RCRA Corrective Action Process

RCRA Facility Assessment (RFA) - 1988

RCRA Facility Investigation (RFI) – 1990-2006

Interim Corrective Measures (ICM)

Corrective Measures Study (CMS) – 2009 - 2010?

Focused CMS – ATP Group

Corrective Measures Implementation (CMI)
Regulatory Site History

• 1980 - BSC Receives Interim Status
• 1988 - EPA Performs a RCRA Facility Assessment; 104 SWMUS/6 water courses
• 1990 - BSC & EPA sign Administrative Order to conduct RCRA Facility Investigation (RFI)
• 2005 – RFI is submitted (approved 06)
• 2005 – Phase I BPA accepted
• 2007 – Phase II & III accepted
• 2009 – CMS Order is signed
Corrective Measures Site (CMS)

- Consent Order signed on June 30, 2009

- Order requires ArcelorMittal Tecumseh Redevelopment Inc. to perform a Corrective Measures Study (CMS) for the CMS site (43 SWMUs & 4 water courses)

- Recommend final action for SWMUs; will be subject to public review and comment
CMS SWMUs Requiring Further Action
Consent Order continued

• Requires Tecumseh Redevelopment Inc. to provide $25,000,000 in financial assurance

• Implement a Long-Term Groundwater Monitoring Plan

• Implement a Soil-Fill Management Plan
Interim Corrective Measures

• To expedite cleanup, Interim Corrective Measures (ICMs) have been performed at:
  • Benzol Yard in coke oven area
  • Dredging of lower stretch of Smokes Creek
  • Tank removal in tank farm area
### Benzol ICM

**Figure 7-1**

**CUMULATIVE VOC MASS REMOVED TO DATE**

Former Benzol Plant Tank Storage Area (SWMU P-11)
Tecumseh Redevelopment, Inc.
Interim Corrective Measures

<table>
<thead>
<tr>
<th>Sampling Event</th>
<th>VOC Mass Removed (pounds)</th>
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<tbody>
<tr>
<td>Apr-05</td>
<td>189</td>
</tr>
<tr>
<td>May-05</td>
<td>398</td>
</tr>
<tr>
<td>Jun-05</td>
<td>727</td>
</tr>
<tr>
<td>Jul-05</td>
<td>971</td>
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<td>Aug-05</td>
<td>1,243</td>
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<tr>
<td>Oct-05</td>
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<td>Nov-05</td>
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<td>Jan-06</td>
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<td>Aug-06</td>
<td>13,598</td>
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<tr>
<td>Sep-06</td>
<td>14,193</td>
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</table>

**Notes:**
- APL Mass (pounds)
- LNAPL Mass (pounds)
Focused CMS for the Acid Tar Pits and Agitator Sludge Pit was performed to:

- Expedite cleanup in these areas to prevent recontamination of Smokes Creek sediments, and
- Develop a cleanup plan earlier than the site-wide CMS which will take several years to implement
Acid Tar Pits

Agitator Sludge Pit

Acid Tar Pits
Acid Tar Pit Group

- **SWMU S-11** ~ 1.4 acres & 50,000 cubic yards of waste material

- **SWMU S-22** ~ 1.4 acres consisting of three (3) surface impoundments & has ~50,000 cubic yards of waste material, including

- **SWMU S-24** ~ 1 acre & about 23,000 cubic yards of waste material
ATP SWMU Group Waste

- Spent pickle liquor (acids)
- Coal tar
- Coke oven condensate
- Waste lime
- Iron precipitator dust
- Tar like agitator sludge
ATP Group

- Waste material was dumped from about 1938 through the early 1970s
- The depth of waste ranges from 20 to 40 ft below ground surface (BGS)
- At a depth of 38-52 BGS, a dense and non-permeable layer of clay is present
Focused Corrective Measures Study for ATP Group

• Evaluate remedial alternatives

• Define corrective measure objectives

• Recommend a remedy for the Acid Tar Pit group that meets all corrective measures objectives
Corrective Measures Objectives

• Protect human health & the environment;
• Attain environmental cleanup standards;
• Control the source(s) of contamination to reduce or eliminate further releases of hazardous constituents to the environment;
• Comply with applicable waste management standards;
• Be consistent with current & anticipated future land use in that portion of the site.
Alternative Corrective Measures

1. No Action ($0)
2. Individual In-Place Containment Cells ($6.7 M)
3. Excavate & Dispose Agitator Sludge Pit (S-24) Off-Site & Contain In-Place ATP (S-11 & S-22) ($17 M)
4. Excavate Agitator Sludge Pit (S-24); Consolidate & Construct Combined In-Place ATP Containment Cell ($5.5 M)
5. Excavate S-11,S-22 & S-24; Consolidate in proposed On-Site Hazardous Waste CAMU ($14.5 M)
6. Excavate S-11, S-22, & S-24, Stabilize, & Dispose Off-Site ($52.7 M)
What Plan is proposed for the ATP & Agitator Sludge Pit?

- Alternative 4 was selected and includes:
- Excavate all waste in the agitator sludge pit and consolidate with the ATP
- After consolidation in the ATP, construct an impermeable slurry wall around the entire ATP area to the lake sediment layer
- Install a groundwater collection system within the containment area
- Install a final cover system
ATP SWMU Group (current)