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

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Report No.: 70-1151/90-08

Licensee: Westinghouse Electric Corporation
Commercial Nuclear Fuel Division
Columbia, SC 29250

Docket No.: 70-1151 (Fuel Division) License No.: SNM-1107

Facility Name: Westinghouse Electric Corporation

Inspection Conducted: September 17-21, 1990

Inspectors: M. P. Elliott 10/18/90
M. P. Elliott Date Signed

M P Elliott for 10/18/90
G. B. Kuzo Date Signed

Approved by: J. P. Potter for 10/18/90
J. P. Potter, Chief Date Signed
Facilities Radiation Protection Section
Emergency Preparedness and Radiological
Protection Branch
Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection involved review of license radiation protection (RP) program activities including management involvement, staffing and organization, training, contamination control, internal and external exposure assessments and audits, radioactive waste management, characterization and classification, and radioactive waste and fuel transportation activities.

Results:

The health physics (HP) staffing levels and expertise were adequate to perform RP activities. Employee training and respiratory protection qualifications met requirements. All reported internal exposures reviewed were within 10 CFR 20 limits. Transportation and radioactive waste management activities were conducted in accordance with applicable Federal requirements and written procedures. Internal and external monitoring program weaknesses were indicated by violations for failure to adequately evaluate workers' extremity skin dose from handling unclad uranium material and failure to prepare and/or follow written procedures concerning (1) extremity dose evaluations and (2) routine urinalysis evaluations. The licensee is developing a more comprehensive procedure to investigate and evaluate unusual incidents that will include root cause identification leading to corrective actions which include

personnel training and procedural review. Overall, RP program activities were considered adequate to protect worker health and safety.

Within the areas inspected, the following violations were identified:

- Failure to prepare and/or follow procedures concerning (1) bioassay program and, (2) external exposure monitoring program (Paragraphs 2.i.and 2.j(1)). Violation of License Condition No. 9.

- Failure to perform an adequate evaluation of external extremity dose to personnel handling unclad uranium material (Paragraph 2.j(2)). Violation of 10 CFR 20.201(b) requirements.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Allen, Technical Services Manager
S. Fanelli, Senior Regulatory Engineer
R. Fisher, Senior Engineer
*W. Goodwin, Regulatory Affairs Department Manager
J. Heath, Regulatory Operations Manager
*R. Koga, Plant Manager
R. Montgomery, Senior Regulatory Engineer
*E. Reitler, Regulatory Engineering Manager
H. Shannon, Regulatory Affairs Technician

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

*Attended Exit Interview

2. Radiation Protection (83822)

The inspector reviewed the current organization and staffing of the onsite HP group; specifically Regulatory Engineering and Regulatory Operations.

a. Organization and Management

The inspector discussed with licensee management the HP group's responsibilities and verified that the current organization met the criteria specified in the license application. The inspector also determined that management was supportive of the HP group's activities.

No violations or deviations were identified.

b. Staff

From discussion with licensee representatives, the inspector noted that changes in the HP staff had occurred since the previous NRC inspection of radiation protection activities conducted during November 1989. Three new Senior Regulatory Engineers were hired to fill positions vacated by resignation and/or retirement. These three positions are responsible for (1) external and internal dosimetry, unusual incident investigations, and air sampling representativeness; (2) internal audits, HP training, and procedure reviews; and (3) criticality inspections, emergency planning, and moderation

control training. From discussions with cognizant licensee personnel and reviews of records, the inspector determined the individuals were adequately qualified to perform their responsible duties.

No violations or deviations were identified.

c. Radiation Protection Procedures

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

Section 2.6.2 of the License Application requires that Regulatory Affairs Procedures and HP Operating Procedures be reviewed at least annually.

Section 2.1.1.11 of the License Application defines "annually" as once per year, no measurement to exceed a span of fifteen months. The inspector reviewed selected radiation protection procedures.

The inspector verified that the procedures contained adequate guidance which was consistent with license and regulatory requirements and that a review of the procedures had been conducted in accordance with the License Application requirements.

No violations or deviations were identified.

d. Audits

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

ection 3.2.1.1 of the License Application requires the licensee to maintain and follow written procedures describing general radiation protection requirements.

Procedure RA-102, "Plant Inspection Program for Regulatory Compliance," Revision (Rev.) 2, dated May 4, 1990, requires Regulatory Engineering and to conduct routine monthly inspections of nuclear criticality safety, radiation protection, SNM safeguards, safety and fire prevention requirements during the course of normal activities in accordance with written inspection checklists and shall cover all shifts. Observed violations, required corrective actions, and assigned responsibilities and completion dates shall be included in an inspection report which is to be reviewed by management.

The inspector reviewed inspections conducted from January 1990 to September 1990, and verified that the inspections were conducted in accordance with written procedures.

No violations or deviations were identified.

e. Radiation Compliance Committee

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

Section 3.1.2.5 of the License Application requires the Radiation Compliance Committee (RCC) to meet and conduct business at least quarterly.

The inspector reviewed RCC minutes of meetings from January 1990 to September 1990. The RCC met the quarterly meeting requirement by meeting during February, March, May, July, and September. The meetings consisted of discussions and reports concerning NRC inspections, RCC audits, unusual incidents, license amendments, ALARA activities, safeguards, 10 CFR 21 issues, and airborne activity trends.

No violations or deviations were identified.

f. Training

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.

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

Section 3.2.1.1 of the License Application requires the licensee to maintain and follow written procedures describing general radiation protection requirements.

Procedure RA-214, "Radiological Protection Training," Rev. 3, dated August 3, 1990 requires the licensee to adequately train personnel in the fields of radiological protection, criticality, and emergency response so each individual may act responsibly to minimize the risks

to himself and others. All employees who work with SNM shall receive this training at least every two years and shall demonstrate their level of understanding by written exam.

The inspector reviewed selected training records and verified that workers had received training and successfully completed the written exam at least every two years. A review of the exam indicated a knowledge level adequate to safely perform duties as assigned.

No violations or deviations were identified.

g. Postings, Labeling, and Contamination Control

10 CFR 19.11(a-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.

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

Section 3.2.2.4 of the License Application requires each entrance or access point to the Controlled Access Area to be posted in accordance with 10 CFR 20.203 except for 10 CFR 20.203(f). In lieu therefore, a sign bearing the legend, "Every container or vessel in this area may contain radioactive material," shall be posted at entrances to each area in which radioactive materials are processed, used or stored.

During tours of the facility, the inspector observed the required documents were posted in accordance with 10 CFR 19. The inspector also verified that the licensee had properly posted and labelled areas and containers in accordance with written procedures and 10 CFR 20 requirements. The inspector observed worker personnel survey practices at different times during the week and noted no discrepancies. The inspector requested contamination surveys be performed in selected areas. The results of these surveys indicated contamination levels below the limits specified in the License Application.

No violations or deviations were identified.

h. Respiratory Protection

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 exposure; 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 the use of respirators, that the individual user is physically able to use respiratory protective equipment.

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 20, 1984, and supplements and letters dated thereto.

Section 3.2.1.1 of the License Application requires the licensee to maintain and follow written procedures describing general radiation protection requirements.

Procedure RA-205, "Respiratory Protection," Rev. 15, dated November 27, 1989, requires the licensee to establish and implement a comprehensive respiratory protection program including selection, fitting and maintenance of respiratory protection devices; training and supervision of respiratory protection device wearers and inspectors; and designated responsibilities of all personnel involved in the program. Respiratory protection training and respiratory fit testing are to be performed at least every two years. A medical review of each individual user's ability to use a respirator is to be performed every year by a physician.

The licensee's respiratory protection program included work station air sampling utilizing approximately 300 air sampling heads. The licensee also uses bioassay measurements to compliment the respiratory protection program (Paragraph 2.i). The inspector verified through a review of selected records that respiratory protection training and respirator fit testing were being performed at least every two years. All medical records reviewed indicated that a physician had certified each worker's ability to use a respirator.

No violations or deviations were identified.

i. Bioassay

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.

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984 and supplements and letters dated thereto.

Section 3.2.1.1 of the License Application requires the licensee to maintain and follow written procedures describing general radiation protection requirements.

Procedure RA-204, "Bioassay Program," Rev. 5, dated January 11, 1990, requires every individual working in Controlled Areas to submit routine bioassay samples and receive routine invivo counts according to frequencies established in Regulatory Operations Procedure RO-04-001 and invivo procedure 8.

Procedure 04-001, "Routine Urine Sampling Program," Rev. 5, dated December 16, 1988, requires personnel in departments that submit monthly urine samples to assure that some samples are left during each of the first three weeks of each month. And if no personnel leave urine samples during each of these three weeks, Regulatory Operations shall notify the appropriate supervisor to ensure samples are left the following week.

Section 2.1.1.11 of the License Application defines "Monthly" as occurring 12 times per year and not to exceed 40 days between each occurrence.

The inspector reviewed selected records of urinalysis sampling and measurement. The inspector noted that the licensee relies on samples submitted on different weeks of the month by personnel in different areas to be representative of the other workers working in that area; therefore, requiring each worker to only submit a sample on a monthly frequency.

The inspector noted that 13 of 20 workers reviewed had not submitted samples at the required frequency. Upon further review and discussion with licensee representatives the inspector determined that 6 of the 13 late submittals were because of legitimate interruptions in the work schedule such as regular time off, vacation, and sickness. However, 7 of the 20 workers failed to submit samples at the required frequency. The inspector informed the licensee that the failure to perform urinalysis sampling and measurements at the required frequency was identified as an apparent violation of License Condition No. 9 requirements (70-1151/90-08-01).

The inspector discussed with licensee representatives the procedural requirements of notifying workers delinquent in submitting urine samples. Procedure 04-001, "Routine Urine Sampling Program," Rev. 5,

dated December 16, 1988, also requires warning notices to be sent to those workers that have not submitted samples. Licensee representatives informed the inspector that these warning notices were routinely sent out on the 21st of each month. The inspector discussed with the licensee representatives situations that could result in violating the sampling frequency before the warning notice was issued. For example, if a worker submits a urine sample on the first day of a 30-day month and does not submit another sample until receiving a warning notice on or after the 21st of the following month, 50 days have past and the maximum frequency has been exceeded by 10 days. The licensee representatives stated that in response to the violation the entire bioassay program would be reviewed to prevent such occurrences.

A violation for failure to follow procedures for performing urinalysis sampling and measurements at the proper frequency was identified.

j. External Exposure (83822)

10 CFR 20.101(a) requires that no licensee 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, feet and ankles.

10 CFR 20.201(b) reqires that each licensee make such surveys as may be necessary to comply with the requirements of Part 20 and are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present. As defined in 10 CFR 20.101(a), "survey" means an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions.

10 CFR 20.202(a) requires each licensee to supply appropriate personnel monitoring equipment and require the use of such equipment by each individual entering a restricted area under such circumstances that he receives or is likely to receive, a dose in any calendar quarter in excess of 25 percent of the applicable value specified in 10 CFR 20.101(a). 10 CFR 20.202(b) defines personnel monitoring equipment as devices designed to be worn or carried by an individual for the purpose of measuring the dose received.

10 CFR 20.401(a) requires each licensee to maintain records in accordance with the instructions contained in Form NRC-5, showing the radiation exposures of all individuals for whom personnel monitoring is required under 10 CFR 20.202(a).

License Condition Number (No.) 9 of Special Nuclear Material License No. 1107 (SNM-1107) requires that licensed material be used in accordance with statements, representations, and conditions contained in Chapters 2, 3, and 4 of the Application dated March 26, 1984, and supplements and letters dated thereto.

The licensee's external dose monitoring program for individuals involved with handling unclad uranium material was reviewed in detail. In particular, the extremity monitoring program for demonstrating compliance with 10 CFR Part 20 requirements was reviewed in detail.

(1) Extremity Monitoring Program Implementation

Part 1, Section 2.7.1 of the licensee's Application for License No. SNM-1097 requires that radiation protection function activities be conducted in accordance with written procedures.

Regulatory Affairs (RA) procedure RA-206, Personnel Dosimetry Program, Rev. 4, dated March 3, 1990, establishes procedures and responsibilities for administration of the facility external radiation dosimetry program in accordance with NRC requirements. The procedure requires dosimetry to be provided for personnel whose exposure was likely to exceed 25 percent of NRC limits specified in 10 CFR 20. Furthermore, the procedure requires Regulatory Operations to perform surveys to determine external dose rates and Regulatory Engineering to provide direction regarding personnel to be badged and types of dosimetry to be issued.

During the onsite audit, the licensee informed the inspector of selected process operations which involved potential whole body and extremity exposure to personnel from the handling of unclad uranium materials. Licensee representatives stated that pellet press and quality control (QC) operations involved the maximum extremity exposure to unclad uranium materials with other processes involving less exposure due to automation and/or remote handling. Licensee representatives stated that the QC and press operations involved 37 and 48 individuals, respectively. During tours of the process areas the inspector verified that the noted operations involved maximum potential for direct contact with unclad uranium material. Licensee representatives stated that personnel working in these areas were provided with whole body dosimetry, thermoluminescent dosimeters (TLDs), but that extremity dosimetry was not provided based on studies which indicated that extremity doses were less than 25 percent of the 18.75 rem quarterly limit specified in 10 CFR 20.101(a).

The inspector reviewed and discussed with cognizant licensee representatives the extremity monitoring verification studies utilized to demonstrate compliance with 10 CFR Part 20 requirements. Quarterly extremity monitoring results for studies conducted from August 1, through October 31, 1986, and from October 1, through December 31, 1988, were documented in reports dated January 13, 1987, and July 18, 1989, respectively. Study details reviewed included dosimeter type (plastic ring or elastic band), single or multiple TLD chips, location and orientation of the dosimeter on the extremity, exposure time verification studies, and, if needed, use of beta correction factors. Licensee representatives stated that plastic finger rings and elastic band holders were worn in the 1986 and 1988 studies respectively. Details regarding placement, orientation, and use of beta correction factors were unavailable.

In addition, the inspector requested information regarding the age of the pellet materials handled, that is the time interval from introduction of UF6 into the process until the pellets were handled by personnel. The inspector noted that the age of the pellet could be used to determine the percent ingrowth (relative to expected equilibrium levels) of metastable protactinium-234 (Pa-234m), the principle beta emitter of the uranium series decay chain. As a result of a relative short physical half-live (1.17 minutes), the ingrowth of the Pa-234m radionuclide was expected to occur with the 24 day half-life of the longer-lived Thorium-234 parent isotope. Licensee representatives stated that based on average throughput rates, the age of pellets handled by personnel was approximately 10 days.

The inspector requested to review guidance utilized to conduct the referenced extremity monitoring studies. Licensee representatives stated that the studies were not conducted in accordance with approved written procedures. Furthermore, cognizant licensee representatives stated that the individuals responsible for the previous studies no longer worked for the company and that details describing methods used in the the verification studies were not documented prior to the employee's departure. Subsequent to discussion and review of the studies with selected technicians and licensee supervisors, the inspector noted that details regarding placement and orientation of the dosimeters, and use of beta correction factors were not documented appropriately to evaluate properly the reported results. The inspector informed licensee representatives that the failure to prepare and follow procedures for conducting extremity monitoring studies was an example of a violation of License Condition No. 9 (70-1151/89-01-01).

The inspector reviewed quarterly doses initially reported in the studies. All results were less than 4.68 rem, that is 25 percent of the 18.75 rem quarterly limit specified in 10 CFR 20.101(a) which requires monitoring in accordance with 10 CFR 20.202(a). For example, the extremity monitoring of press operators conducted from October 1, through December 31, 1988, reported extremity doses ranging from approximately 663 to 1,425 millirem per quarter (mrem/qtr).

One violation for failure to prepare procedures for conducting extremity monitoring verification studies was identified.

(2) Extremity Dose Assessment Accuracy

The inspector discussed with licensee representatives potential concerns with extremity monitoring programs which previously were identified at other fuel fabrication facilities. These concerns included, the failure to assess skin extremity dose through a density absorber thickness of 7 milligrams per square centimeter (mg/cm$^2$), failure to use appropriate beta calibration factors for conducting dose assessments, and failure to corroborate the measured pellet dose rates with calculated values based on the percent ingrowth of Pa-234m. The inspector noted that referenced equilibrium unshielded pellet dose rate values for processed uranium material ranged from approximately 100 to 200 mrem/hr.

From discussion and review of TLD vendor records with licensee representatives, the inspector verified that the extremity skin dose was assessed through a tissue equivalent absorber thickness of 7.0 mg/cm$^2$.

The inspector discussed licensee verification of pellet dose rates. Assuming a 24 day half-life for Pa-234m ingrowth and an approximate pellet age of 10 days for the pellets handled by workers, the dose rate was expected to be approximately 25 percent of the equilibrium value. Thus based on previously stated reference values, dose rates ranging between 25 to 100 millirem per hour (mrem/hr) were expected. For the 1986 study, pellet dose rates of approximately 7.56 mrem/hr were reported. Following discussions with the TLD processor, the licensee informed the inspector that the TLD results reported were not based on a uranium source calibration and that a beta correction factor of two was required for assigning the appropriate dose. The inspector informed licensee representatives that the failure to adequately evaluate extremity exposures was a violation of 10 CFR 20.201(b) requirements (70-1151/90-08-02).

The inspector noted that the reported doses specified in the assessment studies were nonconservative by approximately a factor of two. Subsequent to adjustment, the exposure results did not exceed the limits specified in 10 CFR Part 20.

One violation for failure to conduct an adequate evaluation of extremity exposure for personnel handling unclad uranium material was identified.

(3) Extremity Monitoring Requirements

The inspector discussed the potential for personnel handling the unclad uranium material to be assigned extremity doses exceeding 25 percent of the 10 CFR 20.101(a) limits.

Licensee representatives informed the inspector that a methods analysis study conducted March 6, 1990, determined a maximum exposure time of approximately 4 hours per day for persons handling pellets in selected process activities. Furthermore, the licensee estimated that the protective clothing reduced the dose rate by 10 to 18 percent dependent upon the type of glove worn by the workers. Increasing the orginally reported 1986 measured pellet dose rate of 7.56 mrem/hr by the beta dose correction factor of two, and assuming four hours contact exposure per day for 13 weeks per quarter, the inspector calculated a potential quarterly extremity dose of 3931 mrem. The inspector noted that without correcting for attenuation from protective clothing this value was less than 25 percent of 18.75 rem quarterly limit (4.7 rem) requiring the use of extremity monitoring devices.

The inspector noted uncertainties, for example orientation of the dosimeter, regarding the 1986 pellet dose rate measurement and also noted that the corrected dose rate of approximately 15 mrem/hr was less than the 25 to 50 mrem/hr range of values expected from 10 days of Pa-234m ingrowth. Conclusions regarding the lower value were not determined during the onsite inspection. The inspector noted that based on a pellet dose rate of 25 mrem/hr, using previous assumptions regarding exposure time, and assuming 20 percent attenuation, the inspector calculated a maximum quarterly extremity exposure of 5.2 rem. Futhermore, this value would require the implementation of extremity monitoring. Licensee representatives stated that additional studies would be conducted to determine accurate pellet dose rates and also to verify that potential extremity exposure did not exceed 25 percent of the 10 CFR 20.101(a) limits. The inspector informed licensee representatives that the need to provide extremity monitoring in

accordance with 10 CFR 20.202(a) would be considered an unresolved item* pending completion and review of the evaluation (70-1151/90-08-03).

One unresolved item regarding completion of licensee studies to verify that extremity dosimetry was not required for personnel handling unclad uranium materials was identified.

(4) Whole Body Exposure

The inspector reviewed cumulative whole body exposures for workers involved in pellet pressing, grinding, and QC activities. The inspector verified that whole body monitoring services was provided by a NVLAP approved vendor.

From review of the data, all external whole body doses were within 10 CFR 20 limits and all activities were conducted in accordance with procedural guidance.

No violations or deviations were identified.

k. Sealed Sources

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

Section 3.2.1.1 of the License Application requires the licensee to maintain and follow written procedures describing general radiation protection requirements.

Procedure 05-046, "Leak Testing Sealed Sources," Rev. 3, dated June 1, 1987, requires the licensee to leak test each sealed source on site (excluding uranium) with activities exceeding 0.005 microcuries (uCi) in an appropriate manner at intervals not to exceed six months.

The inspector reviewed sealed source leak test records from January 1987 to September 1990, and verified that all required leak tests had been performed at the required frequency and that none were determined to be leaking.

No violations or deviations were identified.

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*An unresolved item is an item about which more information is required to ascertain whether it is an acceptable item, deviation, or violation.

3. Transportation Activities (86740)

a. Training

The inspector discussed the training program with the licensee representative responsible for conducting the in-house training. The licensee representative has successfully completed a Chem Nuclear sponsored transportation training course and a Westinghouse sponsored course. The licensee representative was responsible for communicating regulatory requirements and changes to those persons involved in transportation activities.

No violations or deviations were identified.

b. Audit Program

10 CFR 71.137 requires a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program. Results must be documented and reviewed by management.

The inspector reviewed the most recent audits performed and verified that any findings had been documented and reviewed by management.

No violations or deviations were identified.

c. Certificates of Compliance

10 CFR 71.2(c)(1) requires the licensee to maintain a copy of the certificate of compliance or other approval of the package, along with drawings and other documents referenced in the approval relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment.

The inspector verified that the licensee maintained a copy of the NRC Certificate of Compliance (COC) for the Fuel Shipping Container USA/5450/AF which was COC 5450, Rev. 28, dated December 22, 1989 and expires July 31, 1991. The COC package did describe the use and maintenance of the package and actions to be taken prior to shipment as required.

No violations or deviations were identified.

d. Shipping Papers and Surveys

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 05-005, "Surveys of Outgoing Shipments of Radioactive Materials," Rev. 2, dated March 9, 1990, requires the licensee to perform HP surveys on all outgoing shipments of radioactive material to include direct and removable alpha contamination, and external radiation from the radioactive material inside the package.

The inspector reviewed shipping papers and survey records for the following shipments:

- Low-Level Radioactive Waste (LLRW)
  SEG-13 shipped September 13, 1990
  SEG- 7 shipped February 27, 1990

- New Fuel
  CAO-7559 shipped January 2, 1990

The inspector verified that the shipping papers contained the required information and that proper HP surveys had been performed and documented for the shipments reviewed.

No violations or deviations were identified.

4. Radioactive Waste Management (84850)

License Condition No. 9 requires material to be used in accordance with statements, representations, and conditions contained in Sections 2, 3, and 4 of the License Application dated March 26, 1984, and supplements and letters dated thereto.

Section 3.2.2.4 of the License Application requires each entrance or access point to the Controlled Access Area to be posted in accordance with 10 CFR 20.203 except for 10 CFR 20.203(f). In lieu therefore, a sign bearing the legend, "Every container or vessel in this area may contain radioactive material," shall be posted at entrances to each area in which radioactive materials are processed, used or stored.

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

The inspector reviewed records of the two LLRW shipments described in Paragraph 3.d. The inspector determined that the waste classification had been performed as required and the manifests were properly completed.

The inspector toured the areas where radioactive waste is processed and stored. The inspector observed 55-gallon drums of waste being processed in the LLRW storage building for shipment and disposal. The drums were being marked and labeled correctly. The inspector also observed other types of containers and equipment containing radioactive waste stored in various authorized places around the facility and determined that all were adequately posted in accordance with License requirements.

No violations or deviations were identified.

5. Exit Meeting

The inspection scope and findings were summarized on September 21, 1990, with those persons denoted in Paragraph 1. The inspector described the findings of the inspection, including the violations and the unresolved item. The inspector also discussed the likely content of the inspection report with respect to the inspection observations, violations and unresolved items. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector during the inspection. Dissenting comments were not received from the licensee.

| Item Number | Description and Reference |
|---|---|
| 70-1151/90-08-01 | VIO - Failure to follow written procedures (Paragraphs 2.i and 2.j(1)). |
| 70-1151/90-08-02 | VIO - Failure to perform an adequate survey (Paragraph 2.j(2)). |
| 70-1151/90-08-03 | URI: Failure to provide monitoring to persons expected to receive greater than 25 percent of the limits in 10 CFR 20.101(a) (Paragraph 2.j(3)). |