

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Report No. 040-08794/96-001

Program Code 11700

Docket No. 040-08794

License No. SMB-1408

Priority 3

Category E

Licensee: Molycorp, Incorporated  
300 Caldwell Avenue  
Washington, PA 15301

Facility Name: Molycorp

Inspection At: 350 N. Sherman Avenue  
York, PA 17403

Inspection Conducted: September 17, 1996

Inspectors:

Todd J. Jackson

Todd J. Jackson, CHP  
Health Physicist

October 1, 1996  
date

Approved By:

Ronald R. Bellamy

Ronald R. Bellamy, Ph.D., Chief  
Decommissioning & Lab Branch  
Division of Nuclear Materials Safety

October 2, 1996  
date

Inspection Summary: Routine, announced inspection on September 17, 1996  
(Inspection Report No. 040-08794/96-001).

Areas Inspected: Decommissioning organization and personnel qualifications; site tour; status of site facilities; radiation protection program; area radiation surveys and contamination controls; equipment and instrumentation; posting and labeling; radioactive waste management; and recordkeeping. The inspector was accompanied by Mr. John T. Maher, Pennsylvania Department of Environmental Protection.

Results: Overall the licensee's program for decontaminating equipment and facilities was found to be adequate. One violation of NRC regulatory requirements was identified: implementing procedures for the site health physics program were not approved by the required management and technical reviewer/approver.

## DETAILS

### 1.0 INDIVIDUALS CONTACTED

- \*G. Dawes, Project Manager/Radiation Safety Officer (RSO), Molycorp Inc.
- \*B. Pereyo, Project Director, IT Corporation
- T. Barkey, Director, Project Operations, IT Corporation
- \*J. Stokowski, Project Manager, IT Corporation
- \*S. Duce, Sr. Consultant (HP), IT Corporation
- D. Williams, Health Physics Site Supervisor, IT Corporation

\*Denotes those present at the exit meeting on September 17, 1996.

### 2.0 PURPOSE

The purpose of this inspection was to examine the status of decommissioning activities and facilities at the York, Pennsylvania site, the licensee's organization and personnel qualifications, radiation protection programs including area surveys and contamination controls, equipment and instrumentation, posting and labeling, radioactive waste management, and recordkeeping. The inspector was accompanied on this inspection by Mr. John T. Maher, Radiation Health Physicist, Pennsylvania Department of Environmental Protection.

### 3.0 SITE DECOMMISSIONING STATUS

The inspector toured the York facility to observe the current status of decontamination and decommissioning activities. The licensee had completed a preliminary screening survey of all buildings on site and determined that all buildings would be considered as "affected" by previous operations involving natural thorium (defined as having at least one surface survey measurement greater than 25% of the applicable release criteria).

Work was on-going to identify contaminated equipment and decontaminate it for salvage or disposal. A decontamination area had been established in the Waste Treatment Plant. Equipment from throughout the site was planned to be taken to this building for decontamination using pressure washers, higher pressure hydrolasing, and possibly carbon dioxide blasting as needed. No decontaminated equipment had yet been released from the site at the time of this inspection. The licensee's plans for decontamination work at the site had established a schedule which would complete decontamination of all equipment and buildings by the end of 1996. Remediation of soil and any remaining work at the site was expected to begin following approval of the Decommissioning Plan by the Nuclear Regulatory Commission (NRC).

A number of large "sling bags" containing recoverable lanthanide material were being stored in the new warehouse building until they are shipped to the Molycorp facility in Mountain Pass, CA. All other bulk materials containing natural thorium had been removed from the site. Outside areas of the site had once been used for storage of large numbers of drums containing thorium-contaminated materials. These drums were no longer at

the York site, although several areas had measurable contamination from the earlier drum storage.

#### 4.0 ORGANIZATION AND SCOPE OF THE LICENSEE PROGRAM

Twenty-seven people were working full-time at the York facility at the time of this inspection. The MolyCorp Project Manager was also the site Radiation Safety Officer, working out of the MolyCorp offices in Washington, Pa. All other staff at the York site were contractors. The primary contractor for the decontamination work was IT Corporation, and a full-time Project Manager was on-site for the contractor. At the time of the inspection the contractor had full-time staff of 14 health physics technicians, 1 laboratory technician, 1 Certified Health Physicist, 9 decontamination/dismantling technicians, and 2 supervisors.

#### 5.0 FACILITIES

Buildings on site appeared generally to be structurally sound for the decontamination activities, with the exception of the Moly building. The east wall of the building was bulging outward significantly and had been braced from the inside. The licensee indicated concern for the long term stability of this structure. Full electric and water services appeared to be available at the site.

#### 6.0 EQUIPMENT AND INSTRUMENTATION

The inspector observed the licensee's use of field survey and laboratory counting instrumentation. For surface contamination measurements, the licensee was using a Ludlum Model 2224 scaler with a portable gas proportional detector to make simultaneous alpha and beta radiation measurements. Laboratory analysis of smears was performed with a Protean gas flow proportional detector. Instruments had been properly calibrated and were being used in accordance with written procedures.

#### 7.0 AREA RADIATION SURVEYS AND CONTAMINATION CONTROLS

The inspector reviewed area radiation surveys and plans for the old warehouse building, in which work was ongoing to clean identified contamination from the internal surfaces. Selected air sampling measurements and the methodology for measuring airborne contamination were also reviewed. The licensee had posted areas with removable surface contamination as contaminated areas and restricted access to these areas through use of radiation work permits (RWPs). The inspector confirmed that only authorized personnel had signed-in on the active RWP in the Tank Room.

#### 8.0 RADIATION PROTECTION

10 CFR 20.1101(a) requires that "Each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of this part". The site radiation protection program was described in the contractor's "Radiation Protection Program" document,

designated as Procedure HSP700, Revision 0, dated May 15, 1994. This document addressed the requirements of 10CFR 20.1101. Section 5.4 of HSP 700 stated that this document "...shall control all work within IT Corporation involving radiation..", and incorporated 15 Standard Operating Procedures (SOPs) into the program by reference. SOP 11, "Control of Standard Operating Procedures for Radiation Protection", required in Section 6.5 that "...each procedure shall be reviewed and approved...prior to implementation." The cover page for each of the 15 SOPs contained three blank lines for approval signatures by the Corporate Director of Health and Safety, the "Health Physics Professional", and the Corporate Director of Quality Assurance. Contrary to the implementing specification statement in Procedure HSP 700, the cover sheets for all 15 SOPs had not been signed by any of these designated individuals as having been reviewed and approved. The inspector informed the licensee that failure to implement the program as written was in noncompliance with 10CFR20.1101(a).

In response to the discussion regarding the above noncompliance with NRC requirements, on September 20, 1996, the licensee's contractor submitted to NRC Region I copies of the signed approval sheets for each of the 15 SOPs and stated that signed copies of the procedures were available at the York site.

The licensee did not plan to use personnel dosimetry during the decontamination work at the site. Measured dose rates throughout the site were low enough that doses would not exceed 10% of the annual limit for any individual.

#### 9.0 RADIOACTIVE WASTE MANAGEMENT

Solid radwaste generated at the site was expected to be minimal. Decontaminated equipment and materials will be sold for salvage or used at the MolyCorp Mountain Pass facility whenever possible. Lanthanide materials recovered from the decontamination process will be sent to the Mountain Pass facility. Remaining solid contaminated materials will be disposed of as radioactive waste.

Liquid waste was generated during the decontamination process, through pressure washing and hydrolasing. Waste water had been collected in a large tank adjacent to the Waste Treatment Plant. This tank had capacity to collect a large volume of water, and it was planned to process the tank as a batch. Treatment would include settling to remove solids and insoluble materials. Following treatment the supernate will be sampled and, if found acceptable, discharged through existing pipes to the local sewage authority. This was the normal manner in which liquids have historically been processed at the site.

Surface runoff was collected in a retention basin at the north end of the site. This water was also handled as a batch, collected and sampled, and if found acceptable released to a conduit which flowed into an abandoned quarry north of the site.

#### 10.0 RECORDKEEPING

The inspector reviewed selected records required to be maintained under 10CFR40.36(f) and 10CFR40.61 and to be turned over to the NRC at the time of license termination. Records had been created by the licensee for surveys associated with the site decontamination work, such as those surveys used as the basis to restrict access through posting of contaminated areas. In addition, the licensee provided requested records related to historical correspondence and site operations. Survey records reviewed were found to be clear, legible, and well-maintained.

#### 11.0 INDEPENDENT MEASUREMENTS

The inspector made measurements of area radiation levels on the site using a Ludlum Model 2221 scaler/ratemeter with a sodium iodide probe (NRC tag number 054829, calibration due March 14, 1997) and a Ludlum Model 19 microR meter (NRC tag number 033511, calibration due March 14, 1997). Measurements were consistent with those made during the previous NRC inspection, and with licensee measurements. Measurements of outside area exposure rates ranged from 6 microRoentgen per hour up to 55 microRoentgen per hour near the eastern side of the site, in a grass-covered area where drums had formerly been stored.

#### 12.0 EXIT MEETING

The inspector met with the representatives identified in Section 1.0 at the conclusion of the inspection on September 17, 1996. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings and described the anticipated corrective actions for the apparent violation regarding the lack of approved procedures.