



Kurt Manufacturing Superfund Site

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This Minnesota Pollution Control Agency (MPCA) fact sheet about the Kurt Manufacturing Superfund Site, located in the City of Fridley, Anoka County, Minnesota will:

- summarize site historical and investigation activities conducted during the remedial investigation,
- discuss the risks to human health and the environment that may be present at the site, and
- indicate the current status of the site.

Where is the site?

Kurt Manufacturing Superfund Site is located at the intersection of 53rd Street Northeast and Main Street in Fridley, approximately 0.3 mile south of Interstate Highway 694 and 0.7 mile east of the Mississippi River. The site is bounded on the west by Burlington Northern Railroad property, on the north and south by industrial properties, and on the east (across Main Street) by residential properties.

What is the site's background?

Kurt Manufacturing has operated a precision-machining and metal-fabrication facility at this location since 1960. As part of the facility's operations, chlorinated solvents, also known as volatile organic compounds (VOCs) were used. The primary VOC used at Kurt Manufacturing was tetrachloroethylene (PCE).

Until 1982, metal cuttings contaminated with cutting oils and solvents, including PCE, were placed in storage bins located outside the plant's loading dock area for pickup and recycling. A sump was located at the base of the metal cuttings storage bins.

What's the cleanup history of this Superfund site?

In 1982, the MPCA performed a groundwater assessment at Kurt Manufacturing as part of its investigation of the Naval Industrial Reserve Ordnance Plant (NIROP), located 0.25 mile southwest of, and across the railroad from, Kurt Manufacturing. Water samples from the shallow production well at the Kurt Manufacturing site found 2,400 micrograms per liter (2,400 µg/L) of PCE, which is equivalent to 2,400 parts per billion (2,400 ppb).

In April 1982, the MPCA issued a Request for Response Action (RFRA) to Kurt Manufacturing. The RFRA required the company to perform interim remedial measures, conduct a remedial investigation and feasibility study (RI/FS), install a groundwater-monitoring network, and submit a remedial action plan.

The March 1984 remedial report indicated that the sump was the source of the PCE in groundwater. The sump and contaminated soils around the sump were removed and the shallow production well was abandoned (sealed).

In August 1984, based on the RI/FS and the remedial action plan, the MPCA and Kurt Manufacturing entered into a Response Order by Consent. The site was listed on both the federal Superfund list (i.e., the National Priorities List, or NPL) and Minnesota's Superfund list (i.e., the Permanent List of Priorities, or PLP) in 1984.

In May 1986, the MPCA issued Minnesota Enforcement Decision Document (MEDD). The MEDD is similar to a Record of Decision issued by the U.S. Environmental Protection Agency (EPA), in that it describes the selected response actions at the site. The response actions at Kurt Manufacturing were:

1. Pump and treat contaminated groundwater to maintain groundwater gradient control to prevent contaminated groundwater from migrating.
2. Cap contaminated soils to reduce infiltration.
3. Abandon wells with contaminated water to reduce migration of contaminated groundwater.
4. Conduct long-term monitoring to assess the performance of the response actions between aquifers.

In 1986, Kurt Manufacturing installed the groundwater pump-and-treat system. The system utilized two extraction wells (wells A and B) and the extracted groundwater passed through an air stripper to remove VOCs before it was discharged to the sanitary sewer.

The first Five-Year Review of the Kurt Manufacturing site was completed in 1994.

In 1994, extraction well C was installed and well A was abandoned due to poor recovery. Currently, well C, located along the north wall of the building, is the only operating extraction well. Pumping at well B was discontinued due to poor recovery and the well is currently utilized as a monitoring well. Extracted groundwater is no longer actively treated by the air stripper due to a decrease in VOC concentrations since initial system startup. The extracted water is discharged to the sanitary sewer under a permit.

In 1998 Kurt Manufacturing conducted a supplemental investigation to define the potential source areas for PCE and evaluate contaminant migration pathways. The investigation included a survey of soil gas under the building. The MPCA recommended that a soil vapor extraction (SVE) system be installed to reduce contaminant mass.

The second Five-Year Review was conducted in 1999.

The third Five-Year Review was conducted in 2005. The MPCA recommended the following:

1. A Restrictive Covenant limiting groundwater use from the wells and preventing access to soil in the sump area.
2. Continue operation of the groundwater extraction system.
3. Determine the potential for worker exposure from possible off-gassing of VOCs from extracted groundwater.

In August 2007, the MPCA delisted Kurt Manufacturing from the state Superfund list.

The fourth Five-Year Review was conducted in 2010. The review recommended that Kurt Manufacturing:

1. Develop a Close Out Plan for the site.
2. Evaluate the capture zone of the extraction well.
3. Determine whether there is worker exposure due to off gassing of VOCs from the use of water from extraction wells in the building.
4. Develop a program to evaluate the effectiveness and/or status of the requirements of the Restrictive Covenant.
5. Continue the groundwater extraction system.

In 2010, based on past investigations and continued high levels of PCE found in several monitoring wells, Kurt Manufacturing conducted a supplemental source area investigation, and 195 tons of VOC-contaminated soil were removed from the former sump area. Due to the concerns for the structural integrity of the building, not all contaminated soil could be removed.

To address the VOC-contaminated soil that remain near and under the building, Kurt Manufacturing installed a soil vapor extraction (SVE) system with a single extraction port. During the initial startup period, system emissions were evaluated to determine whether they conformed to air-quality standards. The MPCA determined that they met the standards during the startup period. The MPCA's Air Quality Program has approved the continued operation of the SVE system

Modifications of the system will be recommended/required if necessary to improve the removal of VOC vapors at the site.

Summary of site risks:

Contaminants of concern are primarily PCE and its degradation products (TCE, 1,2-dichloroethylene and vinyl chloride) in soil and groundwater. Trichloroethane (TCA) was also found at lower levels than the PCE.

Potential risk receptors include:

1. **Fridley municipal well #13**, located 0.6 mile downgradient and west/southwest of the site. Currently, this well is used only for backup during periods of peak demand. No PCE has been detected in this well; however, TCE was detected in it at 1.0 µg/L in 1995 and there have been no detections of any VOCs since 1997.
2. **Mississippi River** is located 0.7 mile downgradient and west of the site. There is no evidence to indicate that the Kurt Manufacturing plume is reaching the river.
3. **Vapor intrusion in nearby residences:** The residences are located upgradient and east of the site. VOCs have never been detected in the monitoring wells closest to the residences (MW-1 and MW-4) since these wells were installed in 1985.

Current site status

Long-term groundwater monitoring program for the site utilizes 18 wells to assess site conditions and remedial progress. Twice yearly sampling is conducted at the site-associated monitoring wells. Groundwater elevations are also measured during each sampling to identify groundwater flow direction and the capture of the extraction system. Kurt Manufacturing submits an annual monitoring report to the MPCA, which is reviewed and commented on by staff.

VOC concentrations in most of the monitoring wells and the extraction well have been declining since 1983. However, in recent years PCE concentrations in the range of 1,000 µg/L have been detected in one monitoring well (MW-6) and in the extraction well. The bedrock well on the southwest corner of the property continues to have PCE concentrations in the 200-300 µg/L range.

In December 2011, the EPA assumed the role of lead regulatory agency for the site, with the MPCA providing assistance and support.

Where can I get more information?

For more information about the Kurt Manufacturing Superfund Site or its remediation, contact:

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To view the documents in the MPCA's administrative record that contain more details on the cleanup activities at this site, call the MPCA at 651-296-6300 or 800-657-3864.