25 identified problems with the ventilation system of the Turbine Building of both units. The licensee initiated Adverse Condition Report (ACR) 92-270 in an extensive effort to return the Turbine Building to negative pressure. It evaluated the condition and included corrective actions such as: the sealing of ductwork and penetrations, the repairing of door seals, the blanking off of the power roof ventilators of both units, etc.; the labeling of doors and hatches as pressure boundaries; the training of plant personnel about the importance of maintaining negative pressure.

The inspector toured the Turbine Building to observe and verify the corrective actions taken and was able to verify that a negative pressure was being maintained. Additional issues addressed in the ACR included: the development of administrative control procedures to control breaches and to ensure that air monitoring is performed when the pressure boundary is breached while the potential for unmonitored releases exists; the development of a periodic test to verify that compliance with the FSAR is maintained; the balancing of the ventilation systems; the drilling and plugging of pitot traverse test holes of Unit 1 and 2 ducts for system pressure and flow testing. Resolution of virtually all of these issues was expected to be completed before plant restart, with the primary exception being the development of a periodic test to verify that the pressure of the Turbine Building is negative compared to that of the atmosphere (and, therefore, in compliance with the FSAR).

Licensee efforts had resulted in negative pressures being maintained per FSAR commitments.

The inspector concluded that the licensee's program to bring the Turbine Building into compliance with the FSAR was progressing well.

No violations or deviations were identified.

9. Solid Radioactive Waste Management (86750)

10 CFR 71.5 requires that licensees who transport licensed material outside the confines of its plant or other place of use, or who deliver licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 170 through 189.

10 CFR 20.311 requires the licensee who transfers radioactive waste to a land disposal facility to prepare all waste so that the waste is classified in accordance with 10 CFR 61.55 and meets the waste characteristics requirements of 10 CFR 61.56. It further establishes specific requirements for conducting a quality control program and for maintaining a manifest tracking system for all shipments.

The inspector reviewed the licensees's solid waste management program for wastes generated from the Brunswick Steam Electric Plant (BSEP) operations. The review included the following: adequacy of implementing procedures to classify and characterize the wastes; preparation of the manifest and marking of packages; overall performance of the process control and quality control programs; and the adequacy of required records, reports, and notifications.

a. Observation of a Shipment

The inspector observed Shipment No. 93-023, two Sea/Land containers of Low Specific Activity (LSA) material (Dry Active Waste (DAW) composed of scrap metal and compactable items)

destined for Scientific Ecology Group, Incorporated (SEG) for processing before final disposal. The inspector reviewed the records of the shipment prior to its leaving the site. The radiation and contamination survey results were within the limits specified for the mode of transport and shipment classification. The shipping manifest examined was consistent with the Department of Transportation (DOT) requirements, including the 24-hour emergency telephone number as specified in 49 CFR 172.201(d). The inspector surveyed the shipment before it left the site to verify the licensee's survey and determined that it was accurate.

Based on this review, the inspector concluded that the shipment was handled according to the licensee's procedures and was properly documented.

b. Radioactive Materials Shipment Documentation Packages

Shipment of radioactive materials was the responsibility of the Radioactive Waste Group, which prepared all shipping documents and procured the necessary disposal containers and shipping casks. The inspector reviewed three shipping documentation packages for radioactive materials shipments made since the last inspection, including Shipment Nos. 92-187, ten strong, tight containers (B-25 boxes) containing contaminated protective clothing; 92-223, a High Integrity Container (HIC) containing dewatered bead resin; and 93-023, the LSA shipment observed by the inspector. (Refer to Subparagraph 9.a.) The documentation packages were thorough and included shipment information such as unique shipment and shipping container numbers, waste content and volume, total activity, analytical summary and breakdown of isotopes with a half-life greater than five years, a 24-hour emergency telephone number, emergency response information sheets, etc. The radiation and contamination survey results were within the limits specified by 49 CFR and the shipping documents were being maintained as required.

c. Volume Reduction Program

As referenced in Paragraph 14 of IRs 50-325, -324/92-25, the licensee had implemented a Volume Reduction Program to reduce the volume of radioactive material ultimately disposed of at a burial site.

The inspector reviewed data of annual total radwaste shipped from the site. The volume shipped off site declined from 46,617 cubic feet (ft^3), in 1985, to 14731.2 ft^3, in 1992). The rate of decrease had slowed over the past several years, reflecting the fact that further improvements would be more difficult to achieve because the most obvious measures had been incorporated into plant

operations. Although, the licensee's goal was to decrease its volume again in 1992, the extended dual-plant outage had resulted in the generation of about 3000 ft^3 more volume than in 1991.

The inspector concluded that the licensee's Volume Reduction Program was effective.

d. Discussion of Information Notices (INs) 92-62 and 92-72

(1) IN 92-62

The inspector discussed IN 92-62, "Emergency Response Information Requirements For Radioactive Material Shipments," with cognizant licensee personnel to be sure that the licensee had received it and that the staff was aware of it and its implications. The IN emphasizes that all emergency response information required by DOT regulations must be accurately provided on shipment papers or other documents and that the licensee must be prepared to respond immediately with the information, as needed. Furthermore, the IN gives guidance which indicates responders will expect "immediate access" to a person knowledgeable about a specific shipment within fifteen minutes.

The licensee was very familiar with the IN and had modified its shipping procedures to ensure that the DOT regulations were satisfied.

On the evening of February 9, while Shipment No. 93-023 was in transit, the inspector called the emergency telephone number listed in the shipping manifest. It was answered by a recording by the Radioactive Materials Shipping Supervisor. The inspector called the second number listed. It was answered by a technician in the Health Physics (HP) office. The inspector explained that he was trying to ascertain compliance of 49 CFR 172.604, specifically concerning immediate access to someone with incident mitigation information for Shipment No. 93-023. After some initial confusion, the accident mitigation information for the shipment was located and the questions posed by the inspector concerning fires, damaged shipping containers, evacuation/exclusion areas, etc. were answered to the satisfaction of the inspector.

As a result of the exercise, the licensee made some additional modifications to enhance its emergency response capability.

The inspector noted that the requested information was made available within fifteen minutes and that the program enhancements were made imediately upon realization of the weakness.

(2) IN 92-72

The inspector discussed IN 92-72, "Employee Training and Shipper Registration Requirements for Transporting Radioactive Materials," with cognizant licensee personnel to be sure that the licensee had received it and that the staff was aware of its implications in ensuring regulatory compliance when shipping packages containing radioactive materials. The corporate training department was reviewing the IN to assure that the issues raised were addressed in future training. Furthermore, the licensee had already included part of the referenced information in its shipping procedures.

e. Low Level Radwaste Processing Building

The inspector toured the Low Level Radwaste Processing Building. In addition to temporarily storing radwaste in containers in a controlled environment while it awaited shipment, sorting of contaminated/uncontaminated material was carried out in the facility. The building was equipped with a sprinkler system for fire protection and an area to wash contaminated vehicles. The sorting took place under fume hoods, which were aligned to HEPA filters in the ventilation system. The material was surveyed to determine if it was contaminated. If found to be contaminated, the material was further segregated into classes, such as incinerable, "sharps" (metal objects with sharp edges and/or points), noncompressible metal objects, etc. Uncontaminated material was separated for disposal as normal waste. Numerous B-25 boxes filled with radwaste were neatly assembled in a posted area awaiting loading into Sea/Land containers for shipping to a [illegible]ssing facility. The boxes were properly labeled and [illegible]factory for the material (mainly DAW) to be shipped. Other [illegible] B-25 boxes had been decontaminated and were awaiting return to the Radiation Control Area (RCA). The inspector noted that good housekeeping practices were employed, resulting in a very clean facility.

The inspector concluded that the licensee had good programs in place for the handling and shipping of radioactive material and that they were effectively implemented. The licensee's procedures provided sufficient detail and guidance to allow technicians to properly package, classify, and prepare shipping manifests for radioactive waste.

No violations or deviations were identified.

10. Contaminated Soil (84750)

Paragraph 10 of IR 50-325, -324/91-29 and Paragraph 17 of IR 50-325, -324/92-25 refer to an effort by the licensee to remove slightly contaminated soil which had accumulated for the last dozen years in the plant's drainage basins as well as additional soil resulting from the lowering of the grade of certain areas within the Protected Area. The licensee intended to transfer the material from inside the Protected Area to inside a fenced and posted Radioactive Materials Area on its property for use as stabilization material on the inside slope of the dike surrounding the Storm Drain Collection Pond (SDCP). The inspector reviewed the status of the effort.

On June 5, 1992, the licensee sent a detailed memorandum, with numerous attachments showing the results of analysis of soil samples taken at various locations within the Protected Area and of the material in the Storm Drain Collection Basin (SDCB), applicable portions of the plant's Liquid Effluents TSs (including the Bases), applicable portions of the plant's Updated Final Safety Analysis Report (UFSAR), etc. to NRR for review and comment. NRR responded by asking for additional information, which the licensee supplied. In late December 1992, the Radiological Protection Branch of NRR completed its review of the matter and concurred with CPL that no 10 CFR 20.302 application for alternate disposal was necessary. Therefore, the transfer of material could begin at the convenience of the licensee.

Discussions with the licensee determined that before beginning the transfer of any material, the fence surrounding the SDCP would be completely checked for any breaches, degradation, and/or posting inadequacies. The licensee expected this effort would be completed within a few weeks and that the transfer would begin shortly thereafter.

The inspector concluded that the licensee was proceeding in a prudent manner on the issue.

No violations or deviations were identified.

11. Decommissioning Planning Records (84750)

10 CFR 50.75(g) requires, in part, that licensees maintain "records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the Commission." Furthermore, information considered important by the Commission for decommissioning is identified as "records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site" and that the records "must include any known information on identification of involved nuclides, quantities, forms, and concentrations." Also identified are "as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination."

During Inspection 92-25, the inspector requested the licensee's decommissioning planning records to verify compliance with the regulations and held discussions with the licensee's Records Management Supervisor to determine program status/effectiveness. The inspector determined that while the subject information was in the licensee's document control vault, in the form of microfiche and drawings, it was not segregated into one readily identifiable area nor was a listing identifying pertinent information for decommissioning planning available. Timely retrieval and proper classification of documentation (both existing and future) could not be guaranteed. The licensee planned to evaluate and develop a system/program patterned after that in place at one of CPL's other nuclear power plants.

During the current inspection, the inspector interviewed the Records Management Supervisor to determine the status of the licensee's program. A recent personnel change resulted in a new Records Management Supervisor. Discussions with the supervisor determined that no progress had been made in this area, due primarily to the personnel change. However, a meeting between the Records Management Supervisors of the three CPL nuclear plants and their corporate counterparts was scheduled for the week following this inspection. That meeting was expected to yield the corporate philosophy and definition of the issue. Furthermore, the Records Management Supervisors of each site would be able to discuss ideas for a program to meet compliance with the regulations as well as ways to effect its implementation.

The inspector concluded that licensee progress in the implementation of a program to identify relevant decommissioning planning records (both existing and future) was not as responsive as could have been expected, but was acceptable in view of recent personnel changes and current plant priorities.

No violations or deviations were identified.

12. Exit Interview

The inspection scope and results were summarized on February 12, 1993, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed the inspection results, including likely informational content of the inspection report with regard to documents and/or processes reviewed during the inspection. The licensee did not identify any such documents or processes as proprietary. Dissenting comments were not received from the licensee.

13. Acronyms and Initialisms

ACR - Adverse Condition Report
BSEP - Brunswick Steam Electric Plant
BWR - Boiling Water Reactor
cfm - cubic feet per minute
CFR - Code of Federal Regulations
CPL - Carolina Power and Light

DAW - Dry Active Waste
DOP - Dioctyl Phthalate
DOT - Department of Transportation
E&C - Environmental and Chemistry
E&RC - Environmental and Radiation Control
EPRI - Electrical Power Research Institute
FSAR - Final Safety Analysis Report
ft - foot (feet)
GE - General Electric Company
HEPA - High Efficiency Particulate Air
HIC - High Integrity Container
HP - Health Physics
HVAC - Heating Ventilation and Air Conditioning
HWC - Hydrogen Water Chemistry
ICR - Internal Catalytic Recombiner
IGSCC - Intergranular Stress Corrosion Cracking
IN - Information Notice
IR - Inspection Report
LCO - Limiting Condition for Operation
LSA - Low Specific Activity
ml - milli-liter
NAD - Nuclear Assessment Department
No. - Number
NRC - Nuclear Regulatory Commission
NRR - Nuclear Reactor Regulation
NUMARC - Nuclear Management and Resources Council
NWC - Normal Water Chemistry
ODCM - Off-site Dose Calculation Manual
PASS - Post Accident Sampling System
PM - Plant Modification
RC - Radiation Control
RCA - Radiation Control Area
Rev - Revision
SDCB - Storm Drain Collection Basin
SDCP - Storm Drain Collection Pond
SEG - Scientific Ecology Group, Incorporated
SGTS - Standby Gas Treatment System
TS - Technical Specification
UFSAR - Updated Final Safety Analysis Report