

US EPA ARCHIVE DOCUMENT

# STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION III  
ID# 7853

## COOPER INDUSTRIES, INC.

Earlysville, VA  
(August 20, 1991)

**Facility/Unit Type:** Electronics distribution equipment manufacturing facility  
**Contaminants:** PCE, TCE, 1,2-DCE, chloroform  
**Media:** Ground water  
**Remedy:** Ground water pumping and treatment using activated sludge alternative water supply

### FACILITY DESCRIPTION

On March 9, 1990, EPA and Cooper Industries, Inc. (Cooper) entered into a Unilateral Administrative Order pursuant to Section 3008(h) of RCRA. The order required Cooper to complete an RFI to determine the nature and extent of contamination at Cooper Industries, Inc. facility in Earlysville, VA, and to conduct a CMS to evaluate cleanup alternatives.

In 1982, Cooper purchased the electrical distribution equipment manufacturing facility which has operated since 1962. The manufacturing process includes stamping, grinding, welding, painting and plating operations. These processes generated hazardous wastes such as wastewater sludges from electroplating and painting operations. In addition, Cooper used tetrachloroethylene (PCE) in its parts deburring machine and demister in its automatic press room.

Ground water generally occurs between 15 to 35 feet below grade. Shallow ground water flows southwest within the residuum-saprolite towards Camp Faith Creek and its tributaries. Deeper ground water flows in the bedrock and discharges to main drainages and the facility supply wells. Vertical hydraulic gradients are generally downward near the facility. In the vicinity of Camp Faith Lake, upward vertical gradients effectively limit the extent of ground water impact within the bedrock aquifer beneath the lake. Ground water flow from both directions is discharged into Camp Faith Creek which acts as a hydraulic boundary.

Cooper discovered volatile organic compounds (VOCs) in on-site water supply wells in September 1984 and began treating water from these wells with granular activated carbon (GAC) units on September 13, 1984.

Cooper has conducted extensive stabilization activities on land based solid waste management units (SWMUs). Cooper has closed seventeen SWMUs including three concrete tanks, two sludge pits, the final pond, the east drain pit, and ten sludge trenches.

Cooper is currently treating ground water from the class II B aquifer beneath the facility. Thirty-two monitoring wells at EPA-approved locations have been sampled over the past 3 years. Contaminants have not migrated outside of the facility boundaries. Investigations have not revealed significant soil contamination and no contaminants have been detected in surface water, sediments, and air.

The climate of the area includes warm, humid summers and mild winters. The average summer temperature is 75°F; average winter temperature is 37°F. Total annual precipitation is approximately 46 inches. The facility is located within the rural community of Earlysville, 7 miles north of Charlottesville, VA. Residents in the vicinity of the Cooper plant get water from domestic wells. The Graemont subdivision is across Camp Faith Creek from the facility; it is protected from contamination by the hydraulic boundary of the creek.

### EXPOSURE PATHWAYS

Risk assessments are based on worst case exposure scenarios. If the GAC filtration system that treats the facility water supply wells failed and was not repaired, employees could be exposed to the contaminants through ingestion, inhalation, and direct dermal contact of water. Currently, ground-water contamination poses no threat to employees at the facility and the residents of the Graemont subdivision.

**CONTAMINATION DETECTED AND CLEANUP GOALS**

Media	Estimated Volume	Contaminant	Maximum Concentration	Action Level	Cleanup Goal	Point of Compliance
ground water		TCE PCE 1,2-DCE chloroform 1,1,1-TCA*			5 ** 5*** 58*** 100 ** 200 **	Onsite points: Well 23d Well WS#4 Well CMA#5

\* Contaminant has been detected off-site, but has not been used at facility.

\*\* Cleanup goal is based on EPA Maximum Contaminant Levels for drinking water that are established by the Safe Drinking Water Act.

\*\*\* Cleanup goal is based on the 10-6 cancer risk factor.

**SELECTED REMEDY**

The selected remedy includes continued pumping and treatment of ground water with inclusion of an additional recovery well in the center of the on-site plume. An alternative on-site potable water supply system will be provided and the GAC system currently used to treat the potable water supply will be abandoned. Potable water will be supplied by increasing the pumping rate on a contaminant-free water supply well. Recovered ground water will continue to be treated at the facility's biologically activated sludge wastewater treatment system.

The selected remedy uses proven technologies, protects human health and the environment, does not pose an undue financial burden on Cooper, and allows continuous plant operation. Total estimated capital costs and annual O&M for the remedy are \$1,215,000 and \$80,000, respectively. EPA believes that this corrective measure can effectively remediate the entire on-site ground-water contaminant plume.

**INNOVATIVE TECHNOLOGIES CONSIDERED**

Biologically activated sludge treatment of wastewater.

**PUBLIC PARTICIPATION**

A public meeting was held on September 13, 1991, which 25 people attended. EPA established a public comment period from August 14, 1991 to September 13, 1991. Citizens expressed concern about potential migration of contamination or other ground-water impacts to the Graemont subdivision, the effect of the treatment plant effluent on Camp Faith Creek, the duration of the cleanup, monitoring progress, potential future contamination, and testing of private wells. Participants objected to the timing of the public meeting which was held on the last day of public comment period.

**NEXT STEPS**

The selected remedy is expected to effectively remediate the on-site ground-water plume. Ground water extraction is expected to continue for 10-15 years with continued monitoring for a minimum of 5 years after cessation of the extraction program. Due to the high concentration of VOCs in the ground water, a chemical equilibrium or steady-state concentration of these constituents may be reached after lengthy and extensive treatment. If the steady-state concentration exceeds the required cleanup standard, EPA or Cooper, by petition, may modify the selected Corrective Measure to require the implementation of alternative technologies.

**KEY WORDS**

ground water; ingestion; PCE, TCE, DCE; alternative water supply, biological treatment, filtration

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