

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

INSPECTION REPORT

Report Nos. 040-00449/96-001

Docket Nos. 040-00449

License Nos. SMC-00144

Former Licensee: Baker and Adamson Works  
Post Road  
Marcus Hook, Pennsylvania

Facility Name: General Chemical Corporation

Inspection At: 6300 Philadelphia Pike  
Marcus Hook, Pennsylvania

Inspection Conducted: October 4, 1994

Inspectors:

Dawn Munford  
Dawn Munford, Scientific Aide (Co-op)

11/12/96  
Date

Todd J. Jackson  
Todd J. Jackson, CHP  
Health Physicist

11/12/96  
Date

Approved By:

Ronald R. Bellamy  
Ronald R. Bellamy Ph.D., Chief  
Decommissioning & Laboratory Branch

11/14/96  
Date

Inspection Summary: Routine announced safety inspection (NRC Inspection No. 040-00449/96-001). The purpose of the inspection was to survey facilities to identify radiation fields and radioactive material remaining following license termination. This facility was identified by Oak Ridge National Laboratories for potential follow-up.

Areas Inspected: Observations of facilities and radiological surveys. The inspectors were accompanied by representatives from General Chemical Corporation.

Results: Area radiation levels and fixed radiation contamination were not identified above current criteria for release for unrestricted use. The facility meets NRC guidelines for unrestricted use.

## DETAILS

### 1.0 INDIVIDUALS CONTACTED

J. Michael Bowman, Manager-Environmental/Safety  
Joseph A. Loro, Safety Engineer  
Joseph BeauDET, Building Foreman

### 2.0 Background

Four licenses were issued from 1956 to 1974 for packaging, storage and resale of up to 2,000 pounds of uranium and thorium for use as an analytical reagent. License SMC-00144 authorized the possession and use of uranium and thorium from 1961 to 1974 of up to 1500 pounds. The source material was packaged manually using a scoop, dust hood, and protective clothing. Documents in the file do not indicate that a termination or confirmatory survey was conducted for License No. SMC-00144, the Marcus Hook facility.

### 3.0 Facilities

The authorized location of use for License No. SMC-00144 was at Building 3, on Philadelphia Pike, Marcus Hook, PA. The facility, erected in 1856, consisted of an abandoned three floor building that was adjoined to two other buildings. The floor consisted of ceramic tile over concrete and the walls were constructed of concrete block/or brick with mortar.

The first floor was believed to be where the packaged source material was sent for transport. The purpose of the second floor is unknown. The purpose of the third floor was believed to be where packaging of the source material was done. The purpose of the two adjoining, abandoned buildings is unknown.

### 4.0 Instrument and Calibration

The inspectors conducted area radiation surveys with Ludlum Model 2221 survey instruments equipped with Ludlum Model 44-10 sodium iodide probes. Exposure rate surveys were conducted with Ludlum Model 19 survey instruments.

The Model 2221 survey instrument (NRC Serial No. 05482), Model 19 survey instrument (NRC Serial No. 33511) were calibrated by RSO, Inc. on March 14, 1996.

### 5.0 Radiological Survey

The inspectors conducted area radiological surveys and fixed contamination surveys inside Building 3 at 6300 Philadelphia Pike and a portion of one of the adjoining buildings, south of Building 3. The area radiation measurements and surface contamination measurements were taken at contact with floors and wall surfaces. The majority of the surfaces were ceramic tile over concrete; some surfaces were cinder block and brick. The total floor area that could have been affected was

approximately 100,000 square feet, most of it being used for warehouse storage. The ceiling was about 30 feet above the floor and exhibited signs of residue. The general area background readings were 8-11 microRoentgen per hour on the first floor, 13-20 microRoentgen per hour on the second floor, and 17-21 microRoentgen per hour on the third floor. In all areas, the radiation levels were consistently no higher than background. During the surveys, the inspectors did not identify residual contamination from licensed activities previously conducted under License No. SMC-00144. Radiation measurements were less than NRC guidelines for release for unrestricted use.

#### 6.0 EXIT INTERVIEWS

The results of the inspection were discussed with Joseph Loro.