

Accomplishments to Date: Groundwater Treatment

The Environmental Management Program at Portsmouth began in 1989. The same year, the U.S. Department of Energy signed a Consent Decree with the State of Ohio and an Administrative Consent Order with U.S. EPA to address the environmental legacy from plant operations. Ohio EPA provides day-to-day oversight of the cleanup.



Chemical oxidant injection treatment of a groundwater plume with concentrations of TCE was effective in treating the upper soil layers. Additional cleanup actions will be taken to remove the source area of the groundwater plume.

Major cleanup actions are being performed under requirements of the Resource Conservation and Recovery Act (RCRA) and some provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

KEY FACTS

1,000 groundwater monitoring wells have been installed around the 3,777-acre federal plant site to sample and identify five separate groundwater areas, called plumes, primarily contaminated with TCE.

580 Million gallons of groundwater have been treated in four groundwater treatment facilities onsite since the early 1990s.

32,270 Pounds of TCE have been removed from the groundwater.

3,000 hybrid poplar trees were planted as part of an Ohio EPA-approved groundwater cleanup remedy (phytoremediation) on the southern portion of the plant.

All five groundwater plumes have ongoing groundwater treatments to contain and reduce contamination - either by pump and treatment through extraction wells and groundwater treatment facilities, oxidant treatment through mobile injection units or phytoremediation.

What is Trichloroethylene (TCE)?

TCE was used for many years at the plant, as well as other industrial sites across the country, as an industrial cleaning solvent to degrease heavy metal equipment.

Why do we need to clean up the TCE?

The use of TCE was discontinued in the 1980s due to EPA concerns over the carcinogenic potential of TCE. TCE contamination in groundwater has become an important environmental issue at industrial sites.

Why is TCE regulated?

The Maximum Contaminant Level for TCE in drinking water has been set at 5 parts per billion (ppb). Per the U.S. Environmental Protection Agency, based on present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water. The regulation became effective in 1989.



Pictured above is an aerial view of the X-627 Groundwater Treatment Facility. Below: Several of the 3,000 hybrid poplar trees planted as part of the phytoremediation project on the southern edge of the plant site.



EM Environmental Management

safety ♦ performance ♦ cleanup ♦ closure