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

Report No.: 78-03

License No.: SMA-1219 and STB-440

Licensee: AMAX Specialty Metals, Inc.
P. O. Box 32
Akron, New York 14001

Facility Name: Parkersburg Facility

Inspection at: Washington, West Virginia

Inspection conducted: July 18, 1978 and August 1, 1978

Inspector: R. L. Woodruff

Accompanying Inspector: A. R. Brown

Approved by: J. P. Potter 10/4/78
J. P. Potter, Chief Date
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Inspection Summary

Inspection on July 18, 1978 and August 1, 1978 (Report No. 78-03)
Areas Inspected: Special, announced inspection at the AMAX/Foster Washington plant to conduct background radiation measurements at the site area, to collect TLD dosimeters and to interview persons who had formally worked at the site. The inspection involved approximately 30 inspector-hours by the NRC inspectors.
Results: No items of noncompliance or deviations were identified.

DETAILS I

Prepared by: Richard L. Woodruff 10/4/78
Date

R. L. Woodruff, Radiation Specialist
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Dates of Inspection: July 18 and August 1, 1978

Reviewed: John Potter 10/4/78
Date

J. P. Potter, Chief
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

1. Purpose

On July 18, 1978, Richard Woodruff and Robert Brown went to the Washington site above for the purpose of collecting the thermoluminescent dosimeters (TLDs) that had been placed at the facility on May 31, 1978, and to meet with bulldozer operators who reportedly buried various materials at the site during the past several years. On Tuesday, August 1, 1978, R. Woodruff returned to the site for the purpose of evaluating and observing the ATCOR survey.

2. Contacts

The following persons were contacted during the July 18, 1978 visit.

Walter Pavlo, Plant Manager, L. B. Foster Co.
Gene Lawson, Spiralweld Division Manager, L. B. Foster Co.
Harold Kall, Vice President, AMAX, Inc.
R. G. Levesque, ATCOR, Inc.
G. L. Williams, ATCOR, Inc.
Ron Smith, L. B. Foster Co.
Buck Talbot, Set Excavating Co.
Mel Young, Industrial Hygiene, AMAX, Inc.

The following persons were contacted during the August 1, 1978 visit.

W. Pavlo, L. B. Foster, Plant Manager
M. Young, AMAX, Industrial Hygenist
R. Levesque, ATCOR
G. Williams, ATCOR
M. Snieckus, ATCOR

O. Sullivan, ATCOR
D. Milewski, ATCOR, Project Manager
B. DeBord, West Virginia State Health Dept.

3. Scope

On July 18, 1978, brief discussions were held with AMAX/ATCOR people who were conducting the preliminary radiological survey. The discussions were mostly about topics related to the NRC surveys, type of equipment used, and the objectives of the ATCOR surveys and the survey methods they would use.

Discussions with L. B. Foster personnel were mostly of a general nature including Foster's plans to move their plant operations to an area free of radioactive and zirconium materials. Mr. Lawson and Mr. Smith furnished a set of blueprints showing the location of a storm sewer that emptied into the Ohio River. This sewer was established during the tenure of the Carborundum Metals Co. Inc., at the site. These blueprints have been added to the Region II files. Previous knowledge of the exact location of this sewer had not been revealed to the NRC. It had been previously suggested by Foster personnel that the storm sewer pipe terminated in the ravine close to the settling ponds. Although this pipe was known to exist in the "old fenced area" of the site, it was never considered to be a major problem to the environment or to personnel. The pipe was surveyed thru various "man holes", and water and sediment samples were taken at the "sewer outfall" at the Ohio River. These samples (AMW-9 and AMS-29) were sent to DOE/RESL in Idaho Falls, for analysis. The "manhole" survey was performed with the SPA-3A probe and it indicated that some contamination does exist at the "manhole" just west of the settling ponds. The contribution from natural radioactivity in the brick liner could not be distinguished from any thorium residues, and the AMAX/ATCOR personnel were informed of our findings.

On August 1, 1978, the inspector was told that the survey had been delayed and that the water-jet drilling would not be started until the following Monday, August 7, 1978; and the dry mechanical auger (drilling) work would not be performed until later in the week.

4. Interviews

a. The following persons were contacted by telephone on July 18, 1978, to establish an appointment time for them to "point-out" the "burial sites" to the NRC inspectors:

Marvin Eddy, Set Excavating, Vienna, W. Va.; 304-295-6665
Darrell Drain, former employee of above; 304-422-5230

Appointments were made for 6:00 p.m. July 19, 1978, for the above persons to meet NRC inspectors at the AMAX site. Neither person showed up for the appointment. Further attempts to contact Mr. Eddy failed. Mr. Drain's home phone number was called and his wife stated that he would be working until about 8:00 p.m. Mr. Buck Talbot, who is a partner of Mr. Eddy, was contacted by telephone and he agreed to come to the site. Mr. Talbot arrived at the site at 7:00 p.m. and he pointed out an area between, and south of the new buildings where he, Mr. Eddy, Mr. Drain, and a Mr. Fry had buried barrels and other materials over the past nine years. He could not define the area exactly but he stated that the barrels had no markings, and that several fires had occurred during the burials. He further stated that exact burial dates could be obtained from his files if needed. He stated that the trenches were up to 20 feet deep and 35 feet wide.

b. On July 19, the inspectors went to the West Virginia Division of Radiological Health and briefed Mr. William Aaroe on the NRC activities at the AMAX/Foster site concerning the ongoing activities conducted by ATCOR/AMAX personnel.

c. On August 1, 1978, Mr. Levesque was asked to describe what had been done, in regard to their survey, and what was yet to be done. He stated that they (ATCOR) had completed their survey of the clean areas and had found hot spots from 2 to 5 times background in the sewer manholes, and one area south of the sewer outfall, about 20 feet from the river that was above background levels. A sediment sample had been obtained from the sewer outfall catch tank. Except as noted above this area was considered by ATCOR to be free of contamination and suitable for L. B. Foster to move their buildings onto. Mr. Levesque stated that the survey was taking longer to complete than expected; however, they intended to meet the eight weeks deadline. He informed the inspector that the wet drilling will be performed by a husband and wife team that have done work for ATCOR at other sites. He said they were aware of the zirconium problems at this site and their names are Charles and Julia Martin. The "dry" auger drilling was expected to begin later in the week. Mr. Levesque described how the area designated in the survey protocol would be monitored with a Ludlum one inch NaI(TL) scintillation detector and the radiation levels measured with a Reuter-stokes Pressurized Ion Chamber (PIC) instrument. He described how the samples of soil would be monitored in the

field and he stated that 10 percent of the samples would be sent to an independent testing laboratory for radioisotope analysis.

d. On August 1, 1978, during a discussion, Mr. Pavlo stated that Stephens Construction Company had been contracted to move the steel buildings to the new site and that the Insurance Agency for Stephens Company may want a statement that there would be no radiation hazard to the Stephens Company employees. The inspector called the Insurance Co. "S. Byrd Ross Agency", Parkersburg, W. Va.; 304-485-4475, and informed a Mrs. Mitchell that there should not be a radiation hazard while moving the buildings to the new location. After confering with Mr. Potter by telephone the inspector called Mr. Pavlo and informed him that a NRC representative would be on site frequently and that we did not intend to allow any person to be exposed unnecessarily and to feel free to call the Region II office at any time.

5. Inspector Observations

a. It was observed that ATCOR personnel had established a laboratory in the main office building which consisted of the following equipment:

An Eberline PAC-4S lin-log meter with an alpha probe which would be used for monitoring shoes, clothing, etc., for contamination.

An Eberline PS-2 scaler attached to an Eberline RD-13 alpha sample counter which would be used for smear evaluation.

A Reuter-Stokes PIC instrument that would be used to survey environmental radiation levels, as necessary.

A Ludlum survey meter equipped with a one inch NaI(TL) crystal that would be used to locate hot spots above background.

An Eberline GM survey meter would also be available.

All of the above instruments were calibrated by Eberline Instrument Co., Inc. within the past three months and were operable. All persons had been issued R. S. Laudauer Co., Inc. film badges and were instructed in the use of the instruments and the nature of the pyrophoric material and potential contamination problems for facilities and to themselves.

b. Much of the area around the new buildings had been marked off in 25 feet grids. The maximum and average radiation levels had been recorded from the NaI detector survey. ATCOR personnel were currently taking measurements with the PIC instrument in each grid. The measurements were being supervised and the readings were taken by Mr. Levesque.

c. A NRC Form-3 was posted in the office laboratory. ATCOR employees had been instructed to wash their hands before eating, not to smoke in known pyrophoric material areas, and a paper "runner" was installed on the hallway floor to keep contamination out of the laboratory and other parts of the office building.

6. TLD Recovery and Data Summary

On July 18, 1978, the TLD s were recovered after a total exposure time of 1052 hours. Another survey reading was taken with the Eberline SPA-3A scintillation detector. The SPA-3A detector measurements taken on July 18, were taken at the position of the TLD locations; whereas, in the previous survey of May 31, 1978, measurements were taken at the PIC locations. The two measurements were in general agreement with each other; however, some differences were found and these differences are mainly due to hot spots and detector geometry, as it was not always possible to get both the TLD's and the PIC meter in exactly the same locations.

Attachment A to this report is an updated version of Attachment A from Report No. 78-02. The PIC reading at location number 31 was erroneous and for this report, the PIC value was adjusted downward to 354 μR/hr to correspond to the maximum digital readout capability of the PIC instrument. The TLD data was converted from millirem to microroentgens per hour for comparability with the PIC data.

Attachment B is a summary of the PIC and TLD data after corrections were made for background radiation. The TLD data were expected to differ from the PIC data because the TLD's represent an integrated exposure over several weeks, and the background exposure rate could vary during any 24 hour period. It is believed that the two sets of data are in general agreement, the differences being due to factors previously mentioned.

It should be noted that location number 6 (U.S. Post Office, 26181) shows a larger TLD reading, which is probably due to the TLD being positioned on an inside concrete block wall during the exposure period, whereas, the PIC reading was taken outside the block building.

Location 23 (Area "M" at ravine) and location 31 (oil pump, Bldg. C) and location 32 (Northeast Door, Bldg. C) were not in agreement. Again it is believed that the differences shown are mostly due to geometry and position of the detectors during the measurements. Location number 41 (East fence area) was different mainly because the value had exceeded the PIC instrument digital readout capability.

For the purposes of this report, it is believed that the PIC data represents a reasonable evaluation of the environmental radiation levels at the site and with exceptions as noted above, this data is supported by the TLD measurements.