

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

Report No. 70-1100/81-05

Docket No. 70-1100

License No. SNM-1067 Priority 1 Category UR

Licensee: Combustion Engineering, Inc.

P. O. Box 500

Windsor, Connecticut

Facility Name: Nuclear Manufacturing Facility

Inspection At: Windsor, Connecticut

Inspection Conducted: July 14-16, 1981

Inspectors: *[Signature]*
P. Clemons, Radiation Specialist

11-17-81
date

Approved by: *[Signature]*
P. J. Knapp, Chief, Facility Radiological
Protection Section, Technical Inspection
Branch

11-17-81
date

Inspection Summary:

Inspection on July 14-16, 1981 (Report No. 70-1100/81-05)

Areas Inspected: Routine, unannounced inspection by a regional based inspector of the Radiation Protection Program including: outstanding items, organization, labeling, training, termination reports, annual exposure report, contaminated storage area, bioassay, dosimetry, liquid waste, ventilation, smears, drills, internal audits, leak test, stack samples and breathing zone samples. Shortly after arrival, areas where work was being conducted were examined to review radiation control procedures and practices. The inspection involved 18 inspector-hours onsite by one regional based inspector.

Results: Of the 16 areas inspected, no items of noncompliance were identified in 15 areas. One item of noncompliance was identified in one area (failed to label container, Paragraph 3).

DETAILS

1. Persons Contacted

*Mr. G. Johnstone, Health Physics and Safety Supervisor
Mr. J. Limbert, Laboratory Radiation Engineer
*Mr. F. Pianki, General Manager, Fuel Fabrication
Mr. P. Rosenthal, Manager, Health Physics

The inspector interviewed several other licensees employees during the course of the inspection.

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (1100/81-03-01) Environmental samples collected but not analyzed for 1980. The inspector reviewed the "1980 Environmental Radiation Monitoring Report" which indicated that all of the samples had been analyzed.

(Closed) Noncompliance (1100/81-03-02) The licensee did not have procedures for opening packages containing licensed radioactive material. The inspector reviewed procedures for opening packages that had been approved and issued in June 1981.

3. Labeling

On July 14, 1981, as the inspector toured the Annex area of the Pellet Shop, he observed approximately ten closed 55-gallon drums containing SNM bearing waste material. He noted that several of the drums were not labeled indicating the content of the drums.

Section 8.2 of Special Nuclear Material License No. SNM-1067 states, "...all procedures shall provide for the labeling of all mass limited containers to indicate the enrichment, and the uranium content and shall provide for maintaining the identity of enrichments of all SNM in the facility."

The inspector also noted that a licensee employee was in the process of labeling the drums as to the enrichment and uranium content. He was working from a list of drum numbers that he held in his hand. The inspector noted that Drum No. 3390 was one of the drums that was not labeled as to the enrichment and uranium content, and he asked the employee if Drum No. 3390 was included in the list he was working from. The employee told the inspector that Drum No. 3390 was not included. The inspector noted that failure to label the drum as to the enrichment and uranium content represents noncompliance with Section 8.2 of Special Nuclear Material License No. SNM-1100. (81-05-01)

4. Organization

The licensee has recently added two health physics technicians to the staff. They do not have previous health physics experience, but both have received health physics training given by the Health Physics and Safety Supervisor. They are presently receiving on-the-job training under the supervision of the Health Physics and Safety Supervisor.

No items of noncomplance were identified.

5. Training

Section 15.13 of SNM-1067 requires all personnel who are to handle radioactive materials in the Manufacturing Facility receive training in the health and safety requirements. The inspector reviewed training-related documentation which indicated approximately 10 new employees had received appropriate training during 1981. Two females were included in this group, and the documentation indicated that they had also received pre-natal exposure training.

The documents also indicated that professional and technician level employees had received retraining during May of 1981.

No items of noncompliance were identified.

6. Termination Reports

10 CFR 20.408 requires a licensee to submit to the Director of Management and Program Analysis a report of an individual's exposure to radiation and radioactive material, incurred during the period of employment in the licensee's facility, when the individual terminates employment with the licensee. The inspector reviewed approximately 10 exposure reports for 1980 and 1981 of employees that had terminated employment with the licensee. These reports had been submitted as required.

No items of noncompliance were identified.

7. Annual Exposure Report

10 CFR 20.407(b) requires licensee's to submit personnel exposure and monitoring reports to the Director of Management and Program Analysis within the first quarter of each calendar year for the preceding calendar year.

The inspector reviewed the licensee's report submitted to the Director on March 12, 1981, indicating exposure information for 202 individuals monitored during 1980. According to the exposure information reviewed by the inspector the maximum dose received by one person was 2,636 millirem. All others monitored received less than 2,000 millirem.

No items of noncompliance were identified.

8. Contaminated Storage Area

On July 19, 1981, the inspector toured the Contaminated Storage Area to determine the status of the operations as defined in the licensee's application of May 1, 1981. The inspector observed that actions described in the licensee's application had not started at the time of this inspection.

No items of noncompliance were identified.

9. Bioassay

Condition No. 17 of SNM-1067 requires the licensee to develop and maintain a bioassay program which meets the specification of Regulatory Guide 8.11, "Application of Bioassay for Uranium". Regulatory Guide 8.11 suggests an annual sampling frequency for minimum programs.

The inspector reviewed urine bioassay data for about 25 employees for 1980 to determine that the employees were participating in the program as required. The employees are participating in the program, and the data did not indicate any problems with exposure control.

No items of noncompliance were identified.

10. Dosimetry

The inspector reviewed dosimetry records for the period January - June 1981 for approximately 150 individuals monitored at the Nuclear Fuel Manufacturing Facility and the Laboratories. The data indicated that all exposures were well within the 10 CFR 20.101 limits.

No items of noncompliance were identified.

11. Drills

Amendment No. 20 to SNM-1067 incorporates the licensee's emergency plan dated July 30, 1979. Section 8.1.2 of the emergency plan states: "Semi-annual...drills are conducted...".

The inspector reviewed documentation that indicated that emergency drills were conducted, and critiqued, in October 1980 and June 1981.

No items of noncompliance were identified.

12. Liquid Waste

The inspector reviewed liquid waste discharge data for the period January - June 1981 for the Manufacturing Facility to determine if the licensee adhered to the requirements of 10 CFR 20. The licensee made 125 discharges, totalling 250,000 gallons. All discharges were within the regulatory limits.

13. Ventilation

Section 15.7 of Special Nuclear Material License No. SNM-1067 requires face velocities at hood openings to be at least 100 feet per minute. The licensee performed weekly ventilation surveys in the Pellet Shop to determine that the face velocities were as required.

The inspector reviewed ventilation data for the Pellet Shop for the period January - June 1981 to confirm that the required flow rate was maintained. The data indicated that in every instance the face velocities were in excess of 100 feet per minute.

In addition to the above, and at the inspector's request, velometer measurements were made at several hood openings on July 15, 1981. In every instance the velocity exceeded 100 feet per minute.

No items of noncompliance were identified.

14. Smears

Section 15.6.1 of the licensee's application requires that smear surveys be taken and analyzed for alpha activity to verify compliance with internal limits. The inspector reviewed smear survey records for the period January - June 1981 to assure that the licensee was in compliance with this license requirement.

No items of noncompliance were identified.

15. Leak Test

License Condition 13(c) of NRC Materials License No. 06-00217-06 requires that sealed sources be leak tested at intervals not to exceed six months.

The inspector reviewed leak test data, and the data indicated that the sources were leak tested in August 1980 and February 1981.

No items of noncompliance were identified.

16. Internal Audits - SNM-1067

Section 8.3 of the licensee's application, which is incorporated by License Condition 9 of SNM-1067, requires that monthly audits for radiological considerations be performed by a qualified individual. The inspector questioned licensee representatives regarding the conduct of the monthly internal audits as required by Section 8.3. The inspector reviewed audit reports for the period January - June, 1981 for the monthly radiological safety audits.

No items of noncompliance were identified.

17. Breathing Zone Samples

The inspector reviewed breathing zone sample data for ten employees for the period April - June 1981 to determine if the licensee was in compliance with regulatory requirements. The data indicated that the regulatory limits were not exceeded.

No items of noncompliance were identified.

18. Stack Samples

Amendment No. 25 to SNM-1067 states "...if the radioactivity in plant gaseous effluents exceeds 18 uCi gross alpha activity of total uranium per calendar quarter, the licensee shall within 30 days, prepare and submit to the Commission a report which identifies the cause for exceeding the limit and the corrective actions to be taken by the licensee to reduce release rates."

The inspector reviewed stack sample data for the first quarter of 1981 to verify adherence to this specification. The data indicated that the 18 uCi limit had not been exceeded.

No items of noncompliance were identified.

19. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection of July 16, 1981. The inspector summarized the purpose and scope of the inspection, and the findings as presented in this report.