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

SEP 19 1990

Report No. 70-824/90-01

Licensee: Babcock and Wilcox Company
Lynchburg Research Center
Lynchburg, VA 24505

Docket No.: 70-824 License No.: SNM-778

Facility Name: Lynchburg Research Center

Inspection Conducted: June 18-22, and August 30, 1990

Inspectors: Gloria B Kuzo 13 September 1990
G. B. Kuzo Date Signed

for Gloria B Kuzo 13 September 1990
M. P. Elliott Date Signed

Approved by: John Potter 9/14/90
J. P. Potter, Chief Date Signed
Facilities Radiation Protection Section
Emergency Preparedness & Radiological
Protection Branch
Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection involved review of licensee radiation protection (RP) program activities including staffing and organization, training, contamination control, internal and external exposure assessments, and audits; radioactive waste characterization, classification, and management; transportation activities; and review of NRC Information Notices, and previously identified inspector followup items.

Results:

The health physics (HP) staff knowledge and levels were adequate to conduct RP activities and were considered program strengths. Employee training and respiratory protection qualifications met requirements. All reported internal and external exposures were within 10 CFR Part 20 limits. Transportation and radioactive waste management activities were conducted appropriately. A program weakness concerning the lack of attention to detail was indicated by non-cited violations (NCVs) for failures to post required NRC employee notices, to follow procedures for evaluating the respiratory protection program, to record sealed source leak test data appropriately; and also by cited violations for failure to approve procedures as required and to conduct audits in accordance with written

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guidance. In addition, violations associated with byproduct source material controls and with waste container labeling requirements were noted as weaknesses requiring increased licensee attention. In general, RP program activities were considered adequate to protect worker health and safety.

Within the areas inspected, the following violations were identified.

- Failure to post sufficient copies of Form NRC-3, to permit observation by licensee workers on the way to or from licensed activity locations (Paragraph 3). Corrective actions completed prior to end of onsite inspection. Non-cited violation (NCV) of 10 CFR 19.11(d) requirements.

- Failure to follow procedures for evaluating the respiratory protection program (Paragraph 5.a). Licensee identified NCV of License Condition No. 9.

- Failure to complete health and safety audits in accordance with written guidance as required by Section 2.3.8 of the License Application (Paragraph 6.b). Violation of License Condition No. 9.

- Failure to follow procedures for completing Safety Review Committee (SRC) review of revised Area Operating Procedures (AOPs) (Paragraph 6.c). Violation of License Condition No. 9.

- Failure to label containers of stored radioactive waste adequately to identify the hazards present (Paragraph 7.b). Violation of 10 CFR 20.203(f) requirements.

- Failure to record sealed source leak test results in units of microcuries as required by License Condition No. 11 (Paragraph 9). Corrective actions completed prior to end of onsite inspection. NCV of License Condition No. 11.

- Failure to perform sealed source leak tests as required by License Condition No. 11 (Paragraph 9). Violation of License Condition No. 11.

- Failure to maintain receipt records for byproduct material received under NRC License No. SNM-778 (Paragraph 9). Violation of 10 CFR 30.51(a)(1) requirements.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*R. Bennett, Manager, Safety and Licensing
*T. Grochowski, Health Physicist
*J. Nixon, Safety and Safeguards
*S. Schilthem, Supervisor, Health Physics
*W. Stagg, Manager, Radiological Analytical Chemistry
*C. Yates, Health Physicist

Other licensee employees contacted included technicians, operators, and office personnel.

*Attended exit interview

2. Radiation Control Organization and Staffing (83822)

The inspector reviewed the current organization and staffing of the onsite Health Physics group with respect to criteria contained in Section 2 of the License Application for SNM-778.

a. Organization

The inspector discussed with cognizant licensee representatives HP group responsibilities and verified that the current organization met the criteria specified in the License Application. No concerns were noted for responsibilities of the HP group within the NNFD-RL organizational framework.

No violations or deviations were identified.

b. Staff

From discussion with licensee representatives the inspector noted that the current HP staff remained constant since the previous NRC inspection of radiation protection activities conducted during July through August 1989, and documented in NRC Inspection Report (IR) 70-824/89-04. The current staff of three health physicists and four health physics technicians was considered adequate to provide proper review and coverage of the current activities. From discussions with selected health physicists the inspector noted that personnel appeared knowledgeable of their program area responsibilities.

No violations or deviations were identified.

3. Notices to Workers

10 CFR 19.11(a) and (b) require, in part, that the licensee post current copies of Part 19, Part 20, the license, license conditions, documents incorporated into the license, license amendments and operating procedures, or that a licensee post a notice describing these documents and where they may be examined.

10 CFR 19.11(d) requires that a licensee post Form NRC-3, Notice to Employees. Sufficient copies of the required forms are to be posted to permit licensee workers to observe them on the way to or from licensed activity locations.

During tours of the separate facility buildings, the inspector reviewed posting of notices, instructions and reports to workers. The inspector was informed that the required information and/or references thereto, were posted near the dosimetry racks in Buildings B, C, and D. During tours of Building C, the inspector noted that NRC Form-3 was not posted. From discussion with licensee representatives, the inspector noted that although Form NRC-3 was posted in both buildings B and D, selected maintenance personnel were able to obtain their required dosimetry and initiate licensed activity work in selected areas without passing the posted forms. The inspector noted that the failure to post copies of Form NRC-3, to permit observation by licensee workers on the way to or from licensed activities was of violation of 10 CFR 19.11(d) requirements (70-824/90-01-01).

Licensee representatives stated that the failure to post the information resulted from changes to entrances used by personnel since completion of Building C decommissioning activities. Previously, all personnel entered the restricted area through building B. Subsequently, the licensee posted the applicable form, reviewed postings at other entrances/dosimetry racks, and verified compliance with 10 CFR Part 19 requirements. The inspector informed licensee representatives that the NRC-identified violation was not being cited because criteria specified in Section V.A of the NRC Enforcement Policy were satisfied.

One non-cited violation (NCV) for failure to post sufficient copies of Form NRC-3, to permit licensee workers to observe them on the way to or from licensed activity locations was identified.

4. Training and Qualifications

10 CFR 19.12 requires the licensee to instruct all individuals working or frequenting any portions of the restricted areas in the health protection aspects associated with exposure to radioactive material or radiation, in precautions or procedures to minimize exposure, and in the purpose and function of protection devices employed, applicable provisions of the Commission Regulations, individuals responsibilities and the availability of radiation exposure data.

Technical procedure RL-TP-249, Radiation Protection Training Program 1, Rev. 0, dated August 8, 1988, outlines the training program presented annually to site and non-site workers granted unescorted access to the Restricted Area but not granted unescorted access to Controlled Areas.

The inspector attended the Radiation Protection Training Program 1 and verified that the following topics were discussed and explained as required by 10 CFR 19.12:

* Radiation in a restricted area
* Health protection problems associated with exposure to radioactive materials or radiation
* Precautions or procedures to minimize exposure
* Purposes and functions of protective devices employed
* Rules and regulations for radiation protection
* Responsibility for reporting potenti violations
* Appropriate response to unusual events involving radiation exposure
* Availability of radiation exposure reports (10 CFR 19.13)

No violations or deviations were identified

5. Respiratory Protection Program (83822)

10 CFR 20.103(c)(2) permits the licensee to maintain and implement a respiratory protective program that includes, at a minimum: air sampling to identify the hazard; surveys and bioassays to evaluate the actual exposures; written procedures to select, fit, and maintain respirators; written procedures regarding supervision and training of personnel and issuance of records; and determination by a physician prior to use of respirators, that the individual user is physically able to use respiratory protective equipment.

10 CFR 20 Appendix A, Footnote (d), requires adequate respirable air of the quality and quantity in accordance with NIOSH/MSHA certification described in 30 CFR Part 11 to be provided for atmosphere-supplying respirators.

Section 2.7.2.1 of the License Application requires that technical procedures be established, reviewed, approved, and followed for Health Physics or Nuclear Criticality Safety.

a. Program Implementation

inspector reviewed and discussed with cognizant licensee personnel ementation of the respiratory protection program at the facility.

echnical procedure, RL-TP-95 Respiratory Protection Program, Rev. 9, dated October 21, 1988, details requirements for respiratory protective equipment use by personnel and includes provisions for annual training/retraining, establishment of medical qualifications, documentation of training and qualifications, and provision of a policy statement regarding the use of respiratory protective equipment. In

addition, the procedure requires an annual evaluation of the program to be conducted, the resultant findings to be listed, and recommendations to be made to the proper persons for action.

During discussions with cognizant licensee representatives, the inspector was informed that the evaluation of the program had not been conducted as required by the technical procedure. This licensee-identified violation (LIV) for failure to follow the approved respiratory protection program technical procedure was documented in a March 12, 1990 Memorandum from the HP Supervisor to both the Safety and Licensing, and Safety Managers (70-824/90-01-02). Licensee representatives stated that corrective actions included development of a formal audit procedure regarding the respiratory protection program. The inspector informed licensee representatives that this LIV was not cited because the criteria specified in Section V.6 of the NRC Enforcement Policy were met.

One NCV licensee-identified violation for failure to follow an approved respiratory protection procedure was identified.

b. Breathing Air Quality

30 CFR 11.121 requires that compressed, gaseous breathing air meets the applicable minimum grade requirements for Type 1 gaseous air set forth in the Compressed Gas Association Commodity Specification for Air, G-7.1 (Grade D of higher quality).

The inspector discussed with the responsible health physicist the sampling frequency and subsequent verification of air quality for the supplied-air system. Licensee representatives stated that the air quality grade was verified annually. The inspector noted that no guidance regarding the frequency for sampling and verifying supplied-air system air quality is provided by the applicable ANSI standard, NUREG 0041, or Regulatory Guide 8.15. However, the inspector noted that although not a licensee requirement, the National Fire Protection Association (NFPA) 1404, Chapter 7, Breathing Air Programs, dated 1989, specifies quarterly Grade D air verification for supplied-air systems used to refill Self-contained Breathing Apparatus (SCBA) equipment. Based on this information, licensee representatives agreed to review the adequacy of an annual Grade D air verification for their air-supplied system.

The inspector reviewed and discussed verification of air quality for air-supplied respiratory protective equipment used at the facility. From review of April 10, 1987, through April 11, 1990 supplied-air system surveillance records, the inspector verified that licensee activities were conducted on a yearly basis and the results exceeded the requirements for Grade D air.

No violations or deviations were identified.

c. Medical Qualifications

The inspector reviewed Radiation Work Permits (RWP) posted in the change room for various work activities requiring respirator use in the Hot Cell Operations Area, Cask Handling Area, and the Hot Machine Shop. The inspector verified that individuals authorized to work under these RWPs had been examined by a physician and were physically able to use the respiratory equipment.

No violations or deviations were identified

6. Administrative Radiological Controls (83822)

a. Safety Review Committee

License Condition No. 9 requires the licensee to use licensed material in accordance with the statements, representations, and conditions of Chapters 1 thru 8 of the License Application dated November 26, 1985 and supplements dated thereto.

Section 2.3.2.1 of the License Application requires the Safety Review Committee (SRC) to meet at least four times annually for the purposes of conducting its business as specified in Section 2.3.1.

The inspector reviewed the January 1988 to July 1990 SRC meeting minutes and verified that the committee met at least four times per year as required. Overall, the meeting minutes indicated that the SRC reviewed and approved procedures presented for use as appropriate. The SRC also reviewed and discussed NRC inspection reports and the responses to those reports if required.

No violations or deviations were identified.

b. Audits

License Condition No. 9 of SNM-778 requires that licensed material be used in accordance with the statements, representations, and conditions of Chapters 1 thru 8 of the license application dated November 26, 1985, and supplements thereto.

Chapter 2, Section 2.8.3 requires that the Safety Audit Subcommittee (SAS) perform audits in accordance with written guidance to assure all aspects of Section 2.3.3.2 of the application are audited.

The inspector discussed with licensee representatives the current implementation of the SAS audit program. Licensee representatives stated that guidance sheets rather than formal procedures were developed for completing the audits. From discussions with licensee representatives and review of guidance sheets, the inspector determined that documented formal guidance assuring review of all aspects of Section 2.3.3.2 of the License Application was not used by the

auditors. The inspector informed licensee representatives that the failure to conduct SAS audits in accordance with formal written guidance requiring review of all aspects of Section 2.3.3.2 of the Application was a violation of License Condition No. 9 (70-824/90-01-03).

The inspector reviewed and discussed with cognizant personnel the August 1, 1989, through July 1990, SAS audits conducted since the last NRC inspection of licensee RP activities. For three audits conducted, identified issues included posting requirements for storage areas when the doors to high radiation areas were opened, air flow concerns in Cask Handling Area (CHA), and waste drum inventory card concerns. The inspector reviewed and discussed with licensee representatives, the actions taken with regard to each identified issue. All actions appeared appropriate and no additional concerns were identified.

Chapter 2 Section 2.8.2 of the License Application requires the HP Supervisor to conduct internal monthly audits in accordance with written procedures for the purpose of evaluating the health physics aspects of operations.

Technical procedure, RL-TP-463, Performance and Reporting of the Monthly Health Physics Audit, Rev. 4, dated July 21, 1989, outlines the minimum requirements for monthly audits at the facility and prescribes reporting requirements of audit findings and observations and responsibilities for corrective actions. The procedure provides an audit checklist and worksheet.

The inspector reviewed and discussed with licensee representatives the August 1989 through June 1990 monthly audit reports. The inspector noted that the audits were conducted in accordance with the License Application requirements. The majority of documented issues included housekeeping concerns, legibility of postings, and labeling requirements. Licensee actions to improve the identified issues were conducted in a timely manner and appeared adequate. The inspector had no additional concerns regarding the reviewed issues.

One violation for failure to follow written guidance for performing SAS audits in accordance with Section 2.8.3 of the License Application was identified.

c. Procedural Controls

License Condition No. 9 of SNM-778 requires that licensed material be used in accordance with the statements, representations, and conditions of Chapters 1 thru 8 of the License Application dated November 26, 1985, and supplements thereto.

Chapter 2, Section 2.7.1.3, of the License Application requires that revisions to Area Operating Procedures (AOPs) may be used with specified approvals until the next scheduled regular meeting of the Safety Review Committee (SRC) when the revision must be approved by the SRC.

During review of followup item (Paragraph 11.a), the inspector reviewed procedures classified within the "Priority Two" category. However from discussion with cognizant licensee representatives, and from review of the procedures and SRC meeting minutes the inspector noted that as of July 26, 1990, two of the AOPs revised on or about December 1989 were not approved during a subsequent SRC meeting conducted in February 1990. The inspector informed licensee representatives that the failure to approve the noted AOPs in accordance with section 2.7.1.3 of the License Application was a violation of License Condition No. 9 (70-824/90-01-04). Licensee representatives stated that AOPs, B-HC-16, Fuel Rod Handling, Revision (Rev.) 1 and B-HC-41, Handling Operations for the NLI 1/2 Spent Fuel Shipping Cask, Rev. 1, originally were reviewed in October 1989 and were presented to the RSC committee in December 1989, when additional revisions were requested. During the subsequent February 1990 RSC meeting the procedures were not reviewed nor approved as a result of administrative errors.

A violation of License Condition No. 9 for failure to approve revised AOPs in accordance with section 2.7.1.3 of the License Application was identified.

7. Applied Radiation Controls (83822)

a. Survey and Monitoring Equipment

10 CFR 20.201(b) requires each licensee to make or cause to be made such surveys as may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

Technical procedure, RL-TP-343, Calibration of modified Eberline RM-15 or RM-20 for use with Gas Flow Detector, Rev. 1, dated June 20, 1988, provides guidance for calibration of survey instrumentation maintained at controlled area access locations.

During tours of the facility, the inspector verified that selected personnel surveillance instrumentation was calibrated in accordance with procedures and utilized appropriately by personnel.

No violations or deviations were identified.

b. Labeling and Posting

10 CFR 20.203(e) requires each [illegible] in which licensed material is used or stored and which contains [illegible]tive material in an amount exceeding ten (10) times the [illegible] of such material specified in Appendix C of this part to be [illegible] with a sign or signs bearing the radiation caution symbol and the words: "Caution, Radioactive Material(s)." 10 CFR 20.203(f) requires each container of licensed material to bear a durable, clearly visible label identifying the radioactive contents and shall provide sufficient information to permit individuals handling or using the containers, or working in the vicinity thereof, to take precautions to avoid or minimize exposures. The label information shall include, as appropriate, radiation levels, kinds of material, estimate of activity, date for which activity is estimated, mass enrichment, etc.

Licensee procedure B-GP-6, Labeling of Radioactive Materials, Rev. 3, dated May 25, 1990, details guidance for proper labeling of containers of radioactive materials. The procedure requires that the label should clearly state known isotopes, quantities, forms and states unless the information is readily available in written form at a known location accessible to all individuals who may encounter or work with the materials or package.

During tours of the licensee outside storage area (OSA) facility conducted on July 25, 1990, the inspector noticed containers of radioactive waste material, both fifty-five gallon drums and metal boxes, temporarily queued on a concrete storage pad while awaiting shipment to an offsite facility. Posting on the fence surrounding the OSA, identified the location as a Radiation Area. Further review of the stored drums verified that a Caution Radioactive Material label was affixed to each drum. However, the labels did not contain sufficient information, including radiation levels, kinds of material, estimate of activity, and date for which activity is estimated, to permit individuals handling or using the containers, or working in the vicinity thereof, to take precautions to avoid or minimize exposures. Furthermore, from direct observation and discussion with cognizant licensee representatives, the inspector noted that access into the area was not controlled to maintain positive control of all personnel accessing the OSA. This information regarding the drum contents were not readily available to all individuals entering the area. The inspector informed licensee representatives that the failure to include appropriate information on container labels to permit individuals handling or using the containers, or working in the vicinity thereof, to take precautions to avoid or minimize exposures was a violation of 10 CFR 20.203(f) requirements (70-824/90-01-05).

Prior to the end of the onsite inspection, the licensee provided a July 25, 1990, radioactive waste inventory listing the drums and boxes on the OSA pad. The inventory listed approximately 90, fifty-five gallon drums and two boxes of radioactive waste materials.

Radiation levels as measured at 1 meter from several drum surfaces exceeded 100 millirem per hour (mrem/hr). During a teleconference on July 27, 1990, the inspector expressed concerns to cognizant licensee representatives that based on several of the dose rates for specific drums indicated on the July 25, 1990 inventory, the OSA potentially was required to be posted and controlled as a High Radiation Area. Supplemental inventory and survey data for the stored drums on the OSA pad were provided on July 27, 1990, detailing the fifty-five gallon drums on the OSA pad. From review of the supplemental survey data and further discussions with licensee representatives on August 30, 1990, the inspector noted that only 63 of the 89 drums listed in the original inventory were queued on the OSA pad. Furthermore, the inspector verified that the surveys indicated that drums with dose rates greater than 100 mrem/hr were not placed on the pad. The inspector informed licensee representatives that based on these July 27, 1990 dose rate data, the posting of the OSA appeared appropriate.

A violation for failure to include proper information on labels affixed to radioactive material waste containers was identified.

8. Personnel Exposure Review (83822)

a. External Exposure

10 CFR 20.101 requires that no licensee shall possess, use or transfer licensed material in such a manner as to cause any individual in a restricted area to receive in any period of one calendar quarter a total occupational dose in excess of 1.25 rems to the whole body, head and trunk, active blood forming organs, lens of the eyes, or gonads; and 18.75 rem to the hands and forearms, and feet and ankles.

The inspector reviewed and discussed the 1989 whole body and extremity exposures for personnel. Whole body doses for approximately 281 individuals were below detection limits. Only six individuals exceeded 1 rem whole body exposure. A maximum skin dose of 2.703 rem was reported. For the 1989 calendar year, approximately 407 finger ring dosimeters were issued and the maximum dose of 5.530 rem was reported. The inspector noted that all values were within the established 10 CFR 20 external exposure limits.

No violations or deviations were identified.

b. Internal Exposure

10 CFR 20.103(a)(1) states that no licensee shall possess, use, or transfer licensed material in such a manner as to permit any individual in a restricted area to inhale a quantity of radioactive material in any period of one calendar quarter greater than the quantity which would result from inhalation for 40 hours per week for 13 weeks at uniform concentrations of radioactive material in air specified in Appendix B, Table 1, Column 1.

The inspector discussed with cognizant licensee representatives internal exposure results for personnel working at the facility. Approximately 340 in vivo analyses were conducted during 1989 with all results less than 2 percent of the maximum permissible body burden.

No violations or deviations were identified.

9. Sealed Source Control (83822)

10 CFR 30.51(a)(1) requires each person who receives byproduct material to keep records showing the receipt of byproduct material as long as the material is possessed and for three years following transfer or disposal of the material.

License Condition No. 11 requires the licensee to perform leak tests on all sealed sources containing licensed material with a half-life greater than 30 days. Sealed sources that are stored and not being used are excepted from this test but are to be tested prior to any use or transfer unless they have been leak tested within six months prior to the date of use or transfer. Records of leak test results are to be kept in units of microcuries (uCi) and maintained for inspection by the Commission.

The inspector reviewed January 1986 to July 1990 sealed source leak test records. The inspector noted that the results of leak tests performed on August 24, 1989, and March 6, 1989, were not in units of microcuries. The inspector informed licensee representatives that the failure to record sealed source leak test data in the required units was a violation of License Condition No. 11 (70-824/90-01-06). The inspector verified that the records were changed to the proper units prior to the end of the onsite inspection. The inspector informed licensee representatives that this NRC-identified violation is not being cited because criteria specified in Section V.A of the NRC Enforcement Policy were satisfied.

In addition, from further review of records the inspector noted that one californium-252 sealed source was not leak tested between August 19, 1986 and August 17, 1987, a period exceeding 6 months. The failure to perform a leak test within the required six month interval was identified as a violation of License Condition No. 11 (70-824/90-01-07).

On July 23, 1990, during a tour of the analytical laboratory facilities, the inspector asked the licensee about the possession of any gas chromatography devices containing nickel-63. On Thursday, July 26, 1990, after conducting a search of the facilities, the licensee located one Varian gas chromatography device provided with two Varian Model 02-001972-00 sealed sources (serial nos. 4602 and 4604) each containing 8 mCi of nickel-63. Prior to the inspection cognizant licensee representatives were unaware of these devices and did not have records of receipt. The failure to maintain radioactive material receipt records was identified as a violation of 10 CFR 30.51(a)(1) requirements (70-824/90-01-08). After further review, the inspector and licensee determined that the devices were received on or about August 5, 1987, from another company division. The sealed sources

were in storage and not being used since their receipt until on or about June 1990 when one source was used without being leak tested. The failure to perform leaks test on sealed sources that have been in storage and have not been leak tested within 6 months prior to use was identified as an additional example of a violation of License Condition No. 11 (70-824/90-01-07).

One NRC identified NCV for failure to record leak test results in the proper units was identified. Two violations for failure to perform leak tests at intervals not to exceed six months and for failure to maintain receipt records were identified.

10. Transportation and Radioactive Waste Management Activities (86740, 84850)

10 CFR 20.311(d)(1) requires any generating licensee who transfers radioactive waste to a land disposal facility or a licensed waste collector to prepare all wastes so that the waste is classified according to 10 CFR 61.55 and meets the waste characteristics requirements listed in 10 CFR 61.56.

a. Waste Classification Program Implementation

Technical procedures, RL-TP-218, Radioactive Waste Classification by Gross Radioactivity, Rev. 0, dated October 19, 1988, and RL-TP-407, Sampling and Characterization of Waste Streams, Rev. 0, dated February 8, 1939, provide guidance for analyzing and characterizing waste prior to shipment for disposal.

The inspector reviewed the sampling schedules and quantitative radionuclide results for November 1989 through July 1990 waste shipments. Sampling frequency and the analyses appeared adequate to meet 10 CFR Part 20 requirements.

No violations or deviations were identified.

b. Waste Shipments

10 CFR 71.5 requires that each licensee who transports licensed material outside the confines of its plant or other place of use, 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 170-189.

49 CFR 172.200 requires each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner described by this subpart.

Procedure RL-TP-238, Shipping Radioactive Waste to Chem Nuclear at Barnwell, SC, Rev. 0, dated August 1, 1989, describes the licensees procedures for Classifying, Packaging, Marking, Labeling, and Shipping

radioactive waste for near surface disposal. Procedure RL-TP-409, 1, General Procedure for Shipment of Non-Fissile Radioactive Materials, Rev. 1, dated March 17, 1989, describes the licensee's procedures for Packaging, Marking, Labeling, and Shipping of non-fissile radioactive materials to other licensees for use or disposal.

The inspector reviewed records of radioactive material and waste shipments made from November 1989 to July 1990. During this period the licensee had made three shipments. The inspector noted that all shipped waste was classified as "Class A unstable" although all liquids were solidified. The inspector discussed with the licensee the solidification process and noted that the licensee's solidification process was not authorized by the NRC; therefore, no credit could be taken for solidification stability. The inspector concluded from records reviewed that the licensee had complied with all regulatory and procedural requirements.

No violations or deviations were identified.

11. Followup Items (92701)

The following inspector followup items (IFIs) and NRC Information Notices (INs) were reviewed and discussed with cognizant licensee representatives.

a. Inspector Followup Items

- (Closed) IFI 70-824/89-04-01: Revise cask handling area operating procedure to include caution statements on the handling of thermally hot items.

  This issue concerned development of procedural guidance for handling thermally hot items to avoid potential airborne contamination problems.

  The inspector reviewed procedural changes incorporated by the licensee to address the issue. Licensee procedure B-HC-2, General Operation in the Cask Handling Area and Hot Machine Shop, Rev. 4, dated November 9, 1989, was updated. The procedure requires that no items above room temperature may be placed in the CHA pool area without prior authorization by the Hot Cell Supervisor or designee. Licensee representatives stated that no additional RP concerns involving thermally hot materials placed in the CHA pool have been identified since the previous NRC audit.

  Based on the licensee's actions this issue was considered closed.

- (Closed) IFI 70-824/89-04-02: Review completion of "Priority Two" procedures.

This issue concerned the August 24, 1989 licensee commitment made to complete by December 30, 1989, the review and revision of procedures included in the second priority grouping, that is "Priority Two" procedures.

The inspector was informed that approximately 48 procedures originally were included in the "Priority Two" category. The inspector reviewed a January 1, 1990 memorandum from the Licensing and Compliance Officer to R. Bennett, indicating that all priority two procedures were revised. From review of the procedures and discussion with licensee representatives, the inspector verified completion of the required revisions.

The inspector noted that although a concern regarding SRC review of the procedural revisions was identified (Paragraph 6.c), based on licensee actions the item was considered closed.

b. Information Notices

The inspector verified that the following INs were received by the licensee, reviewed for applicability, distributed to appropriate personnel and that action, as appropriate, was taken or planned.

IN 88-XX: Interpretation of Bioassay Measurements; Assessment of Intakes

IN 89-24: Nuclear Criticality Safety

IN 89-35: Loss and Theft of Unsecured Licensed Material

IN 90-01: Importance of Proper Response to Self-Identified Violations by Licensees

IN 90-09: Extended Interim Storage of Low-Level Radioactive Waste by Fuel Cycle and Materials Licensees

IN 90-14: Accidental Disposal of Radioactive Materials

IN 90-31: Update on Waste Form and High Integrity Container Topical Report Review Status, Identification of Problems with Cement Solidification, and Reporting of Waste Mishaps

IN 90-35: Transportation of Type A Quantities of Non-Fissile Radioactive Materials

IN 90-44: Dose-rate Instruments Underresponding to the True Radiation Field

12. Exit Interview (30703)

The inspection scope and results were summarized on July 26, 1990, with those individuals indicated in Paragraph 1. The cited and non-cited violations listed below were reviewed in detail.

Licensee representatives acknowledged the inspectors' comments. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector during this inspection.

During an August 30, 1990 teleconference, posting requirements for the OSA storage pad based on survey data received on July 27, 1990 were discussed. The inspector informed licensee representatives that no additional concerns were identified during review of the surveys.

Item Number	Description and Reference
70-27/90-01-01	Non-cited violation (NCV): Failure to post sufficient copies of Form NRC-3, to permit observation by licensee workers on the way to or from licensed activity locations (Paragraph 3). Corrective actions completed prior to end of onsite inspection. NCV of 10 CFR 19.11(d) requirements.
70-27/90-01-02	NCV: Failure to follow procedures for evaluating the respiratory protection program (Paragraph 5.a). Licensee-identified NCV of License Condition No. 9.
70-27/90-01-03	Violation (VIO): Failure to complete health and safety audits in accordance with written guidance as required by Section 2.3.8 of the Application (Paragraph 6.b). Violation of License Condition No. 9.
70-27/90-01-04	VIO: Failure to follow procedures for completing Safety Review Committee (SRC) review of revised Area Operating Procedures (AOPs) (Paragraph 6.c). Violation of License Condition No. 9.
70-27/90-01-05	VIO: Failure to label containers of radioactive waste adequately to identify the hazards present (Paragraph 7.b). Violation of 10 CFR 20.203(f) requirements.
70-27/90-01-06	NCV: Failure to record sealed source leak test results in units of microcuries as required by License Condition No. 11 (Paragraph 9). Corrective actions completed prior to end of onsite inspection. NCV of License Condition No. 11.

70-27/90-01-07	VIO: Failure to perform sealed source leak tests as required by License Condition No. 11 (Paragraph 9). Violation of License Condition No. 11.
70-27/90-01-08	VIO: Failure to maintain receipt records for byproduct material received under NRC License No. SNM-778 (Paragraph 9). Violation of 10 CFR 30.51(a)(1) requirements.