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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject:	**POLREP #3** **Continuation of Emergency Response Operations** **Knoxville College** **B43S** **Knoxville, TN** **Latitude: 35.9709164 Longitude: -83.9434094**
To:	
From:	Kevin Eichinger, OSC
Date:	6/13/2014
Reporting Period:	June 12, 2014 through June 13, 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 12, 2014

Crews continued to clear debris and containerize suspected asbestos containing building materials (ACBM) to provide safe access to chemicals and other hazardous materials on the ground and first floor. An additional radioactive chemical was found on the second floor as well another explosive nitro-compound. Chemicals that were consolidated from the rooms and laboratories on the second floor were containerized into shipping containers. A total of 4 55-gallon drums were generated. Crews started consolidating chemicals from rooms and laboratories on the first floor. Mercury removal and mitigation equipment was mobilized to the Site.

No detections of concern were observed on exterior air monitoring stations. An air monitoring report summarizing the June 11, 2014 data was shared with the response partners. Airborne asbestos sampling results were received for samples taken on June 10, 2014. No asbestos fibers were detected in any of the samples taken at the exterior air monitoring locations. Fibers were detected at 0.051 fibers/cc is a personal sample a crew member wore. This is 1/2 of 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.

June 13, 2014

The majority of the chemicals that were consolidated from the rooms and laboratories on the second floor were containerized into shipping containers today. Unknown identification continued. The two explosive chemicals were made non-explosive by hydrating with water. Crews also started metallic mercury contamination removal operations on the second floor. During a finial sweep of the second floor rooms and laboratories, six additional vials of radioactive materials and a very large (~80 lbs) mercury steel flask was found. The radioactive material are small containers of Phosphorus 32 and Iodine 131 solutions. These were relocated to the radioactive material storage room pending additional investigation.

No detections of concern were observed on exterior air monitoring stations. An air monitoring report summarizing the June 12, 2014 data was shared with the response partners. Airborne asbestos sampling results were received for samples taken on June 11, 2014. No asbestos fibers were detected in any of the samples taken at the exterior air monitoring locations.

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 hazard categorization identification of unknown chemicals that are 1 pound or larger in size.
2. Continue to clear debris from laboratories on the ground floor.
3. Continue to consolidate and manage chemicals from the laboratories on the first floor.
4. Repeat the finial sweep for chemicals in the second floor rooms and laboratories.
5. Remove visible metallic mercury from walking surfaces and cabinets following standard procedures.
6. Perform a radiation and mercury survey after chemicals are removed from the laboratories and room on the first floor.

2.2.1.2 Next Steps

1. Document the process flow diagram and work plan to safely and efficiently manage the unknown chemicals and reactive chemicals.
2. Develop and implement plan a radioactive waste management plan.

2.2.2 Issues

- Large number of unknown chemicals have been found.
- 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.

2.4 Finance Section

No information available at this time.

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 and June 11, 2014. No asbestos fibers were detected in any of the samples taken at the exterior air monitoring locations. Fibers were detected at 0.051 fibers/cc and at 0.036 fibers/cc on both days in interior personal samples. This is 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.

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