

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
North Plant MGP - Removal Polrep  
Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

**Subject:** **POLREP #6**  
**Final Polrep**  
**North Plant MGP**  
**O5KT**  
**Waukegan, IL**  
**Latitude: 42.3737150 Longitude: -87.8243880**

**To:**  
**From:** Brad Benning, OSC  
**Date:** 4/16/2015  
**Reporting Period:** October 25, 2014 to April 17, 2015

## 1. Introduction

### 1.1 Background

<b>Site Number:</b> O5KT	<b>Contract Number:</b>
<b>D.O. Number:</b>	<b>Action Memo Date:</b> 4/8/2013
<b>Response Authority:</b> CERCLA	<b>Response Type:</b> PRP Oversight
<b>Response Lead:</b> PRP	<b>Incident Category:</b> Removal Action
<b>NPL Status:</b> Non NPL	<b>Operable Unit:</b>
<b>Mobilization Date:</b> 5/6/2013	<b>Start Date:</b> 5/6/2013
<b>Demob Date:</b> 11/25/2014	<b>Completion Date:</b> 4/17/2015
<b>CERCLIS ID:</b> ILD984807990	<b>RCRIS ID:</b>
<b>ERNS No.:</b>	<b>State Notification:</b>
<b>FPN#:</b>	<b>Reimbursable Account #:</b>

#### 1.1.1 Incident Category

Manufacturing/processing/maintenance - oil and gas refining

#### 1.1.2 Site Description

The North Plant site is composed of three parcels (parcels 1, 2, and 4). The former MGP was located on parcel 1.

##### 1.1.2.1 Location

The Site is located on vacant land at 849 Pershing Road, Waukegan, Lake County, Illinois. The geographical coordinates for the Site are Latitude 42.3737 north and Longitude -87.8246 west. The Site is bounded to the north by Dahringer Road, on the west by Pershing Road, on the east by the Elgin, Joliet & Eastern Railroad, and to the south by property owned by A.L. Hansen Manufacturing Company. The Site is located about one-half mile west of Lake Michigan.

##### 1.1.2.2 Description of Threat

Past data indicates the presence of TCLP benzene concentrations exceeding 0.5 mg/l in addition to concentrations exceeding the 540 mg/kg RML. Depth to groundwater in the area varies from 2-5 feet below ground surface. Groundwater flows east towards Lake Michigan and organics contained in the DNAPL may leach into the groundwater and migrate to Lake Michigan.

#### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Several site investigations have occurred at the Site since 1990. Analytical results from historical samples in the proposed removal areas indicate the presence of elevated concentrations of polynuclear aromatic hydrocarbons (PAH) and VOCs in the DNAPL present in both the surface and subsurface.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

On April 8, 2013, EPA executed an Administrative Order by Consent (AOC) under Sections 104, 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation and Liability Act.

#### 2.1.2 Response Actions

Final inspection after construction was completed was October 17, 2014, followed by a inspection on April 3, 2015 to document completion of restoration activities.

**Site Preparation Activities** Several contractors provided services as part of site preparation and removal action preparation from February 2013 to July 2013.

Site preparation included the following activities: clearing site trees and vegetation, replacing portions of perimeter site fence, installation of temporary fence enclosures for air monitoring stations (AMS), installation of temporary electrical infrastructure, demolition and removal of subsurface structures outside of removal action areas, construction of site infrastructure (e.g., tracking pads and access roads), installation of a site water service, abandonment of monitoring wells, and relocation of an overhead electric utility.

### **Environmental Management**

Environmental management during removal action construction was in accordance with the RAWP (NRT, September 2012) and included implementation of site erosion controls, perimeter air monitoring, fugitive emission management, and MGP contact water management.

Erosion controls used during construction included silt fence around the site perimeter and tracking pads at site entrances. Silt fence and tracking pads were installed in May 2013 according to the details shown on Sheet C021 at locations shown on Sheet C030. Silt fence and tracking pads were maintained as necessary throughout construction. Following installation, erosion controls were inspected weekly and within 24 hours of rain events exceeding 0.5 inches from May 2013 to November 2014. Inspections were performed by James Anderson Company, a third-party Designated Erosion Control Inspector certified by Lake County.

Site perimeter air monitoring was performed by Burns & McDonnell from May 2013 to October 2014 in general accordance with the Air Monitoring Plan provided in the RAWP (NRT, September 2012). Seven air monitoring stations, AMS 1 through 7, were installed around the site perimeter in April 2013 at locations shown on Sheet C020. Perimeter air monitoring included 24-hour real-time monitoring of total volatile organic compounds (TVOC) and respirable particulate matter (PM10) supplemented with 24-hour time-weighted average sampling. The intent of real-time monitoring was to provide early detection of short-term emissions and potential off-site migration of TVOCs and PM10 related to removal action activities. Real-time air monitoring data from each AMS 1-7 was provided to the USEPA during removal action construction by Burns & McDonnell. Based on provided air monitoring data, the reported average concentrations of all sampled compounds at the site perimeter from May 2013 to October 2014 were below established AACs for the  $1 \times 10^{-6}$  cancer risk with the exception of Naphthalene. The reported average naphthalene concentrations were between the  $1 \times 10^{-5}$  and  $1 \times 10^{-6}$  cancer risk at AMS 1, 2, 3, 4, 6, and 7. The reported average naphthalene concentration was between the  $1 \times 10^{-4}$  and  $1 \times 10^{-5}$  cancer risk at AMS 5.

Fugitive emissions management was performed in accordance with the Fugitive Emissions Management Plan provided in the RAWP (NRT, September 2012). Management methods included administrative and engineering controls to minimize or prevent fugitive emissions during construction. These included work sequencing, covering stockpiles with plastic sheeting, application of water to site roads, application of odor suppressant foam/spray (i.e., Rusmar foam and BioSolve spray), and operation of a perimeter odor control misting system.

### **MGP Contact Water Treatment**

To support potential dewatering and management of MGP contact water, a temporary wastewater treatment system was designed and mobilized to the site. The treatment system, provided by Carbonair Environmental Systems, Inc. No contact water was treated or discharged during the removal action. Contact water was managed as necessary within removal action areas.

### **Excavation and Removal of Surface Soil and Historic Structures**

In preparation for ISS construction, unsaturated surface soil was excavated and removed within removal action areas to construct a work platform for ISS equipment and to provide storage volume for the expansion of soil treated by ISS, commonly referred to as ISS swell. In addition to surface soil excavation, pre-excavation of removal action areas was performed and historic subsurface structures were demolished and removed prior to ISS construction operations. Surface soil excavation, pre-excavation, and structure demolition and removal were performed by Geo-Solutions, Inc. (GSI).

Unsaturated surface soil and small debris (i.e., less than three feet in every dimension) were removed within removal action areas from August 2013 to June 2014. Surface soil was excavated to a depth of approximately four feet below ground surface and was limited by the groundwater table elevation at the time of excavation. Excavation depths were less than four feet where groundwater was encountered at higher elevations. Excavated soils were managed in stockpiles within removal action areas prior to loading for off-site transportation and disposal. Fugitive emissions management was performed as necessary during surface soil excavation. A total of 44,391.45 tons of removed surface soil and small debris were transported to WMI's Countryside Landfill in Grayslake, IL for direct disposal under Waste Profile EF 1496.

Concurrent with surface soil excavation and prior to ISS construction, removal action areas were pre-excavated to a depth of 15 feet bgs to locate debris and historic structures for removal. During structure demolition and removal, large debris was resized with a hydraulic hammer to achieve the landfill acceptance criteria of less than three feet in every dimension. A total of 9,406.27 tons of resized concrete debris were transported off site to WMI's Countryside Landfill in Grayslake, IL for direct disposal under Waste Profile EF 1496.

### **Decommissioning of the Former Waukegan Tar Pit**

The pre-construction condition of the former Waukegan Tar Pit included an HDPE cover over the area with a raised berm around the perimeter. The HDPE cover was held in place by the berm around the perimeter and with water over the cover surface. In preparation for ISS construction, the existing cover system was decommissioned beginning in April 2014. Water anchoring the HDPE cover over the former Waukegan Tar Pit was pumped and managed within removal action areas. The HDPE cover was excavated, removed, and managed into small pieces for off-site transportation and disposal at WMI's Countryside Landfill in Grayslake, IL under Waste Profile EF 1496. Following cover removal, soil from the surrounding berm was graded into the former tar pit excavation. Additional site soil and ISS swell material from surrounding operations was graded into the excavation to fill the former tar pit area up to the surrounding ISS platform elevation. The area of the former Waukegan Tar Pit as added to the removal action in accordance with the RAWP addendum (NRT, May 2014) and the modification to the removal action AOC.

### **In Situ Solidification/Stabilization**

ISS construction was performed by GSI beginning with pilot testing in August 2013 followed by full-scale ISS construction from September 10, 2013 to August 11, 2014. A total of 299,549.42 cubic yards of MGP source material and impacted soil were solidified/stabilized within the removal action area, completing a total of 5,763 ISS columns.

Equipment and techniques used to complete ISS construction included the following:

■ **ISS Grout Batch Plant:** A grout batch plant was mobilized and assembled to store, mix, and convey ISS grout to locations of active soil mixing. ISS grout was prepared by mixing known quantities of dry reagents and water to achieve the selected mix design. The batch plant included the following equipment: dry reagent storage Pigs, dry reagent storage silos, a mixing tank, holding tanks, pumps, and ancillary hoses and plumbing.

■ **ISS Soil Mixing Equipment:** Soil and grout mixing was performed using a Delmag RH-28 hydraulic vertical drill rig and a diesel rotary drill-table mounted to a 4000 series Manitowoc crane. Both drill rigs were equipped with a hollow Kelly bar and a 10-foot diameter single-flight auger to complete the overlapping column

design .

■ **Excavator Soil Mixing Equipment:** Limited soil mixing was performed using a conventional excavator capable of reaching the design depth of the mixing location. Conventional earth moving equipment including bulldozers and hydraulic excavators were used during ISS construction. Ancillary equipment used in daily operations included forklifts, man lifts, vibratory compaction equipment, and off road dump trucks.

At the end of ISS construction, the quantity of produced swell material was calculated to be 36,058.78 cubic yards. This volume corresponds to approximately 12% expansion of the total ISS construction quantity of 299,549.42 cubic yards. Surplus swell material not needed to achieve final swell surface grades was transported off site for disposal. A total of 28,479.49 tons of ISS swell material were transported off site to WMI's Countryside Landfill in Grayslake, IL and Laraway Landfill in Joliet, IL for direct disposal under the Waste Profile EF 1496 .

## 2.7 Site Restoration

Site restoration was performed by GSI in a phased progression as areas of ISS construction were completed. Site restoration included the placement of a three and one half foot soil cover above the constructed ISS swell surface consisting of three feet of clean general fill and six inches of topsoil. All disturbed areas were then seeded and mulched. Construction equipment was demobilized and site infrastructure was removed or modified to remain. Final site restoration was completed by November 25, 2014.

### Remaining Site Infrastructure

During site restoration, construction equipment was demobilized and the following site infrastructure was removed or modified to remain.

■ **Tracking Pads:** Tracking pads at site entrances along Pershing Road were removed and replaced with CA6 coarse aggregate to provide smooth site access.

■ **ISS Batch Plant Area:** CA6 coarse aggregate and underlying nonwoven geotextile were removed from the Batch Plant Area. The area was backfilled with general fill and topsoil, and then seeded and mulched.

■ **Site Access Road:** The aggregate site access road was re-graded.

■ **Asphalt Pad:** The asphalt water treatment pad was cleaned of dirt and debris and left in place.

■ **Electric Infrastructure:** Electrical service provided by ComEd was disconnected and electric meters were removed. The utility pole on Dahringer Road and electrical infrastructure associated with providing power to AMS 3 and 4 were removed. The utility pole on the road east of the site and electrical infrastructure associated with providing power to AMS 5 and 6 were removed. Remaining electrical infrastructure includes utility poles 1, 2, and 3, overhead wire between the utility poles, an electric panel at Pole 3, and underground conduit and wire from Pole 3 to a panel adjacent to the west site fence. All electrical infrastructure associated with providing power to construction offices and AMS 1, 2, and 7 were removed.

■ **Temporary Fence Enclosures:** The six temporary fence enclosures for AMS 1 through 6 shown on Sheet C020 were removed.

■ **Site Water Service:** The City of Waukegan shut off the water service to the site on November 5, 2014. The aboveground water meter and RPZ backflow preventer were removed by JR Myers and the meter returned to the City. The water service was modified to a hydrant and valve assembly to allow for future use.

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

The following provides the relevant regulatory background for the removal action:

■ NSG and the USEPA entered into an Administrative Order on Consent and Statement of Work, CERCLA Docket No. V-W-07-C-877, effective July 23, 2007, to perform Remedial Investigation/Feasibility Study (RI/FS) activities under the Superfund Alternative Sites Program.

■ In email correspondence dated April 11, 2012, USEPA requested a work plan to conduct a time-critical removal action at the Former North Plant MGP Site.

■ NSG and the USEPA entered into an Administrative Order on Consent for Removal Action, CERCLA Docket No. V-W-13-C-009, effective April 8, 2013, to perform a removal action in accordance with the RAWP (NRT, September 2012) submitted to the USEPA on September 21, 2012 and approved on October 9, 2012.

■ USEPA issued an Enforcement Action Memorandum, effective April 8, 2013, to document the determination of threat to public health and the environment at the Former North Plant MGP Site and to document approval of the removal action proposed in the RAWP (NRT, September 2012).

■ USEPA issued a Modification to the Administrative Order on Consent for Removal Action, effective June 16, 2014, to expand coverage of the Administrative Order to include the area of the former Waukegan Tar Pit and Wisconsin Central Ltd. owned Parcel 4. An Addendum to the RAWP (NRT, May 2014) was submitted to the USEPA on May 30, 2014 and approved by USEPA on June 6, 2014. NSG and Wisconsin Central Ltd. executed a Removal Action Right of Entry Agreement on June 12, 2013.

### 2.1.4 Progress Metrics

February 2013 – May 2013

**Site Preparation:** site clearing, perimeter fence replacement, electrical infrastructure installation, construction office mobilization and set up, and air monitoring equipment mobilization.

May 2013 – July 2013

**Removal Action Preparation:** Background and start up perimeter air monitoring, erosion control installation, subsurface structure removal outside of removal action areas, site water service installation, and construction of site entrance tracking pads, site access road, batch plant area, parking area, and asphalt decontamination/water treatment pad.

July 2013 – October 2014

**Removal Action Construction:** ISS equipment mobilization, ISS pilot-scale evaluation, full-scale ISS construction, surface soil excavation and disposal, subsurface structure demolition and removal, general fill placement and grading, topsoil placement and grading, and perimeter air monitoring.

September 2014 – November 2014

**Site Restoration:** Topsoil placement and grading, seeding and mulching, erosion control blanket installation, equipment demobilization, site cleanup, and water service modification.

**Waste Disposal Summary**

Soil/debris/ISS swell	Solid	93,277 Tons	Landfill (WMI - Profile 1946)
ISS	Solid	299,589 CY	In-situ Treatment (Solidification/stabilization)

**Regional Metrics**

This is an Integrated River Assessment. The numbers should overlap.	Miles of river systems cleaned and/or restored	NA
	Cubic yards of contaminated sediments removed and/or capped	NA
	Gallons of oil/water recovered	NA
	Acres of soil/sediment cleaned up in floodplains and riverbanks	NA
Stand Alone Assessment	Number of contaminated residential yards cleaned up	0
	Number of workers on site	20-30
Contaminant(s) of Concern	VOCs, SVOCs	

**Oil Response Tracking**

Estimated volume	Initial amount released	NA
	Final amount collected	NA
CANAPS Info	FPN Ceiling Amount	NA
	FPN Number	NA
	Body of Water affected	NA

**Administrative and Logistical Factors (Place X where applicable)**

Precedent-Setting HQ Consultations (e.g., fracking, asbestos)	X	Community challenges or high involvement	Radiological
More than one PRP		Endangered Species Act / Essential Fish Habitat issues	Explosives
X AOC		Historic preservation issues	X Residential impacts
UAO		NPL site	Relocation
DOJ involved		Remote location	Drinking water impacted
Criminal Investigation Division involved		Extreme weather or abnormal field season	X Environmental justice
Tribal consultation or coordination or other issues		Congressional involvement	High media interest
Statutory Exemption for \$2 Million		Statutory Exemption for 1 Year	Active fire present
Hazmat Entry Conducted – Level A, B or C		Incident or Unified Command established	Actual air release (not threatened)

**Green Metrics**

Metric	Amount	Units
Diesel Fuel Used		gallons
Unleaded Fuel Used		gallons
Alternative/E-85 Fuel Used		gallons
Electricity from Coal		kW
Electricity from solar/wind		kW
Electricity from grid/mix		kW
Solid waste used	5300 yd dredged sediment, 34,139 tons GGBFS	
Solid waste recycled	71 tons steel	

**2.2 Planning Section**

**2.2.1 Anticipated Activities**

The following sections discuss planned response activities and next steps.

**2.2.1.1 Planned Response Activities**

No additional Time-Critical Removal actions are anticipated.

**2.2.1.2 Next Steps.**

- Continue work on RI/FS with USEPA
- Continue coordination with utilities and City of Waukegan
- Continue quarterly GW monitoring as required
- Submit validated GW and soil Data to USEPA

**2.2.2 Issues**

No issues reported

**2.3 Logistics Section**

Not applicable (NA)

**2.4 Finance Section**

No information available at this time.

**2.5 Other Command Staff****2.5.1 Safety Officer**

EPA has approved the HASP approved by North Shore Gas.

**2.5.2 Liaison Officer**

NA

**2.5.3 Information Officer**

NA

**3. Participating Entities****3.1 Unified Command**

NA

**3.2 Cooperating Agencies**

IEPA

City of Waukegan

**4. Personnel On Site**

No on-site personnel

**5. Definition of Terms**

No information available at this time.

**6. Additional sources of information****6.1 Internet location of additional information/report**

Additional information can be found at [www.epaosc.org/northplant](http://www.epaosc.org/northplant).

**6.2 Reporting Schedule**

No future reporting anticipated

**7. Situational Reference Materials**

NA