



International Europe

Client

Diamo s.p., Straz pod Ralskem,
Czech Republic

Location

Ostrava, Czech Republic

Ostramo Refinery Remediation Project

Project Highlights

- Provided a feasibility study to remediate one of the Czech Republic's most visible and pressing environmental concerns
- Identified key concerns and issues of the City and Czech Government
- Clarified the contents and condition of the refinery lagoons
- Identified the favored thermal treatment solution, which includes installing a low temperature thermal desorption unit (LTTD)

Project Description



The Ostramo Refinery Lagoons are located in the City of Ostrava in the northeast section of the Czech Republic, within 10 miles of the Polish border. Closing this site was a major priority for the Ministry of the Environment. Through its knowledge and experience in closing similar sites, CH2M HILL helped the Czech government remediate one of the nation's most visible and pressing environmental problems.

Four lagoons contained over 100 years' worth of sludge from refinery operations. The sludges contain highly acid waste products and low levels of polychlorinated biphenyl (PCB). The lagoon breakdown follows:

- R0 lagoon, used between WWI and WWII, contains with demolition debris and contains about 100 thousand cubic meters of contaminated fill.
- R1 lagoon, built during WW II, contains virgin oil refining waste. Partly filled with demolition debris it has an area of 1.2 hectares (3 acres), and holds 75 thousand cubic meters of contaminated fill.
- R2 lagoon, built in early 1970's, contains 70 thousand cubic meters (18 million gallons) of liquid and semiliquid acidic waste spread over 1.5 hectares (3.75 acres).
- R3 lagoon, built in 1979, contains about 110 thousand cubic meters (29 million gallons) of liquid and semiliquid acidic waste spread over 2.3 hectares (about 6.0 acres).

CH2M HILL evaluated alternative technologies for remediation and closure of the ponds in a feasibility study financed by the United States Trade and Development Agency (USTDA). CH2M HILL completed the feasibility study within the US\$150 thousand budget between 2000 and 2001. The terms of reference for the FS were as follows:

- The Ostrava Municipality and the Czech Government preferred clean closure solutions and ruled out containment options.
- The Government preferred "removing of hazardous properties of the waste, lagoon berms, and lagoon bottoms."

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- The City of Ostrava required landscaping and forestation as part of the remediation.
 - All parties required measures to limit fugitive emissions.

The closure cost estimates based on the FS range from US\$50 to \$150 million for in situ solidification to onsite thermal treatment. The favored thermal treatment solution includes installing a low temperature thermal desorbition unit (LTTD), waste excavation and processing, backfilling, and site reclamation and landscaping.

The feasibility study developed by CH2M HILL is the key component of the bid package and is one of the baseline documents that the Czech health authorities will use to manage the remediation and site closure.