DESIGNATED ORIGINAL

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U. S. NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

77-4
1/77

IE Inspection Report No: 70-364/77-04 & 30-06118/77-01

Docket No: 70-364
03006118

Licensee: Babcock and Wilcox Company

License No: SNM-414
37-004456-03

Nuclear Materials Division

Priority: 1

P. O. Box 1260

Category: A(1)

Safeguards Group:

Location: Leechburg, Pennsylvania

Type of Licensee: Fuel Processor

Type of Inspection: Routine, Unannounced

Dates of Inspection: January 26-28, 1977

Dates of Previous Inspection: February 19-20, 1976

Reporting Inspector: P. E. Clemons — 3/2/77
P. E. Clemons, Radiation Specialist — DATE

Accompanying Inspectors: _____ DATE

_____ DATE

_____ DATE

Other Accompanying Personnel: _____ DATE

Reviewed By: _____ 2/28/77
P. J. Knapp, Chief, Radiation Support Section — DATE
Fuel Facility and Materials Safety Branch

SUMMARY OF FINDINGS

Enforcement Action

A. Items of Noncompliance

1. Violations

None.

2. Infractions

a. 77-04-01 Failure to Comply with Posting Regulations (SNM-414)

10 CFR 20.203(b), "Caution signs, labels, signals, and controls", requires that each radiation area be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words, "Caution - Radiation Area". A "Radiation Area" is defined in Part 20 as any area accessible to personnel in which radiation exists, originating in whole or in part within licensed material, at such levels that a major portion of the body could receive in any one hour a dose in excess of 5 millirems, or in any five consecutive days a dose in excess of 100 millirems.

Contrary to the above requirement, the area designated as Fab I in which the dose rate consistently exceeded 5 mrem/hr in locations accessible to personnel was not posted with the required sign on January 26, 1977. (Details, 4)

b. 77-04-02 Failure to Comply with a License Filter Test Condition (SNM-414)

Section 1.8.2.C of Amendment 72 to License No. SNM-414 requires "all final HEPA filters shall be given a DOP test for performance immediately following each filter change and at 6 month intervals thereafter".

Contrary to this requirement the two final HEPA filters used with roof fans 6 and 7 were DOP tested on March 6, 1976 but were not DOP tested again until December 11, 1976, and the final HEPA filter associated with fan #8 was tested on March 27, 1976 and it was removed from the system on December 10, 1976 without any further DOP test. (Details, 5)

c. 77-01-01 Failure to Comply with User Authorization of a License Condition (37-04456-03)

Condition 12 of Materials License No. 37-04456-03 requires that Byproduct Material shall be used by, or under the supervision of individuals designated by the licensee's Parks Township Site Safety Review Committee.

Contrary to this requirement, an employee who was not designated by the Parks Township Site Safety Review Committee and who was not supervised by a Committee designated person used a 100 mCi cesium 137 source held under this license during the period from October 28, 1976 through January 28, 1977. (Details, 6)

3. Deficiencies

None.

Licensee Action on Previously Identified Enforcement Action

The inspector reviewed the licensee's corrective action for the item of noncompliance cited in Appendix A of the documentation letter for inspection 70-364/76-01 and found the corrective action appeared to be complete and adequate. This matter is considered closed. (Details, 10)

Design Changes

The inspector observed that the licensee is in the process of renovating the area known as Fab 5. This area will become the new Chemistry Laboratory sometime in the near future.

The inspector also observed old glove boxes, no longer in use, being disposed of as contaminated low level waste.

Licensee Events

The inspector reviewed the following events involving exposures to concentrations of airborne plutonium which were identified, evaluated and reported by the licensee in a timely manner. (Details, 8)

Date of Event	Date Reported	Regulatory Requirement
1/26/76	2/24/76	10 CFR 20.405
7/6/76	8/5/76	10 CFR 20.405
8/4/76	9/2/76	10 CFR 20.405

The review verified that the corrective actions stated in these reports had been completed.

The inspector had no further questions concerning these matters.

Other Significant Findings

A. Current Findings

1. Acceptable Areas

No inadequacies were identified during inspection of the following areas:

Portable Instrument Calibration Program
Smear Survey Program
Air Sampling Program
Notification and Report Program
Dosimetry Program
Bioassay Program

(Details, 9)

2. Unresolved Items

None.

3. Deviations

None.

B. Status of previously Identified Unresolved Items

None.

Management Interview

A management interview was conducted at Apollo, Pennsylvania on January 28, 1977.

Persons Present

W. F. Heer, General Manager
M. Austin, Health and Safety Coordinator
E. M. Benson, Manager, Plutonium Manufacturing
A. J. Breuer, Manager, Health and Safety
R. Crosby, Health and Safety Supervisor
P. E. Fuller, Manager, Regulatory Compliance
C. R. Wilson, Health and Safety Radiological Compliance Auditor

Items Discussed

A. Purpose of Inspection

The purpose of the inspection was to review the health physics program being conducted at the licensee's Plutonium Facility.

B. Acceptable Areas

The items discussed are as identified under the "Other Significant Findings" section of this report.

C. Items of Noncompliance

The items discussed are as identified under the "Enforcement Action" section of this report.

DETAILS

1. Persons Contacted

R. Crosby, Health and Safety Supervisor
A. Breuer, Manager, Health and Safety
M. Austin, Health and Safety Coordinator
M. Carricato, Senior Health Physics Technician
C. Wilson, Health and Safety Radiological Compliance Auditor
J. Mazak, Environ - Nucleonics Specialist

2. Scope of the Inspection

The inspection covered the health physics program being conducted at the plutonium facility.

3. Plant Records

The inspector reviewed the following records for the periods indicated and found that they appeared to be acceptable.

External Exposure Records (March - November 1976)
Gamma-Neutron Survey Records (January - December 1976)
Smear Survey Records (January - December 1976)
Leak Test Records (October - December 1976)
Notification and Report Records (May - November 1976)
Air Sampling Records (January - December 1976)
DOP Filter Test Records (February - December 1976)
Stack Sampling Records (Summary)(January - December 1976)

4. 10 CFR 20.203 requires that each radiation area be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words: "Caution - Radiation Area". A "Radiation Area" is defined in Part 20 as any area accessible to personnel in which radiation exists, originating in whole or in part within licensed material, at such levels that a major portion of the body could receive in any one hour a dose in excess of 5 millirems, or in any five consecutive days a dose in excess of 100 millirems.

Review of the Gamma-Neutron Survey Records revealed that dose rates in the vicinity of two glove boxes in the Fab I area were consistently in excess of 5 mrem per hour. During the inspection the inspector observed the performance of surveys as they were performed near these glove boxes by a licensee technician.

He used a Victoreen Beta-Gamma Survey Meter, Model #440 and the results were as follows:

Location	Results (mrem/hr)
Near Box 104	10-12
Near Box 106	6-9

The inspector noted that the Fab I area was not posted with the required sign.

The inspector identified the lack of proper posting of the Fab I area as an item of noncompliance with 10 CFR 20.203. (77-04-01)

5. Section 1.8.2.C of Amendment 72 to License No. SNM-414 requires, "all final HEPA filters shall be given a DOP test for performance immediately following each filter change and at 6 month intervals thereafter.

Upon reviewing the DOP filter test records the inspector noted that the final HEPA filters associated with Roof Fans #6, #7 and #8 had not been DOP tested within the 6 month interval as required. The final HEPA filters for Roof Fans #6 and #7 were tested on March 6, 1976 but these filters were not tested again until December 11, 1976. The final HEPA filter used with Roof Fan #8 was last tested on March 27, 1976 and it was removed from the system on December 10, 1976 without any further DOP test.

A licensee representative concurred that the filters were not tested at the required 6 month interval.

The inspector stated that the failures to DOP test these filters at 6 month intervals was an item of noncompliance with amendment 72 of the license. (77-04-02)

6. Condition 12 of Materials License No. 37-04456-03 requires that Byproduct Material be used by, or under the supervision of individuals designated by the licensee's Parks Township Site Safety Review Committee. Five persons have been designated as users of the material, and a sixth person has been designated as the Radiation Protection Officer. At the time of this inspection none of the five individuals are users of the material and the person cited as the Radiation Protection Officer no longer serves in that position. Five of the individuals cited have other responsibilities and the sixth person is no longer with the company.

The Environ - Nucleonics Specialist stated that he has used several of the sources possessed under this license to calibrate instruments including the use of a 100 mCi Cs-137 source during the period of October 28, 1976 to January 26, 1977 to calibrate the Victoreen Beta-Gamma Survey Meter, Model #440, Serial No. 2630.

Review of the records of the Safety Review Committee showed that neither this individual nor his supervisor is an authorized user of the byproduct material.

The inspector stated that this was an item of noncompliance with Condition 12 of the Materials License.

7. Review of the corrective action on an item of noncompliance identified during inspection 76-01, License No. 37-04456-01, showed that the licensee has delegated the responsibility for the accountability of all byproduct material sources to the Plutonium Site Health and Safety Supervisor. He is in the process of inventorying and leak checking all of the accountable sources at both sites.

   Review of the licensee's internal audits showed that several sources were found and documented that had not been previously identified, and that the licensee is continuing this effort.

   This item will be reviewed again on a subsequent inspection.

8. The inspector reviewed the records of three exposures to airborne radioactive material at the Plutonium Facility that occurred on the dates listed below the and found that the licensee's corrective and preventive actions and the reporting of these events appeared to be timely, appropriate, and adequate.

Date of Event	Date Reported	Regulatory Requirement
1/26/76	2/24/76	10 CFR 20.405
7/6/76	8/5/76	10 CFR 20.405
8/4/76	9/2/76	10 CFR 20.405

The inspector has no further questions concerning these events.

9. The inspector reviewed the following licensee programs and procedures against the requirements of 10 CFR 20, where indicated, and other conditions of License No. SNM-414.

   a. Personnel dosimetry program. (10 CFR 20.202)
   b. Bioassay program. (10 CFR 20.108)
   c. Notifications and report procedures. (10 CFR 20.408)
   d. Air sampling procedures. (10 CFR 20.103)
   e. Linear survey procedures. (10 CFR 20.201)
   f. Instrument calibration procedures.

   No problems were identified in this area of the inspection.

   The inspector has no further questions on these items.

10. The inspector reviewed the licensee's corrective action with regard to the item of noncompliance identified in Inspection Report 70-364/76-01. The corrective action appeared to be complete and adequate, therefore this item is considered closed.