



Operable Unit 1 and Parcel 9 for the Proposed Plan To Amend the OU-1 Record of Decision

A CERCLA/RCRA site

Opening of the Public Comment Period for the Amended Remedy for Addressing the Residual Volatile Organic Compound Contamination Remaining in the Operable Unit 1 Area of Parcel 9.

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) invites public comments on the *Proposed Plan for Amendment of the 1995 Record of Decision (ROD)* for Operable Unit 1 (OU-1). The plan describes the preferred alternatives for addressing residual volatile organic compound (VOC) contamination remaining in the OU-1 area in Parcel 9 at the Mound, Ohio, Site, in Miamisburg, Ohio. The proposed amendments would change the original 1995 remedy by:

- Modifying the groundwater remedy in OU-1 from pump-and-treat (P&T) to enhanced attenuation.
- Adding vapor intrusion (VI) mitigation requirements for future buildings in OU-1/Parcel 9 area.

Why is LM Proposing To Amend the 1995 OU-1 ROD

DOE has conducted multiple landfill excavations since 1995 and removed the primary sources of VOCs. Results from soil sampling later revealed residual VOCs in a few locations in the landfill footprint that were contaminating on-site groundwater. Also, groundwater studies showed the P&T remedy had become less effective at reducing the VOC impacts in those areas.

LM and regulators considered multiple ways to address this issue, including treating a few “hot spots” to reduce VOC concentrations in portions of the saturated soil or groundwater and creating an environment more conducive to the natural breakdown of VOCs.

LM also evaluated historical data to determine if VI could be an issue in future buildings in the OU-1 area. Currently there are no buildings in the OU-1 area. LM determined that VOCs

are present at levels that can be a potential risk if vapors from these chemicals were able to enter building(s) in the former OU-1 landfill area.

Background

The Mound site began operations in 1948 to develop and produce polonium-beryllium initiators, which were used in early atomic weapon. Site operations later expanded to research, development, and production supporting energy development and space exploration. Operations ceased in 2003. At its peak, the Mound facility had 116 buildings and employed more than 2,500 skilled workers.

After discovering VOCs in on-site water wells and groundwater, the U.S. Environmental Protection Agency (EPA) placed the site on the National Priorities List.

Regulators determined that an on-site landfill (now referred to as OU-1 area) built near the Great Miami Buried Valley Aquifer (BVA) was the source of VOC contamination. BVA is a sole-source aquifer that provides drinking water for Miami Valley residents.

In 1995, DOE approved a ROD that recommended collecting and treating contaminated groundwater to prevent VOC contamination of OU-1 groundwater and wells. A P&T system, consisting of extraction wells and a water-treatment system (air stripper), began operation in 1997.

Originally, during the development of the ROD, regulators didn't consider excavating and treating residually contaminated water and soil in the OU-1 area to be a practical remedy. Later, regulators determined that OU-1 soils would not pose a risk as long as cleanup operations left fencing and signage in place. The 1995 OU-1 ROD remedy included institutional controls (ICs) to limit site access and minimize contact with soils. The ROD also required surface water controls to reduce water infiltrating the landfill.

In addition to installing a P&T system, site cleanup efforts in the OU-1 area included:

- Removing VOC-contaminated soil encountered during construction activities in 1996.
- Reducing VOCs in the wastes and soil overlying the groundwater by using soil vapor extraction from 1996 until 2003.
- Removing radiologically contaminated soil from the southwestern corner of the former landfill in 2005.
- Removing the landfill by excavating the bulk of the contaminated soil and waste materials from 2007 through 2010.
- Decreasing the VOCs in groundwater while performing a multiyear field demonstration to determine if using attenuation methods could clean up VOCs throughout the plume.

In 2011, DOE approved an amendment to the 1995 ROD. This ROD amendment addressed conditions in OU-1 after excavating the landfill but did not change the groundwater remedy. The ROD implemented ICs, which controlled land and groundwater use, that were consistent with other ICs implemented for other areas of the Mound site. This amendment:

- Included and documented the geographic expansion of the land area known as Parcel 9.
- Identified sitewide ICs to be implemented for the OU-1/ Parcel 9 area in the Parcel 9 Environmental Covenant that:
 - Prohibit soil removal within the original 306-acre Mound site boundaries.
 - Prohibit extraction, consumption, and use of groundwater underlying the premises.
 - Limit land use to industrial/commercial only.
 - Allow site access for federal and state agencies for sampling and monitoring.

Proposed Plan for Residual VOCs Remaining in OU-1/Parcel 9

This proposed plan identifies and provides information on the preferred remedial action alternatives for addressing residual VOCs in groundwater and subsurface vapors and explains the basis for selecting the preferred alternatives. The proposed plan also provides basic information that can be found in more detail in the OU-1 focused feasibility study which evaluated alternatives capable of addressing VOCs in groundwater in OU-1 and several alternatives to mitigate potential VI that might affect future occupants. The feasibility study, proposed plan, and other documents prepared to support the upcoming ROD Amendment are available in the Administrative Record

available at <https://lmpublicsearch.lm.doe.gov/SitePages/default.aspx?sitename=Mound>.

| Alternatives for Groundwater (GW) | | Alternatives for Vapor Intrusion (VI) | |
|---|--|--|---|
| Replace the current P&T system with a cost-effective and permanent solution for VOCs in groundwater | | Provide a cost-effective and permanent solution for the potential risk to future building occupants from chemicals in the subsurface | |
| GW-1 | No further action with ICs | VI-1 | No further action |
| GW-2 | P&T with monitoring and ICs | VI-2 | No-build restrictions through ICs |
| GW-3 | Monitored natural attenuation with ICs | VI-3 | Preemptive measures or actions to mitigate VI exposure with ICs |
| GW-4 | Enhanced attenuation with monitoring and ICs | | |

| Preferred Remedy |
|--|
| <p>The preferred alternatives to address residual VOC contamination in OU-1 are:</p> <ul style="list-style-type: none">• Alternative GW-4: Enhanced attenuation with monitoring and ICs.• Alternative VI-3: Preemptive measures or actions to mitigate VI exposure with ICs. <p>Alternative GW-4 will meet the goals and clean up groundwater throughout the plume in a cost-effective, timely manner. This alternative complies with applicable federal and state requirements, addresses all the VOC-impacted groundwater originating from the former OU-1 landfill within Parcel 9, and can be performed cost effectively. Alternative GW-4 also acknowledges some uncertainties associated with long-term treatment of VOCs and allows DOE to add additional microbes or amendments if it is determined necessary based on monitoring results.</p> <p>Alternative VI-3 will achieve the goal by eliminating the VI pathway and preventing exposure to future building occupants. Alternative VI-3 will reduce the ability of vapors to move into buildings by requiring all new buildings to include engineering controls that eliminate the VI pathway or provide data to show that there is no VI pathway. There are currently no federal or state regulations for VI; however, DOE used concepts from EPA and Ohio EPA guidance documents when developing this preferred remedy.</p> |

Next Steps

LM encourages stakeholders and the public to read and review the proposed plan and provide comments.

Selection of the final remedy to address residual VOC contamination remaining in OU-1 and Parcel 9 will only be made after accepting, reviewing, and considering public comments. Depending on the comments received, the selected final remedies could be different from the preferred alternatives.

How to Obtain the Proposed Plan

The *Proposed Plan for Amendment of Operable Unit 1 Record of Decision Mound, Ohio, Site November 2022* and other documents relating to the OU-1 ROD amendment can be viewed online at www.energy.gov/lm/mound-ohio-site-record-decision-rod-amendment-and-public-meeting-information.

How to Provide Your Input

Public input on the proposed plan is an important part of the decision-making process.

LM encourages stakeholders and the public to review and comment on the proposed plan during the 30-day public comment period, from Nov. 23, 2022, through Dec. 23, 2022. Comments may be submitted by mail, email, fax, or in person at the public meeting. Comments must be received or postmarked no later than Dec. 23, 2022.

Send your comments to:

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Public Meeting

A public meeting to discuss the proposed plan will take place Wednesday, Dec. 7, 2022, at the Mound Cold War Discovery Center, 1075 Mound Road, Miamisburg, Ohio 45324, beginning at 5:30 p.m. The meeting will also be available to view online. Please see www.energy.gov/lm/mound-ohio-site-record-decision-rod-amendment-and-public-meeting-information for further information.

Comments on the proposed plan will also be accepted at this meeting.



CONTACT INFORMATION

**IN CASE OF AN EMERGENCY AT THE SITE,
CONTACT 911**

**LM TOLL-FREE EMERGENCY HOTLINE:
(877) 695-5322**

Site-specific documents related to the **Mound, Ohio, Site** are available on the LM website at www.energy.gov/lm/mound-ohio-site

For more information about LM activities at the **Mound, Ohio, Site**, contact:

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