EPA Proposes Interim Actions for Vapor Intrusion

Keystone Corridor Ground Water Contamination Site

Indianapolis, Indiana March 2018

You are invited

EPA invites you to comment on the proposed cleanup plan for Operable Unit 3 of the Keystone Corridor Ground Water Contamination site. The Agency will only select a final cleanup plan after reviewing comments received during the public comment period,[1] which runs from March 7 to April 5, 2018.

There are several ways to offer comments:

- Attend the public meeting on March 20, at 6 p.m., at Marion County Public Health Dept., 4012 N. Rural St., and submit a written or oral statement.
- Fill out and mail the enclosed comment form by the deadline.
- Email comments to EPA Community Involvement Coordinator Ruth Muhtsun at muhtsun.ruth@epa.gov.
- Fax comments to 312-385-5428.

Read the proposed plan

More details are available at the information repository (*see Page 5*) and on our website, www.epa.gov/superfund/keystone-corridor-groundwater.

Contact EPA

If you have questions about the Keystone Corridor site, contact:

Ruth Muhtsun
Community Involvement Coordinator
312-886-6595
muhtsun.ruth@epa.gov

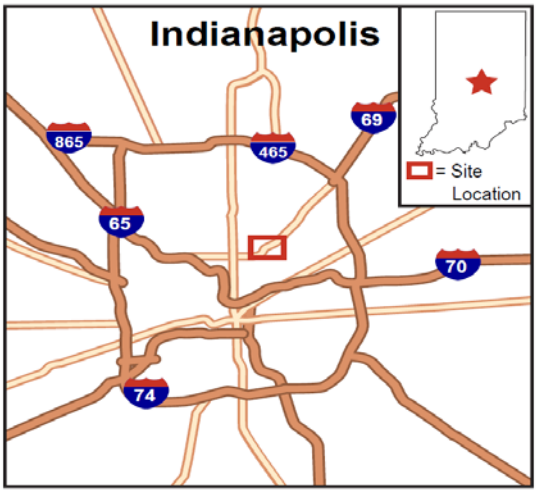
Leslie Blake
Remedial Project Manager
312-353-7921
Blake.leslie@epa.gov

The U.S. Environmental Protection Agency, working with the Indiana Department of Environmental Management, or IDEM, is proposing an interim cleanup plan for addressing vapor intrusion at the Keystone Corridor Ground Water Contamination Superfund site (*see map below and on Page 5*). EPA's cleanup at the site is separated into three operable units, or OUs, as follows:

- OU-1: Source areas contributing to soil vapors and underlying ground water contamination.
- OU-2: Site-wide groundwater contamination plume.
- OU-3: Site-wide vapor intrusion.

EPA will accept comments on the proposed cleanup plan from March 7 through April 5, 2018 (*see box, left*). This fact sheet provides a summary of the plan for OU-3 and explains EPA's recommendations. The proposed *interim action* is limited in scope to address a specific environmental issue at the site: gases seeping into residential and industrial/commercial buildings that may potentially affect human health. EPA continues to work on the entire site's long-term cleanup.

One of the chemicals of concern at the site is trichloroethene, or TCE. TCE was a commonly used industrial solvent. It dissolves easily in water but can stay in groundwater for a long time. TCE can evaporate, and those TCE vapors can work their way from the groundwater into soil and up to the surface, and then possibly into indoor air of nearby homes and businesses. This is known as vapor intrusion and is the portion of the site being addressed by this proposed interim action. EPA is seeking public comment on the recommended cleanup, which consists of installation of vapor mitigation systems at affected industrial/commercial and/or residential buildings.



Map showing site location.

[1] *Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, known as the Superfund law) requires publication of a notice and a proposed plan for the site remediation. The proposed plan must also be made available to the public for comment. This fact sheet summarizes information from the remedial investigation and documents in the administrative record for the Keystone Corridor Ground Water Contamination site. They are available for review at the Indianapolis Public Library, College Avenue Branch, 4810 N. College Ave., Indianapolis.*

Proposed cleanup option

EPA's proposed cleanup plan would deal with vapor intrusion mitigation at eight known industrial/commercial buildings where evidence indicates that vapor intrusion is occurring and where concentrations have the potential to impact human health. EPA's plan would also address any residential or industrial/commercial buildings found in the future to have site-related vapor intrusion problems.

Vapor Intrusion Mitigation

Based on sampling of shallow groundwater, soil vapor, sub-slab soil vapor, and indoor air, as well as information collected on background sources at the site to-date, EPA has determined that eight industrial/commercial multi-unit buildings currently exceed the risk thresholds and require vapor intrusion relief. Over time, the number of buildings requiring mitigation may change as EPA collects additional data. As new information comes in, EPA would apply the same approach to evaluate whether action steps may be required. The Agency estimates up to 88 additional buildings (44 residential and 44 industrial/commercial) that have not yet been tested are located within a potential vapor intrusion area of concern. The cost of EPA's proposed cleanup plan ranges from $1.4 million to $7.2 million, depending on the number of properties that are found to need vapor intrusion mitigation systems.

Subject to the construction and layout of individual buildings, EPA may use a variety of vapor mitigation techniques, which would be determined during the cleanup design. Known techniques that may be used include:

- Sub-slab depressurization systems. These systems are similar to those used for radon mitigation. Vapors are collected and diverted away from entering the building via piping alongside an exterior wall and an electrical fan. The piping resembles a rain pipe or spout.
- Passive sub-slab venting. This venting is also similar to radon mitigation but does not include an electric fan.
- Crawl space depressurization. This technique is used when no basement slab exists.

The goal of vapor intrusion mitigation is to prevent site-related contaminants from moving – in the form of gases – from below ground into indoor air at levels that represent a possible threat to human health.

At no cost to property owners, EPA would pay for and arrange for the installation of the vapor intrusion mitigation systems. However, EPA expects property owners to pay for the electricity necessary to operate the vapor intrusion mitigation system. Operating costs are similar to that of radon systems. EPA has estimated that electricity costs for operation of the systems are approximately $5 to $15 per month ($60 to $180 per year), depending on the size of the vapor intrusion mitigation system.

EPA's nine criteria

Before EPA can select a remedy, options are evaluated using nine criteria (*see box, below*) to make sure that EPA's selected cleanup plan is protective of human health and the environment.

At this point, EPA has only fully evaluated the first seven of the nine criteria. EPA will make a final decision only after considering input from state officials and the community regarding the proposed plan. Submit your comments about EPA's proposed plan by April 5, 2018.

Explanation of Evaluation Criteria

1. Overall protection of human health and the environment. Examines whether an option protects both human health and the environment. This standard can be met by reducing or removing pollution or by reducing exposure to it.

2. Compliance with applicable or relevant and appropriate requirements. Ensures options comply with federal and state laws.

3. Long-term effectiveness and permanence. Evaluates how well an option will work over the long term, including how safely remaining contamination can be managed.

4. Reduction of toxicity, mobility or volume through treatment. Determines how well the option reduces the toxicity, movement and amount of pollution.

5. Short-term effectiveness. Compares how quickly an option can help the situation and how much risk exists while the option is under construction.

6. Implementability. Evaluates how feasible the option is and whether materials and services are available in the area.

7. Cost. Includes not only buildings, equipment, materials and labor but also the cost of maintaining the option for the life of the cleanup.

8. State acceptance. Determines whether the state environmental agency accepts the option. EPA evaluates this criterion after receiving public comments.

9. Community acceptance. Considers the opinions of the public about the proposed cleanup plan. EPA evaluates this criterion after a public hearing and comment period.

Site background

The site consists of a contaminated groundwater plume underlying both active and inactive industrial, commercial, and residential properties. The center of the site is designated as the intersection of Keystone Avenue and East Fall Creek Parkway North Drive. The approximate boundaries of the site are 45th Street on the north, Eastern Avenue on the east, 38th Street on the south, and Norwaldo Avenue on the west. The municipal Fall Creek Station well field, as well as multiple, independent potential sources of groundwater contamination, some of which are commingled, are located within the site.

Site-related contaminants within the plume include pollutants that evaporate into the air, called volatile organic compounds, or VOCs, including TCE, tetrachloroethene, or PCE, and other chemicals. Vapor intrusion can occur when contaminants evaporate from contaminated groundwater, move upward through the subsurface, and enter residences and other buildings at concentrations that constitute a threat to human health.

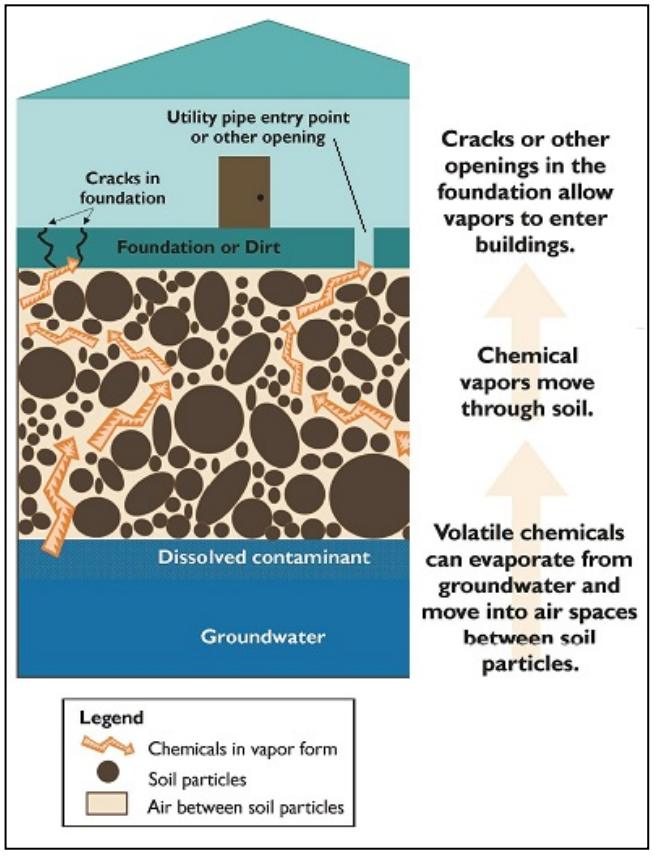


Figure showing how harmful vapors can enter buildings.

Investigations

IDEM began investigating soil and groundwater contamination along Keystone Avenue in 1989 when elevated levels of VOCs were detected in two soil borings collected near an underground tank on the former Tuchman Cleaners property located at 4401 North Keystone Avenue. The Tuchman Cleaners facility operated from 1952 through 2008 and used PCE, generated PCE waste, and had several PCE releases on the property. Due to elevated levels of contaminants found on the property, a treatment system to remove vapors from soil and a groundwater pump and treat system was installed in 1990; and in 2003 a system was installed to remove PCE that accumulated beneath the property.

In 2007, a contractor for the former property owner conducted a site investigation on the former Vantage Point Cleaners property at 4405 Allisonville Road. The investigation detected elevated levels of PCE on the property. The former Vantage Point Cleaners facility operated as a dry cleaner from December 1986 through February 1997, using and disposing of PCE waste.

In July 2008, National Drycleaners Inc., the parent company of Tuchman Cleaners, declared bankruptcy. After that date, all cleanup efforts at the Tuchman Cleaners property stopped.

In October 2009, IDEM performed a site investigation for the Keystone Corridor site, which included sampling at the former Tuchman Cleaners and adjacent Thomas Caterers of Distinction properties. Elevated levels of PCE were detected in the groundwater and soil samples collected from both the former Tuchman Cleaners and Thomas Caterers properties. Thomas Caterers, located northwest of the former Tuchman Cleaners, housed a former dry cleaner and rug cleaner operation before 1970.

In January 2010, a contractor for the property owner conducted a site investigation on the former Thomas Caterers property, which indicated elevated levels of PCE in the groundwater.

In November 2011, IDEM conducted an expanded site inspection across the Keystone Corridor. Elevated levels of PCE and TCE were detected in soil and groundwater samples, and vinyl chloride was detected in one municipal drinking water well at the Fall Creek Station, which eventually required that the well be taken out of service.

Because of these investigations, IDEM held numerous discussions with potentially responsible parties, or PRPs, including Tuchman Cleaners, Vantage Point Cleaners, Thomas Caterers of Distinction, and Purtee Plating, regarding soils and groundwater contaminated with TCE and PCE. After the Tuchman Cleaners' parent company declared bankruptcy and the Fall Creek municipal drinking water well was found to be impacted, IDEM requested EPA's assistance with a removal action at Tuchman Cleaners.

Vapor intrusion investigation history

From September 2012 to December 2014, EPA conducted a time-critical removal action at the former Tuchman Cleaners property. EPA excavated over 2,550 tons of contaminated soil and two underground storage tanks from the property. EPA also sampled soil vapor in the residential neighborhood to the east and conducted testing at more than 40 residential properties to determine if vapor intrusion was occurring.

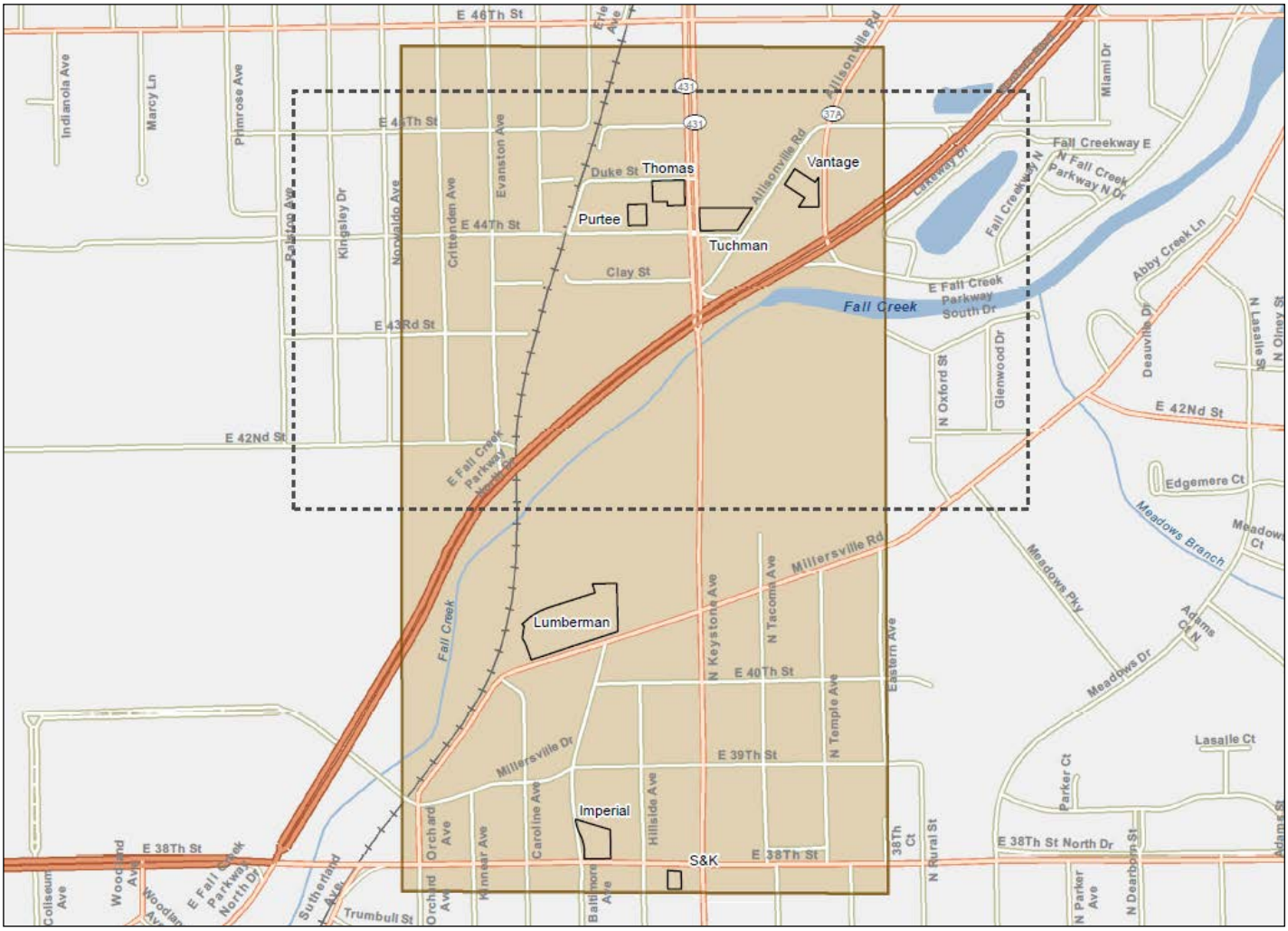
As a result, during the removal action EPA installed active vapor mitigation systems at 22 residential properties where vapor intrusion was found to be occurring. EPA recognized that VOCs would continue to threaten the Fall Creek Station municipal well field and that a long-term response action was needed.

In December 2013, EPA added the site to the National Priorities List, or NPL. Listing on the NPL allows federal Superfund money for investigation and remedial action cleanup work.

From December 2015 to March 2017, as part of the site investigations, EPA collected groundwater, soil vapor, sub-slab soil vapor, and indoor air (including crawl space) samples to characterize site conditions and determine the nature and extent of contamination. The investigation report has not yet been completed, but analytical results demonstrate that several properties likely have a current complete vapor intrusion pathway or a potential for a future complete vapor intrusion pathway due to impacts from PCE and TCE in groundwater.

After the vapor intrusion sampling in March 2017, EPA identified two residential buildings that met the criteria for a time-critical removal action. In May 2017, EPA initiated a second removal action that included the installation of active vapor mitigation systems at the two residential buildings.

Photograph showing a vapor mitigation system installed on the outside of a building.



Shaded area in map shows the site area. Dashed line shows approximate boundary of OU3.

Next steps

Before making a final decision, EPA will review comments received during the public comment period. Based on the comments, EPA, working with IDEM, may modify its recommended alternative, so your opinion is important. EPA encourages you to review and comment on this proposed cleanup plan. More detailed information on the cleanup options that were evaluated is available in the official documents on file at the information repositories or EPA's website (*see box, right*).

EPA will respond to the comments in a document called a Responsiveness Summary. This will be part of another document called the interim action record of decision that describes the final OU-3 cleanup plan. The Agency will announce the selected cleanup plan in a local newspaper, place a copy in the information repositories and post the plan on the web.

For more information

You may review site-related documents at:

Indianapolis Public Library
College Avenue Branch
4180 N. College Ave.
Indianapolis, IN

On the web: www.epa.gov/superfund/keystone-corridor-groundwater.

An Administrative Record, which contains detailed information that will be used in the selection of the cleanup plan, is also located at the Indianapolis Public Library.

EPA Proposes Cleanup Plan, Seeks Public Comments

Public meeting
Tuesday, March 20
6 p.m.

Marion County Public Health Dept.
4012 N. Rural St.

For more information, visit: www.epa.gov/superfund/keystone-corridor-groundwater

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KEYSTONE CORRIDOR GROUND WATER CONTAMINATION SITE:
EPA proposes interim actions for vapor intrusion

United States
Environmental Protection
Agency

Region 5
Superfund Division (SI-6J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Use This Space to Write Your Comments

EPA is interested in your comments on the proposed cleanup plan for OU-3 of the Keystone Corridor Ground Water Contamination site. You may use the space below to write your comments, then detach this page, fold, stamp and mail. Comments must be postmarked by April 5, 2018. If you have any questions, please contact Ruth Muhtsun directly at 312-886-6595, or toll free at 800-621-8431, Ext. 66595, weekdays 9:30 a.m. – 5:30 p.m. Comments may also be faxed to 312-353-5428 or emailed to muhtsun.ruth@epa.gov by April 5, 2018.

Name _____

Affiliation _____

Address _____

City _____ State _____ ZIP _____

Keystone Corridor Ground Water Contamination Site
Public Comment Sheet

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Place
First
Class
Postage
Here

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Chicago, Il 60604-3590