

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Ohio River MCHM Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #2
Progress Polrep
Ohio River MCHM Spill

Louisville, KY
Latitude: 38.2827594 Longitude: -85.7025508

To:
From: Art Smith, OSC
Date: 1/16/2014
Reporting Period: January 16, 2014

1. Introduction

1.1 Background

Site Number:	B438	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	PRP	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	1/15/2014	Start Date:	
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category
Emergency Response

1.1.2 Site Description

On Sunday, 1/12/14, Freedom Industries, located at 1015 Barlow Drive, Charleston, Kanawha County, WV 25311, reported a release of the chemical 4-methylcyclohexanemethanol (MCHM). Freedom Industries is located along the Elk River, approximately 3 miles upstream from the Kanawha River. The contaminants flowed down the Elk River and entered the Kanawha River, where it traveled 58 miles and entered the Ohio River. The plume is currently traveling in the Ohio River and passed through the Northern Kentucky and Greater Cincinnati area in the early morning hours of 1/16/14.

1.1.2.1 Location

On Monday, 1/13/14, the MCHM plume was confirmed at the Huntington Water Intake (River Mile 304). MCHM was observed at a peak concentration of 36 parts per billion (ppb) (preliminary - unvalidated data) at approximately 0430 hours.

On Wednesday, 1/15/14, the MCHM plume was confirmed at the Meldahl Lock & Dam (River Mile 436.2). MCHM was observed at a peak concentration of 19 ppb (preliminary - unvalidated data) at approximately 0300 hours.

On Wednesday, 1/15/14, the MCHM plume was confirmed at the Beckjord Generating Station (River Mile 453). MCHM was observed at a peak concentration of 18 ppb (preliminary - unvalidated data) at approximately 0900 hours.

On Wednesday, 1/15/14, the MCHM plume was confirmed at the Cincinnati Water Intake (River Mile 462.8). MCHM was observed at a peak concentration of 22 ppb (preliminary - unvalidated data) at approximately 1300 hours.

As of 1000 hours EST on 1/16/14, the MCHM plume was estimated to be near Ohio River Mile 526.

The Ohio River Valley Water and Sanitation Commission (ORSANCO) has estimated (through modeling) that the leading edge of the MCHM plume will arrive at the first Louisville Water Intake (River Mile 594) on 1/17/14 at approximately 0700 hours. ORSANCO has estimated that it takes approximately 24 hours for the MCHM plume to pass through a fixed location.

1.1.2.2 Description of Threat

A chemical release of 4-methylcyclohexanemethanol (MCHM) into the Ohio River which serves as a source of drinking water to residents in neighboring states.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The spill at the Freedom Industries facility occurred from one of three above-ground storage tanks that contain the MCHM. Reportedly, the secondary containment around the tanks was inadequate and failed. It was estimated that 5,000-7,500 gallons of the material was released. However, the volume of the compound that initially entered the Elk River is uncertain.

EPA Region 3 "Hotsite Reports" indicate that the Responsible Party (RP) utilized facility personnel and initiated the hiring of contractors to place boom along the shoreline of the Elk River, adjacent to the area of the spill. The RP also hired contractors to conduct land clean-up operations. However, due to the miscible nature of the compound, the release was not sufficiently controlled and the spill migrated from the Elk River, into the Kanawha River, and subsequently the Ohio River.

ORSANCO has tracked the plume in the Ohio River from the point where the Kanawha River emptied into the Ohio at Point Pleasant, WV. In the early stages of this event, the Agency for Toxic Substances and Disease Control (ATSDR) published an action level of such that less than 1 milligram per liter (mg/l) of MCHM in drinking water was protective of human health. Potable water utilities along the Left Descending Bank (LDB) of the Ohio River have measured MCHM in their raw water at concentrations up to 50 micrograms per liter (ug/l). However, MCHM has a licorice odor to it, which is detectable at about 5 ug/l in air. Powdered activated carbon (PAC) is capable of removing trace amounts of MCHM in water to an extent where the odor is not noticeable. Some drinking water plants are choosing to treat the water with PAC due to inadequate reserves of finished water. Others are allowing the plume to pass by if they have adequate finished water storage capacity.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On 01/15/14, OSC Smith mobilized to the ORSANCO office in Cincinnati, OH, at the request of the Kentucky Department for Environmental Protection (KDEP). The purpose of the deployment was for EPA to better understand the issues associated with the MCHM plume in the Ohio River, to monitor the status of the drinking water plants in Kentucky, and to respond to any requests for assistance from KDEP.

The OSC has also mobilized the EPA Environmental Response Team (ERT) to assist with evaluation of analytical methods for detecting MCHM in water. The OSC also deployed the Region 4 Superfund and Technical Assistance Team (START) contractor Tetra Tech to compile data produced during this incident and to map the plume as it travels downstream. Additionally, EPA Region 5 has mobilized one START member to support EPA Region 4 response activities.

2.1.2 Response Actions to Date

On 1/16/14, KDEP collected surface water grab samples from the Ohio River at the following locations:

Ashland Division

Catlettsburg, KY
South Shore, KY
Vanceburg, KY
Trinity, KY

Northern Kentucky Division

Augusta, KY
California, KY
Newport, KY
Rabbit Hash, KY

Louisville Division

Carrollton, KY
Louisville, KY

KDEP also collecting Raw and Finished water samples from the following drinking water intake facilities:

- Ashland (River Mile 319.7)
- Russell (River Mile 327.6)
- Maysville (River Mile 407.8)
- Northern KY Water District
- Louisville Water District

The water samples are all being analyzed at the KDEP Environmental Services Branch Laboratory.

ORSANCO reported that both the Northern Kentucky Water District and the Greater Cincinnati Water Works have re-opened their surface water intakes on the Ohio River on 01/16/14 after the contaminant plume had passed.

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

Freedom Industries, located at 1015 Barlow Drive, Charleston, Kanawha County, WV 25311 is the PRP for this incident.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal

N/A					

2.2 Planning Section

2.2.1 Anticipated Activities

See below in Section 2.2.1.1.

2.2.1.1 Planned Response Activities

On Friday, 01/17/14, KDEP plans on conducting surface water sampling on the Ohio River at the following locations:

Louisville Division

Westport, KY

Louisville, KY

Brandenburg, KY

Cannellton, IN Locks & Dam

KDEP also plans to collect Raw and Finished water samples from the following drinking water intake facilities:

- Northern KY District

- Louisville Water Company

Also on 1/17/14, EPA plans to ship surface water samples collected by the United States Geological Survey (USGS) in Louisville, KY to the EPA ERT lab in Edison, NJ to analyze for the presence of MCHM. USGS will collect samples along 4 transects in the Ohio River at intake points for the Louisville Water Company.

2.2.1.2 Next Steps

Monitor the ability of Louisville Water Company (LWC) to treat raw water to below 3 ug/l. LWC plans to continue operations at their drinking water plant during the time the plume passes by if treatment operations are successful. The leading edge of the plume at the LWC intake is expected to arrive around 0700 hrs. EST on 01/17/2014.

2.2.2 Issues

2.3 Logistics Section

None.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

Not applicable.

2.5.2 Liaison Officer

Not applicable.

2.5.3 Information Officer

3. Participating Entities

3.1 Unified Command

EPA is the lead federal agency and KDEP is the lead state agency for this response.

3.2 Cooperating Agencies

ORSANCO, US Coast Guard, Kentucky Department for Public Health, and the various drinking water utilities in Kentucky along the Ohio River.

4. Personnel On Site

EPA Region 4 - 1

EPA ERT - 1

KDEP - 2

ORSANCO-1

START (Tetra Tech - Region 4) - 1

START (Weston Solutions - Region 5) - 1

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

6.2 Reporting Schedule

On a daily basis until the risk to drinking water utilities is mitigated.

7. Situational Reference Materials

No information available at this time.