

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

Region I

Report No. 70-687/81-01

Docket No. 70-687

License No. SNM-639 Priority 1 Category A

Licensee: Union Carbide Corporation

P. O. Box 234

Tuxedo, New York 10987

Facility Name: Union Carbide

Inspection at: Tuxedo, New York

Inspection conducted: February 11-13, 1981

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

5/14/81
date signed

Approved by: *[Signature]*
P. J. Knapp, Chief, Radiation Support
Section, FF&MS Branch

date signed
5/14/81
date signed

Inspection Summary:
Inspection on February 11-13, 1981 (Report No. 70-687/81-01)
Areas Inspected: Routine, unannounced inspection by a regional based inspector of the Radiation Protection Program including: outstanding items, training, posting, dosimetry, procedures, air samples, stack samples, shipments of radioactive material, smears, leak test, ventilation, filter change, receipt of radioactive material and drills. Shortly after arrival, areas where work was being conducted were examined to review radiation control procedures and practices. The inspection involved 19 inspector hours onsite by one regional based inspector.
Results: No items of noncompliance were identified.

8106160 141

DETAILS

1. Persons Contacted

Mr. C. Konnerth, Manager, Health, Safety and Environmental Affairs
Mr. L. Thelin, Health Physics Supervisor

The inspector also interviewed other licensee employees, including Health Physics Technicians.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (687/80-04-03): Failure to make daily floor surveys ... and to clean when above 100 DPM per 100 square centimeters. The inspector noted that daily floor surveys are being performed, and the inspector also noted that a license amendment request has been submitted requesting an increase in the limits that require decontamination.

(Closed) Noncompliance (687/80-06-01): Cabinet containing special nuclear material not properly posted. The inspector noted during this inspection that the cabinet was properly posted as to the amount of material permitted and the actual amount of material present.

(Open) Noncompliance (687/80-03-01): Failed to do bioassay. Licensee took exception to this item of noncompliance, and a subsequent inspection determined that the licensee was not analyzing the urine samples for the presence of uranium. In a letter to the licensee dated October 15, 1980, the licensee was requested to inform the Commission of the intended corrective action inasmuch as the urine samples were not being evaluated for the presence of uranium.

A licensee representative informed the inspector during this inspection (81-01) that the urine samples would be analyzed for the presence of uranium. The matter will be further evaluated during a subsequent inspection.

3. Training

Condition No. 9 of License No. SNM-639 incorporates a letter dated April 28, 1969. On Page 15 of the April 28, 1969 letter, the licensee states: "All personnel working with radioactive material ... receive basic radiation safety training." The inspector had been told that a female employee had recently been added to the quality assurance staff working with radioactive material. The inspector asked what training the new employee had received. He was informed that the employee had received the basic training, and he was also shown a test that had been given to the employee after she had completed the required training. The inspector was also shown documentation that indicated that the employee had also received training in prenatal radiation exposure.

No items of noncompliance were identified.

4. Dosimetry

The inspector reviewed dosimetry records for 1980 for eight employees associated with SNM-639 to determine that the license was in compliance with the regulatory requirements.

No items of noncompliance were identified.

5. Posting and Labelling

The inspector reviewed the facility posting and labelling against the requirements of 10 CFR 19 and 10 CFR 20, and observed that the licensee was in compliance with the regulations.

In addition, Condition 14 of Amendment 1 to SNM-639 states: "As a further condition of this license, the licensee shall post all storage and use locations with criticality safety signs which indicate the maximum quantity of special nuclear material that is authorized at each location and the actual amount that is present at each location."

The inspector verified that all storage and use locations were so posted.

No items of noncompliance were identified.

6. Drills

Condition 9 of SNM-639 incorporates a letter dated June 13, 1973. The following statement appears in the June 13, 1973 letter. "Drills ... will be conducted semi-annually."

The inspector reviewed documentation that indicated that drills had been performed on November 13, 1979, June 26, 1980 and October 9, 1980.

No items of noncompliance were identified.

7. Receipt of Radioactive Material

10 CFR 20.205(b)(1) requires that each licensee, upon receipt of a package of radioactive material, must monitor the external surface of the package for contamination. The inspector reviewed the incoming shipment records for approximately ten shipments received by the licensee during 1980 to determine compliance with the regulations.

10 CFR 20.205(d) states: "Each licensee shall establish and maintain procedures for safely opening packages in which licensed material is received, ..." The inspector reviewed "Witnessing Procedure for U-235 Incoming Shipment" to determine if the intent of the regulations was met.

No items of noncompliance were identified.

8. Smears

On Page 3 of the April 28, 1969 letter, the licensee states that floor wipes shall be counted for alpha activity. According to a licensee representative, wipes are taken from certain areas daily, and other areas monthly.

The inspector reviewed smear survey records for the period July through December 1980 to assure that the licensee was in compliance with the license condition.

No items of noncompliance were identified.

9. Air Samples

The inspector reviewed air sample data for the period July through December 1980 to determine that the samples were being taken and to assure that the regulatory requirements were being observed.

No items of noncompliance were identified.

10. Stack Samples

The inspector reviewed stack sample records for the period July-December 1980. The data for all samples indicated that the air concentrations were within the regulatory limits.

No items of noncompliance were identified.

11. Leak Test

The licensee has a license condition for leak testing sealed plutonium sources. The condition states that "each plutonium source shall be tested for leakage at intervals not to exceed six (6) months."

The inspector reviewed leak test records for 1980 which indicated that the licensee has one sealed plutonium source and this source is being leak tested at three (3) month intervals.

No items of noncompliance were identified.

12. Ventilation

Condition 9 of SNM-639 incorporates a letter dated April 28, 1969. On Page 10, Item 1, Ventilation System, of the April 28, 1969 letter, it states: "...ventilation system is pressure regulated to insure a continuous, positive flow of air from nonradioactive areas to contaminated or radiation areas."

The inspector reviewed ventilation data for 1980 that indicated that velocity measurements were made monthly and the direction of flow indicated that the flow of air was from nonradioactive areas to contaminated areas.

No items of noncompliance were identified.

13. Filters

The June 13, 1973 letter has a statement that reads as follows: "Operations with SNM in chemistry laboratories can result in scrap material of both solid and liquid forms. Material of solid form (UO_2) is recycled into the process carried on in a particular laboratory. Some solid material (milligram quantities) may accumulate on filters in the exhaust ventilation system. However, in the normal course of events these filters are changed at maximum intervals of one year."

The inspector asked a licensee representative to demonstrate that filters had been changed in 1980 as required.

The licensee representative provided the inspector with a log book that indicated that roughing and absolute filters had been changed in the Solution Lab and the Plating Lab of the Hot Lab Facility several times during 1980.

The Solution Lab and the Plating Lab are areas in which the largest quantities of unencapsulated uranium are routinely handled.

No items of noncompliance were identified.

14. Shipping Radioactive Material

On December 3, 1980, the licensee made a shipment of radioactive material to the Savannah River Plant, Aiken, South Carolina, using Shipping Container No. BMI-I. The shipment contained about 23,000 curies of mixed fission products.

10 CFR 71.3, "Requirements for License" states: "No licensee subject to the regulations in this part shall (a) deliver any licensed materials to a carrier for transport or (b) transport licensed materials except as authorized in a general license or specific license issued by the Commission, or as exempted in this part."

10 CFR 71.12 establishes a general license for delivery of licensed material to a carrier for transport:

"(b) In a package for which a license, certificate of compliance or other approval has been issued by the Commission's Director of Nuclear Material Safety and Safeguards for the Atomic Energy Commission, provided that:

(1) The person using a package pursuant to the general license provided by this paragraph:

(i) Has a copy of the specific license, certificate of compliance or other approval authorizing use of the package and all documents referred to in the license, certificate or other approval, as applicable;

(ii) Complies with the terms and conditions of the license, certificate, or other approval, as applicable, and the applicable requirements of this part and

(iii) Prior to first use of the package submits in writing to the Director of Nuclear Material Safety and Safeguards or the Atomic Energy Commission, his name and license number, the name and license or certificate number of the person to whom the package approval has been issued, and the package identification number specified in the package approval."

At the inspector's request, he was given a copy of Certificate of Compliance No. 5957, Revision 7, dated November 18, 1980 and copies of all documents referenced by the Certificate. The inspector was also given a copy of the shipping documents associated with the shipment, and the inspector was also shown documentation confirming that the licensee had registered as a user of the Model No. BMI-I shipping cask.

No items of noncompliance were identified.

15. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on February 13, 1981. The inspector summarized the purpose and the scope of the inspection, and the findings as presented in this report.