

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

Region I

Report No. 40-6920/81-01
30-5998/81-01
Docket No. 40-6920
30-5998
SUB-868
License No. 37-00611-09 Priority 1 Category B

Licensee: Automation Industries, Incorporated
Kimberton Road
Phoenixville, Pennsylvania 19460

Facility Name: Nuclear Encapsulation Facility

Inspection at: Kimberton Road, Phoenixville, PA

Inspection conducted: January 21, 1981

Inspectors: C.A. Rowe
C. A. Rowe, Radiation Specialist

3-18-81
date signed

date signed

date signed

Approved by: J. D. Kinneman
J. D. Kinneman, Chief, Material
Radiological Protection Section

3-19-81
date signed

Inspection Summary:

Inspection on January 21, 1981 (Combined Report No. 30-5998/81-01 and 40-6920/81-01

Areas Inspected: Routine, unannounced inspection of radiation protection program including licensee's action on previous inspection findings, investigation of Report of Equipment Defect, Receipt and Transfer of Material, dosimetry records, radiation and contamination surveys, material inventory, effluent control, hot cell entry, waste disposal, and a tour of the facility. The inspection involved six inspector hours onsite by one NRC inspector.

Results: Of the ten areas inspected, no apparent items of noncompliance were identified.

DETAILS

1. Persons Contacted

*M. Santoro, Manufacturing Manager, Nuclear Products

*S. Boyko, Production Manager

R. Megay, Technician

R. Fredericks, Shipping and Receiving

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (30-5998/80-01): Failure to perform contamination surveys of the hot cell as required by the licensee's Supplement I to their application of December 12, 1968, included as a Part of License Condition No. 15. The licensee is now making weekly contamination surveys of the hot cell and recording the results on the format used for weekly surveys of the facility.

(Closed) Noncompliance (30-5998/80-01): Possession of iridium-192 in excess of license limits. The licensee has applied for a license amendment to increase their possession limit to preclude recurrence of this noncompliance. Review of material inventories indicated the licensee had not possessed material in excess of license limits since the previous inspection.

(Closed) Noncompliance (30-5998/80-02): 10 CFR 20.207. Licensed material, including cobalt-60 source in a radiographic device and newly manufactured depleted uranium shields, were stored in the unrestricted area outside and immediately adjacent to the facility. The inspector observed that all licensed materials were stored in restricted areas with access controlled by the licensee.

3. Investigation of Report of Equipment Defect

The inspector discussed with licensee representatives the report filed by Long Beach Naval Shipyard regarding the failure of the lock box end cap to fully seat against the lock assembly on Unit Serial No. 759 and the locking fork fabricated 90° from its intended position on the lock barrel for Unit Serial No. 721. The licensee's representative stated that the lock assembly was welded on the unit after manufacture and this probably cause distortion of the threads on Unit 759. The inspector randomly selected several end caps from the licensee's stock and found them all to fully seat against the lock assembly on a new unit. The licensee's representative stated and the inspector observed that two different lock barrels can be used in the same housing and that an employee had installed the wrong lock barrel on Unit Serial No. 721. The licensee representative stated that this was not discovered because these units were shipped to the customer without sources installed. The inspector determined from his investigation that no generic problem existed with the exposure devices since similar problems would normally be detected in the licensee's facility before shipment and would be immediately obvious in use.

4. Receipt and Transfer of Material

The inspector reviewed records and discussed the procedures for receipt and transfer of licensed material with licensee representatives. It was determined that the licensee has a system to verify that he has a valid copy of the customer's license prior to the transfer of any licensed material. The inspector also reviewed the results of surveys made by the licensee upon receipt of material. It was noted that radiation level and removable contamination surveys were taken. No excess radiation level or contamination was reported.

No items of noncompliance were identified.

5. Dosimetry Records

The licensee's film badge and daily dosimeter records for 1980 were reviewed by the inspector. It was noted that no individual received an exposure in excess of 3 rem in a quarter and the highest individual exposure for 1980 as of November 30, 1980 was 3.89 rem. Film badge reports for December 1980 had not been received by the licensee. The licensee maintains an NRC-4 for all radiation workers. The inspector questioned licensee representatives as to whether there had been any exposure problems since the last inspection. They stated there had been none.

No items of noncompliance were identified.

6. Radiation and Contamination Surveys

The inspector reviewed records which are maintained by the licensee showing the results of weekly surveys for radiation levels and removable activity throughout the facility. No excessive radiation levels or removable activity was noted.

No items of noncompliance were identified.

7. Material Inventory

A current inventory of licensed material was maintained by the licensee. Records indicated that 14,000 curies of Ir-192 were on hand on January 21, 1981.

No items of noncompliance were identified.

8. Effluent Control

Examination of the records of surveys performed since the previous inspection for the concentration of radionuclides released via the stack discharge revealed the concentrations are 7×10^{-16} microcuries per milliliter. The Appendix B, Table II, Column I value for Ir-192 is 9×10^{-10} microcuries per milliliter.

No items of noncompliance were identified.

9. Radioactive Waste Disposal

The inspector discussed the licensee's procedures for storing and disposal of radioactive waste with licensee representatives. Records of a radioactive waste shipment made on November 1, 1980 were reviewed by the inspector.

No items of noncompliance were identified.

10. Hot Cell Entry

The inspector reviewed the licensee's procedures for entry into the hot cell. One entry had been made since the previous inspection. The licensee's representative stated that on January 16, 1981 an entry was made to change the hepa absolute filter by one individual. The individual stated that he wore decontamination type clothing, including gloves and a respirator and a BZair sampler. (The licensee does not take into account the use of the respirator when determining compliance with 10 CFR 20.103). A review of the licensee's records indicated that the entry lasted for 26 minutes and the BZ sampler indicated exposure to 2×10^{-8} microcuries per milliliter for this time period.

No items of noncompliance were identified.

11. Tour of Facility

The inspector toured the facility with licensee representatives and made independent radiation level measurements during the tour. A licensee representative was observed loading a source capsule and performing encapsulation in the hot cell by operation of the remote manipulators.

No items of noncompliance were identified.

12. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on January 21, 1981 and summarized the scope and findings of the inspection and the fact that no items of noncompliance were identified during the inspection. The licensee representative asked the inspector if they could ship unloaded exposure devices to persons without a specific license under the exemption contained in 10 CFR 40.13(6). The inspector informed the licensee he would ask for clarification on this issue from the Materials Licensing Branch. On February 2, 1981 the inspector telephoned the licensee representative and informed him that exposure devices containing depleted uranium could only be shipped to persons having a specific license for the source material.