



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 70-1151/79-14

Licensee: Westinghouse Electric Corporation
Nuclear Fuel Division
Columbia, South Carolina 29205

Facility Name: Columbia Nuclear Fuel Plant

License No. SNM-1107

Inspection at: Columbia, South Carolina

Inspector: *G. L. Troup*
G. L. Troup

10/16/79
Date Signed

Approved by: *A. F. Gibson*
A. F. Gibson, Section Chief, FFMS Branch

10/16/79
Dated Signed

SUMMARY

Date of Inspection: September 17-21, 1979

Areas Inspected:

This routine, unannounced inspection involved 34 inspector-hours onsite in the areas of the waste disposal program including liquid effluents, gaseous effluents, reports of effluents discharged, monitoring instruments, radioactive solid waste disposal, followup on IE circular, bulletins and information notices, and followup on unusual occurrences.

Results

Of the seven areas inspected, no apparent items of noncompliance or deviations were identified in five areas; two apparent items of noncompliance were found in two areas (infraction - failure to survey (79-14-01); infraction - failure to install air sampling equipment (79-14-02); no apparent deviations were found.

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DETAILS

1. Persons Contacted

- *R. J. Wiggins, Acting Plant Manager
- *W. H. Brittin, Manager, Chemical Operations
- *W. L. Goodwin, Manager, Regulatory Compliance
- *C. F. Sanders, Manager, Radiological and Environmental Engineering
- L. J. Weatherford, Manager Health Physics Operations
- *E. M. Philpot, General Supervisor, Chemical Operations
- *E. K. Reitler, Fellow Engineer
- R. K. Burklin, R&E Engineer
- L. Coco, R&E Engineer
- R. Hayes, R&E Engineer
- R. Fischer, R&E Engineer
- J. Heath, R&E Engineer
- R. Lewis, Shift Supervisor
- R. Peterson, Shift Supervisor

Other licensee employees contacted included five technicians, and one office personnel.

Other Organizations

J. Hayes, President, Delaware Custom Materials, Inc.

2. Exit Interview

The inspection scope and findings were summarized on September 21, 1979, with those persons indicated in Paragraph 1 above. On September 25, 1979, the inspector discussed the release of material from the contamination control areas without proper surveys with E. R. Reitler and informed him that this was considered to be an item of noncompliance against condition 38 of the license.

3. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (79-02-01) Posting of Radioactive Materials Areas. The inspector observed that doors leading into the UF₆ area as well as other outside areas in the plant have been posted with painted signs. The inspector had no further questions.

(Closed) Unresolved Item (78-15-01) Labeling Contaminated Scrap Disposal Boxes. The disposal boxes in the outside areas have been labeled with appropriate signs. A licensee representative stated that boxes are posted when ready for use rather than when filled and ready for shipment.

4. Unresolved Items

Unresolved items were not identified during this inspection.

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5. Control of Contaminated Material

- a. On September 20, 1979, the inspector, accompanied by a licensee representative, toured the outside area and performed radiation surveys of materials in waste containers and other materials. During a survey of material in a scrap metal box the inspector identified a piece of sheet metal with readings as high as 1600 cpm (approximately 5200 dpm/100cm²) using a PAC-4S instrument. Other pieces in the box showed readings of 200-300 cpm above background.
- b. Licensee representatives removed the material from the box and performed both loose and fixed contamination surveys. Condition 18 of license SNM 1107 requires that equipment and packages released from the plant or to clean areas on-site shall be less than the limits of Annex C to the license. The survey results were less than the limits of Annex C but several pieces of metal had fixed contamination greater than the limits of plant procedure RP-201. Those pieces were packaged as radioactive solid waste.
- c. The licensee investigated this condition and determined that the materials had come from a contamination control area on the roof where construction work was being done on the ventilation system and had not been surveyed before being placed in the box. Condition 38 of license SNM-1107 requires that the licensee shall perform tests, measurements or surveys as may be necessary. The inspector stated that the movement of the material from the controlled area to a clean area without adequate surveys was an item of noncompliance (79-14-01); this was acknowledged by a licensee representative.

6. Radioactive Liquid Effluents

The inspector reviewed the "Summary Effluent and Environmental Report" for the period January-July 1979 and the "Liquid Effluent Discharge Log" for the month of July 1979 to determine compliance with 10 CFR 20.106 and 10 CFR 20.201(b). The inspector toured the waste treatment facility and observed the operation of the composite sampler. The inspector also discussed the controls over liquid discharges with licensee representatives and discussed sample collection, composite sample preparation and sample analysis with radiation control personnel.

No items of noncompliance were identified by the inspector.

7. Radioactive Gaseous Effluents

a. Concentrations Released

The inspector reviewed the "Summary Effluent and Environmental Report" for the period January-June 1979, "Weekly Effluent Air Summary" for the period May 6-September 2, 1979, and "Gaseous Effluent Air Daily Results" for the period August 1 - September 14, 1979, to determine compliance with 10 CFR 20.106 and 10 CFR 20.201(b). The inspector

also discussed the methods used to collect samples and to evaluate the releases. No items of noncompliance or deviations were identified by the inspector.

b. Calibration of Flow Meters

The inspector reviewed the calibration records for the flow meters associated with the effluent samplers and discussed the calibration with the responsible technician. In reviewing the records the inspector noted that some flow meters had entries of "no flow" or were out of tolerance. A licensee representative stated when these conditions were found corrective actions (such as clearing the sample line) were taken and the flow meter recalibrated. However, the recalibration results were not included on the record form. The inspector pointed out that the recalibration records should reflect the actual calibration results; this was acknowledged by licensee representatives who stated that in the future when recalibration is required, both the initial and final calibration results will be included in the records. The inspector had no further questions.

8. Recirculating Air Systems

- a. Condition 42 of license SNM-1107 requires that by July 1, 1979, air sampling equipment shall have been installed and operating for representative sampling of air discharged from each recirculating air system. On September 19, 1979, the inspector observed two recirculating air units in operation in the pellet area which did not have air sampling equipment installed and operating. The inspector informed licensee representatives that this was an item of noncompliance (79-14-02). Action was taken to install the equipment on the subject units by September 21.
- b. The inspector observed that a copy of the operating procedure was attached to each recirculating air unit. Step 1 of the procedure requires that the differential pressure across the filter be read and recorded daily. The inspector reviewed the logs for units in the pellet and conversion areas and noted that the readings were recorded for the units in the conversion area but had not been recorded since June or July for units in the pellet area. A licensee representative acknowledged that the readings should be recorded and stated that the operators would be reinstructed to record the reading and that the procedure would be reviewed. (79-14-03)

9. Solid Waste Disposal

a. Shipments to Burial Grounds

The inspector discussed the program for shipment of solid waste to burial grounds with licensee representatives and examined records for seven shipments. The inspector also determined that licensee has a current copy of the disposal site license on-site. The inspector

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noted that the entries for principal isotopes on some shipping forms was done in a shorthand which was confusing when compared to other entries. A licensee representative stated that the individuals concerned would be reinstructed in procedures. The inspector had no further questions.

b. Burial of Waste

10 CFR 20.304 allows disposal of radioactive material by burial provided that certain requirements are met. A licensee representative informed the inspector that no radioactive material is disposed of by burial; all material is shipped to a licensed disposal site. The inspector had no further questions.

10. Evacuation of Chemical Process Area

On September 6, 1979, the chemical process area was evacuated due to a release of ammonium diuranate. The inspector discussed the incident with the cognizant engineer and reviewed the air sample results of the areas. The inspector also discussed the licensee's evaluation of personnel exposures with cognizant personnel. The licensee's evaluation concluded that personnel in the area had been exposed to only a fraction of the limits of 10 CFR 20.103. The inspector had no further questions.

11. IE Bulletins, Circulars and Information Notices

- a. Circular 79-09, "Occurrences of Split or Punctured Regulator Diaphragms in Certain Self Contained Breathing Apparatus". A licensee representative stated that all of the subject units had been inspected and that no problems had been found. The licensee representative also stated that a method of testing the diaphragm integrity was being studied and that test and inspection requirements would be incorporated into procedure RC-205 by December 22, 1979, which is before the next scheduled inspection (79-14-004).
- b. Circular 79-15, "Bursting of High Pressure Hose and Malfunction of Relief Valve and O-ring in Certain Self-Contained Breathing Apparatus." A licensee representative informed the inspector that no units described in the circular are used; the inspector had no further questions.
- c. Information Notice 79-8, "Interconnection of Contaminated Systems with Service Air Systems Used as the Source of Breathing Air." A licensee representative informed the inspector that the service air system is not used as a supply for respirable air; rather, respirable air is supplied from compressed air cylinders which are filled at a contractor's facility. Consequently, there is no potential for cross-contamination. The inspector had no further questions.

12. Reports of Effluents

10 CFR 70.59 requires that each licensee shall submit a report semi-annually specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and gaseous effluents during the previous six months of operations. The inspector reviewed the reports for the periods January - June 1978, July - December 1978 and January - June 1979 and determined that the reports were submitted within the required period and contained the required information. The inspector had no further questions.

13. ALARA Committee Report

Condition 21 of the facility license requires that a formal report shall be made by the ALARA Committee to the Plant Manager every six months reviewing employee exposures and effluent release data. The inspector reviewed the ALARA Committee report for the period January 1-June 30, 1979, and discussed the findings with licensee representatives. The inspector had no further questions.

14. Control of Radiation Exposure for Transient Workers

On June 18, 1979, the Director, Office of Standards Development, USNRC issued a notice to NRC licensees regarding changes to 10 CFR Parts 19 and 20 concerning control of radiation exposure for transient workers. The inspector discussed this notice with the cognizant supervisor and determined that the licensee had received the notice and had reviewed the exposure program for any changes necessary to implement the change; the licensee concluded that no procedural changes were necessary. The inspector had no further questions.

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