

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Knoxville College - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #4
Continuation of Emergency Response Operations
Knoxville College
B43S
Knoxville, TN
Latitude: 35.9709164 Longitude: -83.9434094

To: Jim Webster, USEPA R4 ERRB
Jim McGuire, USEPA R4 ERRB

From: Kevin Eichinger, OSC

Date: 6/17/2014

Reporting Period: June 14, 2014 through June 17, 2014

1. Introduction

1.1 Background

Site Number:	B43S	Contract Number:	EP-S4-07-02, TO: 0127
D.O. Number:		Action Memo Date:	6/7/2014
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	6/5/2014	Start Date:	6/5/2014
Demob Date:		Completion Date:	
CERCLIS ID:	TNN000401009	RCRIS ID:	
ERNS No.:	1084952	State Notification:	06/05/2014
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Emergency Response, inactive facility.

1.1.2 Site Description

The incident occurred at an abandoned laboratory science teaching facility on the campus of the Knoxville College. The AK Stewart Science Hall is a three story brick structure located in the center of the campus. The facility is unsecured with many broken windows and doors at ground level. There are 39 rooms and laboratories containing various containers or hazardous substances. The college is in a residential neighborhood, with residences directly across the street. The facility is not fenced. There are numerous dilapidated structures on the campus that show evidence of trespassers and use by vagrants. Currently, the College is only utilizing one building for education and administrative purposes.

1.1.2.1 Location

The Site is located at 901 Knoxville College Drive, Knoxville, Knox County, Tennessee. The geographical coordinates are 35.970870, -83.943343.

1.1.2.2 Description of Threat

There are numerous containers of hazardous materials, including some extremely hazardous substances, unsecured. Many are broken, and rain infiltration threatens to wash them from the building into the environment. Continued vandalism and theft in the building will only exacerbate the problem. The nature and type of the chemicals present pose toxicity, flammability, and reactivity threats to anyone mixing or playing with the chemicals.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Knoxville College reportedly discontinued their science program in 2007. Since then, time, vandalism, and theft have led to the destruction and degradation of much of the containers stored in the A. K. Stewart Science Hall. Tennessee Department of Environmental Conservation (TDEC) performed a site reconnaissance on June 5, 2014, and immediately contacted the Region 4 Emergency Response and Removal Branch (ERRB) to report the conditions. Thousands of bottles of hazardous chemicals, including

acids, bases, oxidizers, organic peroxides, cyanides, radioactive sources, and asbestos are all present in the building. Container size ranges from 5-gallon buckets to milliliter-sized small containers. Many containers have no, or illegible, labels. Many containers are spilled, broken, or otherwise destroyed. Flammable and corrosive liquids are spilled onto the floor. Vandals have thrown containers from upper windows onto the ground below, causing the bottles to break and spill. Elevated mercury levels were detected throughout the facility. Three radioactive sources were found unsecured in the building.

The building is dilapidated, with leaks in the roof and a flooded ground floor. There is no security for the building; the windows are broken and the doors not functional. Entry into the building is unrestricted. The building does not have automatic sprinklers.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

There are numerous containers of hazardous materials, including some extremely hazardous substances, unsecured. Many are already broken, and the rain infiltration threatens to wash them from the building into the environment. Continued vandalism and theft in the building will only exacerbate the problem. The nature and type of the chemicals present pose toxicity, flammability, and reactivity threats to anyone mixing or playing with the chemicals. This poses the greatest threat to neighborhood children exploring the abandoned building. In consideration of these factors, the OSC elected to initiate an emergency response to address the potential risk of fire, explosion, and release of hazardous substances to the environment.

2.1.2 Response Actions to Date

See previous Pollution Reports for details of response actions taken and complete during past reporting periods.

June 14 and 15, 2014

The chemical consolidation on the second floor is 90% complete. 50+ drums have been generated to date. Crews are now focusing on the first floor. Crews are on schedule to have all of the chemicals consolidated and packed by mid next week. Crews will then focus on unknown materials and address/mitigate the mercury and chemical contamination. 34 potential radioactive materials have been identified to date. Crews analyzed, categorized and photo-documented all radioactive materials collected to date. Information was sent to OSC Stilman. OSC Stilman is providing assistance with radioactive waste disposal. A security company was hired by the Knoxville College to provide after hours and weekend coverage starting this past Saturday, 6/14.

No detections of concern were observed on exterior air monitoring stations. An air monitoring report summarizing the June 13 and 14, 2014 data was shared with the response partners. Additional asbestos air sample results are pending.

June 16, 2014

67 drums and containers packed to date. Crews found additional radioactive material. Information forwarded to the State and to OSC Stilman to help with disposition and disposal. Consolidation, bulking and packing operations are complete on the second floor. Chemical consolidation on the first floor will be complete on June 17, 2014. Crews continued with to identify unknowns. Crews handled two unknown liquids that started reacting as soon as they were opened. The cap broke on one of the containers. Wet pH paper determined that the vapor was an acid vapor. Chemist and OSC Eichinger performed elementary neutralization to stabilize the chemical. the current strategy was to remotely open and crush the small unknowns but to attempt to identify the bottles that were one liter and larger. Due to this incident, all unknowns and small vials will be remotely opened and crushed.

June 17, 2014

Consolidation and packing continued. Crews are 90% complete consolidation and packing activities the first floor. Crews anticipate completing all packing and consolidation of all floors by Thursday of this week. Remote opening and crushing of unknowns will begin on Monday. A location to complete the work has been identified and a work plan was drafted and sent out for review.

No detections observed on the exterior air monitoring equipment of concern. There was no detection of any asbestos fibers on the exterior monitors. We are still seeing fiber detections just above the laboratory detection limits on the interior and personnel samplers. TEMA provided the site with bottles of drinking water and a misting/cooling fan.

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

Knoxville College has stated they are the property owners and former operators of the Science Hall, but are financially unable to perform the removal. OSC Eichinger reviewed records and files found in the Science Hall. To date, no other PRPs has been identified from the information reviewed.

2.1.4 Progress Metrics

No pertinent information to report at this time.

2.2 Planning Section

2.2.1 Anticipated Activities

Anticipated removal activities for the Site include, but are not limited to, the following:

- Secure the site to limit trespassing or other unauthorized entry.
- Conduct inventory of hazardous materials stored at the Site.
- Stabilize hazardous materials pending testing and disposal.
- Segregate hazardous materials into hazard categories.
- Sample for hazard categorization and disposal profiling.
- Consolidate, repack, over-pack, and lab-pack materials.
- Off-site disposal, treatment, or recycling of materials.
- Additional cleanup activities that may include demolition as necessary to provide a safe and efficient work environment, excavation of contaminated soils, as necessary, decontamination of personnel and equipment.
- Conduct comprehensive air monitoring for employee and community protection.
- Continue coordination with Local and State Agencies.

2.2.1.1 Planned Response Activities

1. Continue to clear debris from laboratories on the ground floor.
2. Continue to consolidate and manage chemicals from the laboratories on the first and ground floors.
3. Remove visible metallic mercury from walking surfaces and cabinets following standard procedures.
4. Perform a radiation and mercury contamination surveys in all rooms and laboratories
5. Remotely open and crush unknown chemicals and small containers.

2.2.1.2 Next Steps

1. Document unknown remote opening and crush plan.
2. Implement radioactive waste management plan.

2.2.2 Issues

- Large number of unknown chemicals have been found. Many are air and moisture reactive.
- Additional Radioactive Sources have been found.
- Metallic Mercury has been found on the floors and in the cabinets/drawers.
- Additional hazardous materials were found during a final sweep by the OSC. The radioactive materials were hidden in packing material on a storage shelf. The steel container of mercury was corroded and hidden on a bottom shelf of a storage cabinet in a room with limited lights. Additional sweeps will need to be completed to find hidden materials.

2.3 Logistics Section

Logistical support is being provided by ERRS, START and Q-Solutions/EPA Warehouse contractors and EPA personnel.

Due to the number of radioactive sources and chemicals found, Emergency Response and Removal Branch's (ERRB) Radiation OSC Stilman has been requested and he will mobilize to the scene on June 19, 2014.

Equipment needed for the remote opening and crushing operations has been requested and will mobilize towards the end of the week or early next week.

Acid gas air monitoring equipment has been requested and will mobilize to the scene with OSC Stilman on June 19, 2014.

2.4 Finance Section

2.4.1 Narrative

The On-Scene Coordinator's (OSC) has used his delegated authority under CERCLA Section 104 to initiate this emergency response. The current site ceiling in \$250,000. An Action Memo has been signed by the OSC to document the decision. The Superfund Division Director, Mr. Franklin Hill, has provided verbal approval to increase the site ceiling to \$500,000. A Ceiling Increase Action Memo to document the \$500,000 site ceiling is being drafted. The cost estimate below reflects the OSC's delegated procurement authority pending completion of required funding documentation.

The accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$150,000.00	\$91,250.00	\$58,750.00	39.17%
TAT/START	\$50,000.00	\$42,500.00	\$7,500.00	15.00%
Contingency	\$50,000.00	\$0.00	\$50,000.00	100.00%
Intramural Costs				

Total Site Costs	\$250,000.00	\$133,750.00	\$116,250.00	46.50%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

OSC Eichinger is serving as the Safety Officer with START and ERRS each providing an Assistant Safety Officer. An initial assessment of the structure was complete. All activities in the building will need to be conducted in Level B or C personal protective equipment.

Emergency responders will be exposed to serious risk of injury due to numerous containers of hazardous materials, including some extremely hazardous substances, that are unsecured, broken and leaking. There is also damaged friable asbestos containing building material throughout the facility.

Crews continue to clear debris and tripping hazards from the floors to provide safe access to the laboratories. Carts are used to transport chemical bottles to minimize the risk of dropping. A fix air monitoring station has been established on the floor the crews are working on. Crews also carry around a portable monitor with them when they are working in the laboratories. All air monitors are equipped with remote web-based data collection and alert capabilities (using EPA's VIPER system); no adverse conditions have been observed. Asbestos air sampling is being performed in the building, at the personnel decontamination area and at the Command Post. These samples are analyzed at an off-site analytical laboratory. There is a 24-hour delay in asbestos results.

Airborne asbestos sampling results were received for samples taken on June 10, 2014, June 11, 2014 and June 12, 2014. No asbestos fibers were detected in any of the samples taken at the exterior air monitoring locations. Fibers were detected at very low levels in interior personal samples. The results were less than the OSHA permissible exposure limit (PEL) for airborne asbestos. Crews will continue to wear Level C Personal Protective Equipment (PPE). Crews will increase water wetting and misting operations while clearing and managing debris in the building.

On June 16, 2014, crews found two highly reactive liquids while they were identifying unknowns. The cap broke on one of the containers. Crews used wet pH paper in the vapor and it was acidic. Due to this incident all unknowns will be remotely opened and crushed. Necessary equipment and air monitors are mobilizing to the site.

2.5.2 Liaison Officer

OSC Eichinger is currently coordinating will Local and State Response Partners.

The Knoxville Knox County Emergency Management Agency (EMA) hosted OSC Eichinger and CIC Atashi in order to provide a briefing for Local and State partners at the Emergency Operations Center (EOC). Numerous personnel from the City of Knoxville, TDEC, TEMA, Knox County EMA and Knox County were in attendance. OSC Eichinger resented on the situation, what EPA is doing and how we are assuring that the local community is protected. Response partners were given access to the response website so they can view response information and the real-time air monitoring data. Knoxville Fire Department, TEMA and TDEC visit the site daily.

OSC Eichinger created a detailed Emergency Response Plan (ERP) for the local EMA's and the Fire Department. The response plan details fire suppression run-off locations, potential evacuation zones and estimated plume models should a fire occur. The ERP can be found at http://epaosc.org/sites/9307/files/Knoxville_College_Emergency_Response_Plan_Printed_06112014.pdf.

2.5.3 Community Involvement Coordinator (CIC)

CIC Atashi arrived on-site mid-afternoon on June 9, 2014

A fact sheet for the response has been created. The fact sheet was shared with local and State response partners. It is at <http://epaosc.org/sites/9307/files/Knoxville%20College-%20Fact%20Sheet%20Number%201.pdf>. CIC Atashi began to visit homes within ¼ mile radius of the site and handed out the fact sheet and met with some residents. CIC Atashi will continue to visit homes as the week progresses. He will also have the fact sheets mailed out to those residents in the ¼ mile radius. Contacts were made with the local home owners association who invited us to attend their monthly meeting next week.

EPA has visited 101 properties including 2 churches and conducted community interviews to date.

OSC Eichinger and CIC Atashi provided a briefing to the Mechanicsville Neighborhood Association and the Knoxville City Development Corporation (KCDC) on June 13, 2014 at 7 pm at Clinton Chapel, on College Street.

There is high media interest in the response. OSC Eichinger has provided numbers interviews to the local media.

3. Participating Entities

3.1 Unified Command

An incident command structure has been established for this incident. At this time, OSC Eichinger is filling the role of Incident Commander with personnel from START and ERRS filling the Operation Section Chief, Assistance Safety Officer, HAZMAT Team Leader, Decontamination Team Leader, Air Monitoring Group Supervisor, Resource Unit Leader and Documentation Unit Leader positions. At this time, a Unified Command structure is not needed due to the size of the incident. Local and State Agencies will participate in the incident command structure as Assisting Agencies

3.2 Assisting Agencies

The following local and state agencies are providing support:

- Tennessee Department of Environmental Conservation (TDEC)
- Tennessee Department of Emergency Management (TEMA)
- City of Knoxville Emergency Management
- City of Knoxville Mayor's Office
- City of Knoxville Fire Department

4. Personnel On Site

The following personnel were on-site at various times throughout this reporting period:

- EPA - 1
- START - 4
- ERRS - 6
- TDEC - 2-4
- TEMA - 2
- City of Knoxville (from various departments) - 2
- PRP - 1

5. Definition of Terms

Abbreviations and acronyms are spelled out within the text of the Pollution Report. Definitions will be added to this section as necessary.

6. Additional sources of information

6.1 Internet location of additional information/report

Documents, photographs, maps and other important/pertinent information can be found at <http://epaosc.org/knoxvillecollege>. Log-in credentials may be required to view certain documents.

6.2 Reporting Schedule

Pollution Reports (POLREP) will initially be drafted as significant events occur. This schedule will change and be less frequent as the emergency response progresses. Please note that POLREP must be review and approved prior to publication, so there may be a delay.

7. Situational Reference Materials

All situational reference materials will be uploaded to <http://epaosc.org/knoxvillecollege>. Log-in credentials may be required to access certain documents.