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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VII

Subject: **POLREP #1**
Initial (Removal Assessment)
Radiation - Garwin, Inc (former)
B706
Wichita, KS
Latitude: 37.6686470 Longitude: -97.3511660

To:
From: James Johnson, On-Scene Coordinator
Date: 6/24/2011
Reporting Period: 5/5 - 6/24/2011

1. Introduction

1.1 Background

Site Number:	B706	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Assessment
NPL Status:	Non NPL	**Operable Unit:**	00
Mobilization Date:	6/20/2011	**Start Date:**	6/20/2011
Demob Date:	6/24/2011	**Completion Date:**	
CERCLIS ID:	KSN000706246	**RCRIS ID:**	
ERNS No.:		**State Notification:**	6/20/2011
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. This site does qualify for further response under CERCLA, including·an expanded removal assessment, if a responsible party (PRP) is not identified to participate in a state program. A PRP search will be initiated by EPA.

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. Continuous with the former Garwin building located to the west along Dooley is Haivala Concrete Tools located at 1330 S. Walnut. The business located to the west is Kime Plumbing, Inc., located at 910 Dooley.

Garwin, Inc., began operations at the 918 West Dooley building 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.

1.1.2.1 Location

The Garwin, Inc./West Dooley site is located at 918 West Dooley, Wichita, Kansas 67213. The site has a GPS coordinates of 37.66856 latitude and -97.35092 longitude. The site is located along West Dooley east of the intersection of Walnut and West Dooley in the southwest *Y4* of Section 29, Township 27 South, and Range 1 East. The site property is currently owned by Griggs Industries LLC.

1.1.2.2 Description of Threat

Radium contaminated soil and building materials.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

KDHE completed a Unified Focus Assessment (UFA) of the 918 West Dooley property in May 2008. Radium-226 was detected in two soil samples above its current joint EPA-Nuclear Regulatory Commission (NRC) screening level of 5 picocuries per gram (5 pCi/g) plus background. Soil sample GS-1 indicated radium-226 at 109 pCi/g and sample GS-2 indicated 74.4 pCi/g. The site-specific action level was

determined to be 5.58 pCi/g for the UFA. A surface gamma survey also indicated an area approximately 20 feet square in the alley east of and adjacent to the former Weston Instruments, Inc., building with levels significantly elevated above background. .

The Garwin, Inc./West Dooley site is located in a mixed residential and commercial area of Wichita. Likely exposure scenarios include residents, workers, and transients. The area of elevated radiation is not fenced and is easily accessible. Population within four miles of the site is approximately 10,150 persons. Radon is a concern for indoor air releases to residents with any radium-226 release, as it is a decay product, and a residence is located at 918 West Dooley within the site area.

On March 23, 2011, a surface radiation survey was conducted by KDHE to verify survey results from the UFA. A Ludlum 2241 survey meter with a Ludlum 44-2 one inch-by one inch sodium iodide scintillation probe was utilized for the survey. The instrument was calibrated at the factory in June 2010 and is therefore within the recommended one-year calibration duration for instrument accuracy.

A background location was established south (in the prevailing upwind direction) across West Dooley from the site. The background location consistently indicated 11 microRoentgens per hour (ur/hr) and approximately 1,735 counts per minute (cpm). A count time of one minute was used at each location in both ratemeter (ur/hr) and scalar (cpm) modes of operation. Approximately 25 discrete locations were surveyed in the alley and between the buildings at 918 and 910 West Dooley.

A maximum gamma detection of 121 ur/hr and 19,850 cpm (19.9 Kcpm) was identified approximately four feet east of the wall of 918 West Dooley in the weathered asphalt. Survey readings over the concrete and manhole covers were significantly lower. Background range readings were identified along the frontage of West Dooley south of the buildings and in general over the concrete portion of the alleyway.

All of the readings above 50 ur/hr were encountered over the weathered asphalt portion of the alley. Readings significantly decreased towards the fence and gate at the northern edge of the alley. The maximum screening level encountered during the UFA was 78 ur/hr. The area of likely radium contamination identified during the UFA was confirmed through the survey conducted for this Integrated Assessment (IA). Since radiation instruments are direct-reading, the surface survey results indirectly confirm the previous laboratory detections of radium-226 above appropriate screening levels.

Removal Considerations

An area of elevated radium-226 in soil was confirmed to be present in the alley adjacent to the 918 West Dooley property. Previous UFA results indicate soil concentrations above the action level of 5 pCi/g plus background. The survey conducted for this Integrated Assessment (IA) has confirmed the UFA conclusions and indicated higher surface survey results than those in the UFA. An area approximately 20 by 12 feet appears to be impacted with radium-226 above action levels, and the vertical extent is unknown. Detailed internal surveys of both the 918 West Dooley and 1326 Walnut buildings is also highly recommended since historical information indicates potential contamination within the buildings.

Based upon the survey conducted at the site for the IA, and historical analytical data from the UFA, a release of radium-226 above site-specific action levels is present at the Garwin, Inc./West Dooley site. This site appears to qualify for a removal action under CERCLA. KDHE was unable to identify a definite potential responsible party to address the radium-226 release at the site. The site has been referred to EPA by KDHE (on 11 April 2011) for completion of a removal assessment (RA) and time-critical removal action consistent with the NCP.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

EPA's initial removal assessment was conducted 6/20 - 24, 2011. Note: According to the KDHE UFA and IA, all ground water samples collected, screened, and read, were below the EPA screening level of 5 pCi/g plus background (5.17 pCi/g). Ground water samples were not collected by EPA field staff, as KDHE did not identify any areas where groundwater contamination was a concern.

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

A PRP search will be initiated and should be completed by December 2011.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

2.2.1 Anticipated Activities

A follow-up assessment will be scheduled for the future as KDHE did not conduct detailed internal surveys of both the 918 West Dooley and 1326 Walnut buildings. It is highly recommended since historical information indicates potential contamination within the buildings.

2.2.1.1 Planned Response Activities
Schedule follow up internal contamination and radon level survey.

2.2.1.2 Next Steps
See section 2.2.1 anticipated activities.

2.2.2 Issues
A follow-up assessment will be scheduled for the future as KDHE did not conduct detailed internal surveys of both the 918 West Dooley and 1326 Walnut buildings. It is highly recommended since historical information indicates potential contamination within the buildings.

2.3 Logistics Section
No information available at this time.

2.4 Finance Section
No information available at this time.

2.5 Other Command Staff
2.5.1 Safety Officer
Chuck Hooper, Health Physicist, USEPA - 913.551.7271
Roy Krueger, USEPA - 913.551.7296

2.6 Liaison Officer
Beckie Himes, USEPA - 913.551.7253

2.7 Information Officer
Beckie Himes, USEPA - 913.551.7253

2.7.1 Public Information Officer
Beckie Himes, USEPA - 913.551.7253

2.7.2 Community Involvement Coordinator
Beckie Himes, USEPA - 913.551.7253

3. Participating Entities
3.1 Unified Command
A unified command was not established for this activity.

3.2 Cooperating Agencies
City of Wichita
Kansas Department of Health and Environment (KDHE)

4. Personnel On Site
USEPA:
James Johnson, OSC
Todd Campbell, OSC
Tom Mahler, OSC
Chuck Hooper, Health Physicist
Rob Monnig, START
Tom Scroggin, START
Quan Do, START

5. Definition of Terms
BAR - Bureau of Air and Radiation

CERCLA - Comprehensive Environmental Response and Liability Act

CFR - Code of Federal Regulations

EPA - U.S. Environmental Protection Agency

ERRS - Emergency and Rapid Response Services

KDHE - Kansas Department of Health and Environment

MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual

"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.

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

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.