

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Radiation - Garwin, Inc (former) - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VII

Subject: POLREP #3
Removal Action (Initial)
Radiation - Garwin, Inc (former)
B706
Wichita, KS
Latitude: 37.6686470 Longitude: -97.3511660

To: Kenneth Buchholz, EPA

From: Randy Schademann (Lead OSC); Meagan Schutte, OSC; Tom Mahler, OSC; James Johnson, Planning & Preparedness Coordinator.

Date: 8/9/2012

Reporting Period: 08/02/2012 - 8/9/2012

1. Introduction

1.1 Background

Site Number:	B706	Contract Number:	
D.O. Number:		Action Memo Date:	6/8/2012
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	00
Mobilization Date:	8/2/2012	Start Date:	8/2/2012
Demob Date:		Completion Date:	
CERCLIS ID:	KSN000706246	RCRIS ID:	
ERNS No.:		State Notification:	08/01/2012
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Significant levels of radium-226 appear to be present at the former Garwin, Inc. site in excess of surficial soil cleanup levels. A residence is located at the site.

1.1.2 Site Description

The property located at 918 West Dooley, is attached to and partly occupied by Haivala Concrete Tools to the west, to the north it is attached to Tech-Aire Instruments, Inc. The building covers most of the property. The remaining area is covered by a concrete drive way and sidewalk, with an asphalt alley to the east. Adjoining properties include commercial businesses adjacent to the property to the north east and west, along Dooley.

1.1.2.1 Location

See above.

1.1.2.2 Description of Threat

The objective of this removal action is to protect public health or welfare or the environment by responding to the release of hazardous substances and pollutants or contaminants into the environment as presented by soils contaminated with Radium-226 at the Site. Contaminated soils that exceed 5 pico Curies per gram (pCi/g) plus background will be excavated and properly disposed of.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The U.S. Environmental Protection Agency (EPA) conducted field activities for a Removal Site Evaluation (RSE) in June and December 2011. The primary objectives of this phase of the RSE were to determine the extent of radium-226 contamination (and other associated radionuclides) in surface and subsurface soil, and to assess the inside of the residence at 918 W. Dooley for radium-226 contamination. Field screening with radiation detectors and radiation analysis of soil samples further defined the lateral, vertical and areal extent of contamination inside and outside of the residence. A total of 27 soil samples, including five background samples, were collected during the RSE. Radium-226 was detected in 11 samples above its current screening level of 5 pCi/g plus background. The highest radium-226 concentration of 2,300 pCi/g was detected in sample F4, collected from surface soil abutting the east foundation wall of the residence at 918 W. Dooley.

For the Site, the EPA has established a time-critical removal action level for radium-226 of 5 pCi/g above background in soil. Based on the analytical results for the background samples collected in June and

December of 2011, the estimated average background concentration for radium-226 at the Garwin site is 0.7 pCi/g. Therefore, the estimated time-critical site-specific removal action level for radium-226 is 5.7 pCi/g. The key problems are: Location #1 – inside, outside and under the residence located at 918 West Dooley (kitchen & living room areas); Location #2 – under the asphalt alleyway that runs north-to-south between Dooley and Walker Street; and Location #3 – the two concrete flower boxes located in the front of the primary residence at 918 West Dooley Street.

Radon was also detected in the residence and found to be as high as 19.0 picoCuries per Liter (pCi/L), which is in excess of the EPA recommended residential action level of 4 pCi/L. Radon is generated by the natural decay of radium and elevated indoor radon levels are often associated with the presence of radium-impacted soil beneath or near buildings.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Garwin began operations at 918 W. Dooley in 1952. Garwin, Inc., became Garwin-Carruth, Inc., in 1963 and obtained Kansas Radioactive Materials License (KRML) #25- RB0-01 in December 1965. The license was obtained so the facility could repair aircraft instrument dials containing radium-226 paint. Weston Instruments, Inc., purchased Garwin Carruth, Inc., in 1966 and transferred the KRML to show Weston Instruments, Inc., as the licensee in 1967. An internal survey conducted in 1967 identified internal radioactive contamination within the building. From available operational information, it does not appear that any radium dial repair has taken place at the West Dooley location since ownership by Weston Instruments, Inc.

2.1.2 Response Actions to Date

8/1/12 - The City of Wichita's Street Dept, Sewer Dept. Sidewalk Assessment and other city officials came by and performed a Site recon that afternoon and had no issues with the planned removal action. EPA conducted interior / exterior gamma surveys to delineate areas to mark prior to removal.

8/2/12 - A fund-lead, time-critical removal action was initiated. Activities during this time period include mobilization of the Emergency and Rapid Response Services contractor (Environmental Restoration, LLC), the Superfund Technical Assessment and Response Team (START) contractor (TetraTech), and EPA personnel.

8/3/12 - Mary Peterson, EPA / PPSS Chief and KDHE (Corena Carpenter) visited the all sites in the Wichita area (Std Products, Std Precision, Garwin), to get a progress update. No work conducted at Garwin, as ER was busy at the other sites that day.

8/4/12 - Excavation of contaminated areas (alleyway) outside the residence begins. The plan is to remove the alleyway contaminated soils in sections as to not collapse the residential wall structure on the east side of the house. EPA / START will use a "MARSSIM" style approach and clear sections by sample analysis. "BERT" is set up at the Std Products site and is being used as a field lab to run "clearance" samples prior to them being shipped for laboratory analysis. Contaminated soils are being stockpiled at the Radiation - Standard Products Site (650 E Gilbert, Wichita, KS) and will ultimately be loaded onto rail cars for delivery to an Energy Solutions facility in Clive, Utah.

ER staff excavated a clay sewer pipe line that was not located by KS-One Call. Readings in the alley ranged from 23 - 70 Kcpm (>5 pCi/g). The current clay tile pipe will be patched / repaired and the removal will continue.

8/5/12 - Sunday. Limited work day. Mainly administrative functions, no removal actions.

8/6/12 - ER staff continued to work in the alley. Most of the day was spent trying to patch the leak from the excavated clay sewer pipe. The City of Wichita Sewer Division was notified that the line that was not properly located and that we were having trouble repairing the line.

8/7/12 - The rail cars were on site and ready for loading at the Standard Products Site. Garwin site shut down for a couple of hours due to rain / lightening in the Wichita area. The busted clay tile pipe was totally excavated and replaced with PVC pipe. The leak was finally repaired and the removal continued.

8/8/12 - The first rail car shipment from Garwin was loaded. The rail cars are flatbeds with four intermodals per car. Energy Solutions has a representative on-site for proper manifesting and to coordinate with the rail companies. Removal activities begun inside the residence. The flooring was taken up, cabinets and shelving removed. Areas were surveyed and marked for cutting the concrete in the key problem areas: kitchen, dining room, living room and a hallway. Work also began on the the two concrete flower boxes located in the front of the primary residence at 918 West Dooley Street.

8/9/12 - Removal actions continue inside the residence in the kitchen / sink area. Removal activities (excavation & extraction) are still taking place outside the residence in the alleyway and two flower boxes.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The PRP search was completed in November 2011 and no readily identifiable PRP was found at this time.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal

2.2 Planning Section

2.2.1 Anticipated Activities

The removal action is estimated to take two - three weeks to complete.

2.2.1.1 Planned Response Activities

Continue the removal action until all readily identifiable contaminated areas are found and remediated.

2.2.1.2 Next Steps

see above.

2.2.2 Issues

Transportation, treatment, storage and disposal of the hazardous substances will be conducted in accordance with all applicable local, state and federal requirements and off-site disposal will comply with the CERCLA Off-Site Rule promulgated pursuant to CERCLA § 121(d)(3) 42 U.S.C. § 9621(d)(3), and codified at 40 CFR § 300.440.

As the cleanup standard to be applied will allow for unrestricted Site use, no post-removal Site controls, such as institutional controls, will be required, as no contamination above the action level is expected to be left on-site. However, the possibility does exist that additional contamination could be discovered in the sewer system at the site during removal activities, or in the future, separate from the current assessed area.

While there is a Headquarters consultation process in place for sites where radioactive contamination is present (Headquarters Consultation for Radioactively Contaminated Sites, OSWER No. 9200.1-33P, July 26, 2000), this consultation requirement applies only to sites where the radioactive materials will be managed on-site (e.g., capping, disposal cells) or where there is a potential national precedent-setting issue related to the radioactive materials. In this instance, the radioactive materials will not be managed in place and there is no potential national precedent-setting issue related to the radioactive materials, so Headquarters consultation is not required.

2.3 Logistics Section

Logistics are being handled by the ERRS Response Manager in coordination with the OSC.

Logistic issues: very tight working conditions and within populated areas. Consideration should be given to routes, visibility of equipment, access restrictions in work areas, and safety of workers and the resident population in general, such as buried utilities and other site hazards (utility locates to be coordinated by the ERRS contractor with notification to the OSC in a manner consistent with one call policies and so as not contribute to work stoppage and slow down). ER will need to consider on site watering, to ensure that dust created during removal, does not leave the site.

2.4 Finance Section

2.4.1 Narrative

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

Roy Kruger, EPA Safety & Health Official
Chuck Hooper, EPA Health Physicist

2.5.2 Liaison Officer

Beckie Himes, PIO
Office of Public Affairs

2.5.3 Information Officer

Beckie Himes, PIO
Office of Public Affairs
U.S. EPA Region 7
901 N. 5th Street
Kansas City, KS 66101
Phone: 913-551-7253 or
Toll Free: 1-800-223-0425
himes.beckie@epa.gov

A removal action fact sheet was developed for the site and provided to the congressional and state representatives and the Director of the Sedgwick County, Kansas Health Department, who provides briefings to the local government.

The RA is being conducted under the supervision and guidance of Randy Shademann and Megan Schutte, OSC's. James Johnson is the site coordinator.

3. Participating Entities

3.1 Unified Command

There was no formal unified command established for this activity.

1. Randy Schademmann (Lead OSC); Meagan Schutte, OSC; Tom Mahler, OSC; James Johnson, Planning & Preparedness Coordinator.
2. START
3. ER
4. KDHE
5. City of Wichita

3.2 Cooperating Agencies

1. City of Wichita
2. Sedgewick County, Kansas Health Department
3. KDHE
4. ATSDR
5. KS One Call
6. City of Wichita Water Department
7. Weststar Energy

4. Personnel On Site

For the Removal Action:

EPA (R. Schademmann, M. Schutte, T. Mahler, OSC's) & J. Johnson, Coordinator.

EPA Health Physicist (C. Hooper)

2 - START Personnel

6 - ER Personnel

5. Definition of Terms

Radium Contaminated Soil - Ra-226 / Ra-228

RA - Removal Action

RCRA - Resource Conservation and Recovery Act

RSE - Removal Site Evaluation

RSK - Risk-based Standards for Kansas

START - Superfund Technical Assistance and Response Team

UFA - Unified Focus Assessment

UMTRCA - Uranium Mill Tailings Radiation Control Act

"picocurie per gram" (pCi/g) = This refers to the amount of radioactivity in a particular solid substance. Picture a one-ton batch of concrete that contains 1,000 pounds of gravel, 500 pounds of cement, and 500 pounds of water. To describe this particular mix of concrete, one might say it contains "500 pounds per ton" of cement. This means that for every pound of concrete, there will also be a quarter of a pound of cement present. Similarly, if you wished to describe the amount of radioactivity that typically exists in soil throughout the United States, you would say that it contains about "one picocurie per gram" of radium, one picocurie per gram of thorium, and a host of other radioactive elements. This means that for every gram (about 0.002 pounds) of soil, there will also be one picocurie of radium and one picocurie per gram of thorium present, along with the rest of the radioactive elements commonly found in soil.

6. Additional sources of information

6.1 Internet location of additional information/report

Contaminated soils that exceed 5 pico Curies per gram (pCi/g) plus background will be excavated and properly disposed of. The removal action level at this site is 5.70 pCi/g.

For additional information, please refer to "Documents" on www.epaoscv.org/garwin

For additional reference material, please refer to www.iem-inc.com/primrite.html

6.2 Reporting Schedule

Polrep #3 covers the August 2 - 9, 2012 Removal Action reporting period and it is considered a progress report when published.

7. Situational Reference Materials

For additional information, photographs, maps, sample analysis, etc; please refer to "Documents" on www.epaoscv.org/garwin

For additional information radium-226, please refer to: <http://www.epa.gov/radiation/radionuclides/radium.html>

February 12, 1998, memorandum from Stephen Luftig, the Director of the Office of Superfund Remediation Technology Innovation (February 12, 1998, Directive number 9200.4-25) Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by section 206 of the UMTRCA of 1978, 42 U.S.C. § 7918, and regulations at 40 CFR § 192.12 Region 9 Regional Screening Level tables found at <http://www.epa.gov/region9/superfund/prg/> KDHE RSK Manual, Version 5, 2010.

