



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

Report No.: 70-1151/79-10

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

Facility Name: Columbia Nuclear Fuel Plant

Docket No.: 70-1151

License No.: SNM-1107

Inspector: J. B. Kahle
 J. B. Kahle

7/3/79
 Date Signed

Approved by: J. P. Potter
 J. P. Potter, Section Chief, FF&MS Branch

7/5/79
 Date Signed

SUMMARY

Inspection on June 18-22, 1979

Areas Inspected

This routine unannounced inspection involved 36 inspector-hours onsite in the areas of internal audits, safety committees, nuclear criticality safety, initial use of packaging, routine use of packagings, training and buildup of sludge in retention tanks.

Results

Of the seven areas inspected, no apparent items of noncompliance or deviations were identified in six areas; one apparent item of noncompliance was found in one area (Deficiency - failure to adequately evaluate the effectiveness of the refresher training program (79-10-1) - paragraph 11b.).

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DETAILS

1. Persons Contacted

Licensee Employees

- *M. D Amore, Plant Manager
- *W. Britton, Chemical Operations Manager
- *W. Goodwin, Regulatory Compliance Manager
- *C. Sanders, Radiological and Environmental (R&E) Engineering Manager
- *E. Reutler, R&E Engineer
- H. King, Nuclear Criticality Engineer
- R. Burklin, R&E Engineer
- R. Fischer, R&E Engineer
- L. Coco, R&E Engineer
- J. Eady, QC Engineer
- H. Hinson, QC Engineer
- J. Higginbotham, Procurement QA Manager
- M. Field, QC Engineer
- H. Lembersky, QC Engineer
- L. Wall, QC Records Manager
- B. Bossick, Uranium Inventory Manager
- B. Street, Mechanical Manufacturing Supervisor
- H. Foster, Nuclear Materials Control Manager
- W. Mell, Safety Manager
- J. Hooper, Accident Prevention Technician

Other licensee employees contacted included three technicians and three operators.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 22, 1979, with those persons indicated in Paragraph 1 above. Evaluation of the effectiveness of the training program was discussed in detail. Management did not agree with the inspector that the test given to determine the effectiveness of the training program was inadequate for this determination.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Organization and Personnel

Effective June 15, 1979, there was a change of personnel and restructure of the Chemical Operations organization. Reporting to the Manager, Chemical Operations (W. H. Britton), are the Manager, Process Engineering (J. E. Hart), and three General Supervisors, Chemical Manufacturing (E. M. Philpot, first shift; G. T. Lowder, second shift; and W. H. Condo, third shift). Reporting to each of the General Supervisors, are a lead supervisor and five shift supervisors for the first and second shifts and four shift supervisors for the third shift. Discussions with licensee representatives revealed that the restructuring has increased the amount of supervision with more direct supervision on the back shifts and increased supervision in the potential problem areas. No items of noncompliance or deviations were identified.

6. Internal Audits

The inspector examined the monthly nuclear criticality safety and radiation protection audit reports. Verification was made that the audits were conducted in accordance with a written plan as required by the license. The reports showed that items requiring corrective action were identified. Responsibilities and completion dates for corrective actions were documented. It was apparent from the reports that most items were corrected at the time of the audit. No items of noncompliance or deviations were identified.

7. Safety Committees

The inspector examined the minutes for the Regulatory Compliance Committee meetings held May 11 and June 8, 1979. The minutes showed that designated licensee personnel were in attendance as required by conditions of the license. The minutes showed that discussions dealt with NRC inspection findings, license amendment activities, licensee internal audit findings, ALARA activities and other licensee concerns. The six month formal report made by the ALARA Committee to the plant manager was examined by the inspector. The report showed trends for exposures and effluents, how they related to the ALARA concept and how equipment for effluent and exposure control was used, maintained and inspected. An examination of the Safety Policy Committee minutes for January through May showed that the committee is functioning in accordance with its charter and that plant safety concerns are identified, discussed and appropriate corrective actions implemented. No items of noncompliance or deviations were identified.

8. Nuclear Criticality Safety

a. Analyses

Several nuclear safety evaluations of equipment changes or new processes were examined to verify that approved nuclear criticality safety techniques were used. Selected calculations were examined for correctness. Verification was made that the evaluations had been checked by an independent reviewer. Verification was made that the

floor plan for the Recovery Area showed the SNM process equipment and fixed storage areas. No items of noncompliance or deviations were identified.

b. Alarms

- The inspector reviewed the procedures for calibrating the criticality alarms. The radiation detectors are calibrated quarterly. The system is checked weekly for operability and familiarization. Verification was made that the detectors were calibrated within the past 3 months. No items of noncompliance or deviations were identified.

c. Signs and Postings

During tours of the plant, the inspector observed that process equipment, storage arrays and transfer carts were posted with appropriate criticality limits and instructions. No items of noncompliance or deviations were identified.

d. Waste and Storage Arrays

Verification was made that SNM was placed in storage arrays in accordance with posted limits and procedures and that arrays of waste boxes containing SNM were stored in approved arrays and within established limits and procedures. No items of noncompliance or deviations were identified.

e. Inventory

An examination of laboratory records and discussions with personnel showed that the license limit and operating limits for SNM had not been exceeded. No items of noncompliance or deviations were identified.

9. Initial Use of Packaging

Licensee representatives stated that they have not procured any new shipping containers for product or scrap SNM in the past year. They stated that they have initiated actions to procure a new model RCC container. The inspector discussed with licensee representatives the application of their quality assurance program (WCAP-7800) and 10 CFR 71 regulations for the fabrication, inspection and acceptance of the new containers. No items of noncompliance or deviations were identified.

10. Routine Use of Packagings

The inspector verified that the licensee had copies of the Certificate of Compliance for the fuel assembly shipping containers and the containers used to ship scrap material. Verification was made that the licensee had written procedures to inspect and accept containers prior to loading. The procedures for loading and closing the containers were examined. No packagings were being loaded during the inspection. An examination of selected records

showed that appropriate documents were retained with each shipment record to meet the requirements of 10 CFR 71.62. No items of noncompliance or deviations were identified.

11. Training

a. - New Employees

Through discussions with personnel, verification was made that all new employees and contractor personnel receive training pertaining to radiation protection and nuclear criticality safety. The training agenda was discussed with licensee representatives responsible for the training program. It appeared that all the requirements of 10 CFR 19.12 were met. No items of noncompliance or deviations were identified.

b. Refresher Training

License Conditions 32 and 45 require that employees who work with SNM shall receive general refresher training at least once each year and that written tests shall be conducted in determining the effectiveness of the training program. From a selected examination of the records the inspector verified that employees who work in the control area received training annually. A review of the refresher training agenda showed that the subject matter (script) covered all aspects of radiation protection and nuclear criticality safety. An examination of the test questions showed that 10 of the 12 questions pertained to respirators and respiratory protection. The other two questions pertained to the hazards associated with breathing air contaminated with uranium and methods to reduce individuals' exposure. The test did not cover nuclear criticality safety and the various other areas of radiation protection which were covered in the refresher training program agenda. The inspector questioned how the licensee could determine the effectiveness of the training program when the test covered essentially one area, respiratory protection. Licensee representatives stated that emphasis had been placed on their major area of concern and other methods were used to evaluate the effectiveness of the radiation protection and nuclear criticality safety. The inspector agreed that other methods could generally be used for evaluating the effectiveness of the program but maintained, that technically, these methods were not acceptable with respect to the license condition. Licensee representatives were informed that the test was inadequate and unacceptable as an evaluation to determine to effectiveness of the refresher training program. Consequently, they had not met the requirements of Condition 45 of the license (79-10-01).

12. Sludge Buildup In Retention Tanks

The licensee notified the inspector that they had recovered approximately 90 Kg of uranium from the bottoms of the two 30,000 gallon waste retention tanks. The uranium was contained in about 1 to 2 inches of sludge (slurry)

at the bottom of the tanks. An analysis of a sample showed a uranium-235 concentration of 4 grams per liter. A licensee representative stated the slurry resembled ADU. The tanks have been in use for approximately three years. A licensee representative stated that they plan to inspect the tanks on a quarterly basis. They are currently developing action level and corrective action criteria for the quarterly inspection findings. Some alternatives that are being considered to reduce a sludge buildup which would contain uranium are (1) installation of a bottom drain mechanism, (2) installation of a recirculating filter system, and (3) use of an advanced uranium recovery equipment before discharging to the tanks. No items of noncompliance or deviations were identified.