

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
FMC RCRA Ponds - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region X

Subject: POLREP #1
FMC RCRA Ponds
10JC
Pocatello, ID
Latitude: 42.9005000 Longitude: -112.5605000

To:
From: Greg Weigel, OSC
Date: 9/24/2010
Reporting Period: 7/29/10 - 9/24/10

1. Introduction

1.1 Background

Site Number:	10JC	Contract Number:	
D.O. Number:		Action Memo Date:	6/11/2010
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	NPL	Operable Unit:	
Mobilization Date:		Start Date:	
Demob Date:		Completion Date:	
CERCLIS ID:	IDD984666610	RCRIS ID:	IDD070929518
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

PRP-Lead Time-Critical Removal Action under a CERCLA Section 106(a) Unilateral Administrative Order.

1.1.2 Site Description

The Site is owned and operated by FMC Idaho LLC, which is a wholly owned subsidiary of FMC Corporation (collectively referred to as "FMC"). The Site was used to manufacture elemental phosphorus from phosphate ore from the late 1940s until December 2001. After 2001, FMC decommissioned and dismantled the manufacturing plant. The FMC Site is part of the Eastern Michaud Flats CERCLA NPL site.

The Site contains hazardous waste management units (called "ponds") regulated under RCRA. On October 16, 1998, the United States filed a Complaint against FMC in U.S. District Court alleging a number of RCRA violations at FMC, including the allegation that FMC placed reactive and ignitable phosphy wastes in hazardous waste ponds. A Consent Decree entered on July 13, 1999, required FMC, among other things, to close and cap pond waste in accordance with all applicable RCRA requirements and an EPA approved closure plan. FMC certified that it had completed closure in accordance with the approved closure plan in January 2005.

Since 2006, phosphine gas has been detected in and around a number of the RCRA closed ponds. On December 14, 2006 EPA issued a CERCLA 106(a) Unilateral Administrative Order (UAO) requiring FMC to, among other things, extract and treat gas from under the Pond 16S cap after there had been several instances of phosphine auto-ignition within temperature monitoring ports (TMPs) that penetrate the cap. Phosphine concentrations under the Pond 16S cap were recorded as high as 400,000 ppm.

On April 14, 2010, FMC reported that they were "... commencing gas extraction at Pond 15S to address a potential industrial hygiene issue ...". In response to an EPA request for additional information, FMC reported on April 26, 2010 that in December, 2009 they began utilizing two small portable gas extraction units to evacuate and treat high and increasing concentrations of phosphine gas in a lift station manhole confined space, that needed to be accessed to perform regular maintenance activities per RCRA post-closure requirements. Concentrations of phosphine gas in the manhole confined space were frequently recorded above the concentration that is immediately dangerous to life and health (the IDLH of phosphine is 50 parts per million). As concentrations continued to increase in the manhole at Pond 15S, FMC began regular monitoring of ambient breathing zone air concentrations around the lift station. Concentrations in unconfined breathing zone air were recorded at greater than 20 parts per million (ppm) phosphine (the upper detection limit of FMC's phosphine gas monitors is 20 ppm – the actual concentration above 20 ppm is unknown). On April 16, FMC began gas extraction and treatment at Pond 15S of source gas from under

the Pond 15S cap - extracting gas from an existing perimeter perforated piping system that is directly under the cap liner.

Other RCRA-closed ponds contain high concentrations of phosphine gas that could present a threat of release. Monitoring around TMP enclosures has shown phosphine concentrations of 1 ppm or more releasing to the environment at Ponds 17 and 8E, in addition to 15S. Experience at Pond 16S and 15S demonstrate that high concentrations of phosphine gas at other RCRA ponds could also present a threat of release and potential exposure and endangerment to site workers or other persons or animals that may enter the area.

On June 14, 2010 EPA issued a second UAO (the first was specific to Pond 16S) addressing all of the other RCRA-closed ponds at the Site. The latest UAO requires FMC to submit work plans for gas extraction and treatment at Ponds 15S, 17 and 8E, and monitor for phosphine releases at all of the Ponds. It also requires a robust perimeter monitoring program to detect if phosphine is migrating from the Site in air.

1.1.2.1 Location

The FMC facility is located in Southeastern Idaho south of Highway 30, approximately 2.5 miles northwest of Pocatello, Idaho, in Township 6 South, Range 33 East (see Figure 2). Access to the Site is via a private gated and locked access road. The FMC RCRA Ponds are approximately ½ mile to the west from the main FMC entrance, off of E. County Road. The Pond 15S coordinates are latitude 42.9000 N, and longitude -112.5540 W. The Site elevation is approximately 4,490 feet above sea level.

The Site is within the boundary of the Fort Hall Reservation. The Site is private fee land within the Reservation.

1.1.2.2 Description of Threat

As recently as April 18, 2010 concentrations of phosphine have been measured in ambient air around Pond 15S exceeding 20 ppm. Monitoring of air outside of TMP enclosures at Ponds 17 and 8E have shown concentrations of 1 ppm or greater. High concentrations of phosphine under the RCRA cap at other ponds provide conditions for a threatened release of phosphine to ambient air at the other ponds that are known to be generating phosphine gas under the cap.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Phosphine gas has released and may continue to be released to ambient air from the FMC RCRA Ponds at concentrations that present an imminent and substantial endangerment to site workers or other persons or animals that may enter the area.

On June 14, 2010 EPA issues a second UAO (the first was specific to Pond 16S) addressing all of the RCRA-closed ponds at the Site. The latest UAO requires FMC to submit work plans for gas extraction and treatment at Ponds 15S, 17 and 8E, and monitor for phosphine releases at all of the Ponds. It also requires a robust perimeter monitoring program to detect if phosphine is migrating from the Site in air.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

In April 2010, FMC began extracting and treating phosphine gas at Pond 15S under its own initiative and in accordance with the RCRA Post-Closure Plan requirements. On June 16, 2010 EPA issued a CERCLA UAO that requires FMC to submit work plans for gas extraction and treatment at Ponds 15S, 8E and 17, and provides for EPA to require gas extraction and treatment at any of the other RCRA ponds as it determines necessary. It also requires regular monitoring of pond surface and appurtenances at all of the RCRA ponds and requires facility perimeter monitoring to ensure that measurable phosphine gas is, at a minimum, not leaving the facility.

2.1.2 Response Actions to Date

On August 3, 2010 FMC began facility perimeter monitoring per the UAO under the EPA-approved Interim Facility Boundary Monitoring Plan. FMC had begun perimeter monitoring under its own initiative prior to final EPA approval of the plan. Monitoring consists of taking phosphine measurements at both breathing zone and ground level at 13 locations around the facility perimeter every 4 hours. No phosphine detections have been recorded to date. On September 27, 2010, FMC submitted a Plan Framework for Facility Boundary Monitoring that addresses the longer term perimeter monitoring at the Site.

On September 27, 2010 FMC submitted the RCRA Pond Air Monitoring Plan that incorporates EPA's comments on the earlier Plan Framework. The RCRA Pond Air Monitoring Plan addresses monitoring of pond perimeters, surfaces and appurtenances.

On October 1, 2010 EPA approved Interim Work Plans for gas extraction and treatment at Ponds 15S and 17.

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

PRPs include FMC Idaho LLC, and FMC Corporation.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal

2.2 Planning Section

2.2.1 Anticipated Activities

FMC will continue monitoring under the approved Interim Facility Boundary Monitoring Plan. FMC will initiate work in October under approved Interim Work Plans for Gas Extraction and Treatment at Ponds 15S and 17, including monitoring of TMPs and pond perimeter soil gas. FMC will submit a work plan for gas extraction and treatment at Pond 8E, to be implemented if any performance objective compliance monitoring exceeds established criteria. EPA will review, with input from Shoshone-Bannock Tribes and Idaho Department of Environmental Quality, and respond to the recently submitted RCRA Ponds Air Monitoring Plan, and the Plan Framework for Facility Boundary Monitoring.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

2.2.2 Issues

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

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Shoshone-Bannock Tribes
Idaho Department of Environmental Quality

4. Personnel On Site

FMC and their contractors.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.