



Share your opinions

EPA invites your comments on this proposed cleanup plan from **June 3 through July 2, 2021**. There are three ways for you to submit comments:

- Fill out and return the enclosed comment sheet.
- Orally at the virtual public meeting.
- On the internet at www.epa.gov/superfund/reilly-tar-chemical

Virtual public meeting/hearing

June 15, 2021, Time 6 – 8 p.m.

After a brief presentation, EPA will hold a formal public hearing to accept comments on the proposed change to the cleanup plan. A court reporter will record the meeting and all comments.

Contact information

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You may call EPA toll-free at 800-621-8431, 9 a.m. – 4:30 p.m., weekdays

Information repository

Site documents can be viewed at the Indianapolis Public Library
40 E. St. Clair St.
Indianapolis

Documents are also available online at www.epa.gov/superfund/reilly-tar-chemical

EPA Proposes a Change to the Cleanup Plan for Groundwater

Reilly Tar & Chemical Superfund Site
Indianapolis, Indiana

May 2021

The U.S. Environmental Protection Agency is proposing a change to the cleanup plan¹ at the Reilly Tar & Chemical Superfund site in Indianapolis. On June 30, 1992, EPA signed a “record of decision,” or ROD, to address groundwater contaminated with benzene, pyridines and ammonia from operations at the site. EPA, in consultation with the Indiana Department of Environmental Management, is proposing this change to the current cleanup plan for the groundwater at Operable Unit 1, or OU1 (*see Figure 1 on Page 2*). EPA often divides the cleanup of sites into OUs to make the cleanup more efficient. OUs may be divided by geographic area, specific contaminants, or medium (e.g., groundwater, soil). The site has been divided into five OUs and each has been addressed. OU1 (on-site) and OU5 (off-site) address groundwater. OU2, OU3 and OU4 involve cleanup of on-site sources of contamination and have been completed with long-term inspections and maintenance ongoing.

The 1992 cleanup plan selected an interim groundwater remedy for OU1 for containment at the site boundary through groundwater extraction and discharge to an off-property publicly-owned treatment works, or POTW, with groundwater monitoring to ensure the containment goals were met. Institutional controls were also required that restrict residential use of the Site, prohibit the use of groundwater under the Site, and prohibit any use of the property that would interfere with the performance of the Site remedies.

The perimeter groundwater extraction system at OU1 has been operational since 1994. The existing OU1 remedy has made substantial progress towards cleanup goals, but exceedances remain. Based on results from an extensive study, EPA is now proposing to change the current groundwater cleanup plan from groundwater extraction to barrier biosparging. The existing groundwater extraction system would be permanently shut down once the biosparge system is put in place.

Biosparge pilot testing

Biosparge pilot testing has been performed at various locations on site since 2008. Biosparging involves injecting air into the contaminated groundwater to degrade Site contaminants. Groundwater contaminants will be effectively treated near the eastern limit of OU1 between the northern property line and well RI-6.

Before making a final decision, EPA will hold a virtual public meeting and seek comments from the public (*see box, left*). In consultation with the Indiana Department of Environmental Management, EPA may modify its cleanup plan or choose a new one based on public comments so your opinion is important.

(continued on the next page)

¹Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, known as the Superfund law) requires the publication of a notice announcing the proposed plan. It also requires a public meeting and public comment period. This fact sheet summarizes the technically written proposed plan and other site-related environmental reports that can be viewed at the Indianapolis Public Library, 40 E. St. Clair St., Indianapolis and at the EPA Region 5 office in Chicago. The Administrative Record is available online at www.epa.gov/superfund/reilly-tar-chemical.

Site location

The Reilly Tar & Chemical site is located at 1500 S. Tibbs Ave. in the southwest quadrant of Indianapolis. Minnesota Street divides the 120-acre site into two parcels. The Oak Park property, which occupies approximately 40 acres, is located north of Minnesota Street. The Maywood property, which occupies approximately 80 acres and includes OU1, is located south of Minnesota Street and was the location of wood preserving operations from 1921-1972.

Summary of site risks

Groundwater in OU1 has been impacted by benzene, pyridines and ammonia. Benzene can cause harmful effects on the bone marrow and cause a decrease in red blood cells, leading to anemia. It can also cause excessive bleeding and affect the immune system, increasing the chance for infection. Pyridine can cause cancer, birth defects or problems with reproduction. Unacceptable risk to human health is present from exposure to benzene, pyridine, and ammonia in OU1. During the remedial investigation, EPA determined that there was no significant risk to the environment from site contamination because there is no suitable habitat for wildlife and no onsite surface water accumulates at the site.

EPA established a cleanup level of 5 micrograms per liter, or ug/L, for benzene, 35 ug/l pyridine and 30 mg/l ammonia in the 1992 OU1 remedy decision document.

Therefore, EPA evaluated alternatives with methods that would lower groundwater contamination to these levels or lower.

Remedial action objectives

RAOs are general descriptions of cleanup goals. The action objectives are established by considering the medium (soil, water, etc.) of concern, risk levels of contaminants of concern (benzene, pyridines and ammonia), how the contaminants can get to people and what people are exposed to. The RAOs remain the same for this proposed amendment.

The RAO for OU1 remains protective of public health, safety and the environment. It includes stopping further off-site migration of contaminated groundwater to prevent further contribution of site-related contamination to area groundwater resources.

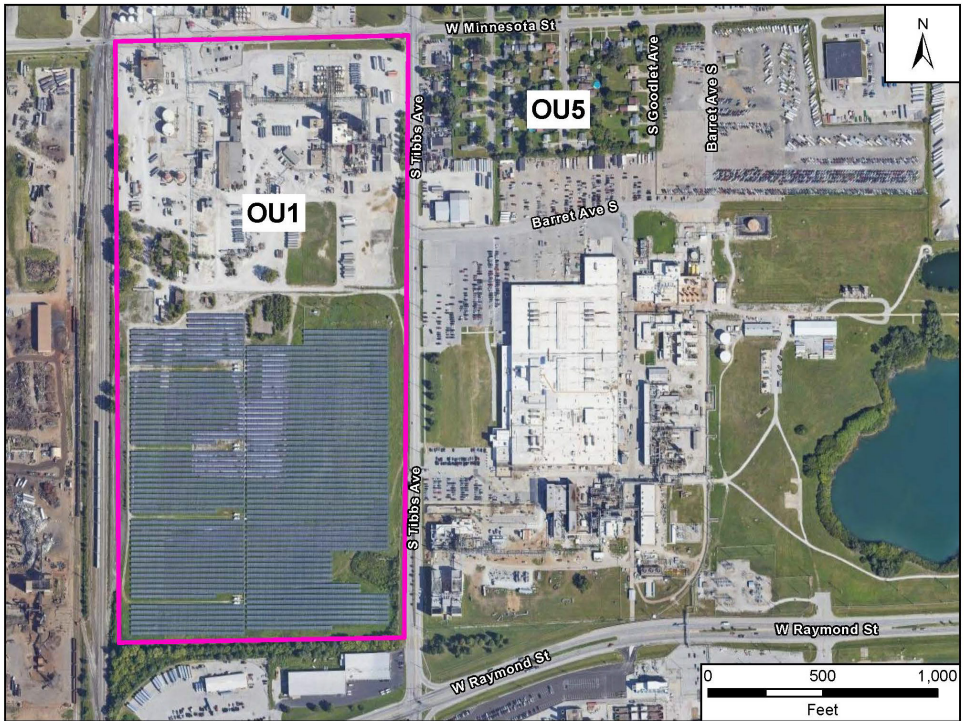


Figure 1. Site map.

Previous cleanup plan

Groundwater pumping has been ongoing since 1994 to provide groundwater containment as required by the OU1 cleanup plan. Two wells were installed and have operated since 1994 and two additional pumping wells were added in 1997. The groundwater pumping system is operated and pumped groundwater is metered as it is discharged to the sanitary sewer which flows to the POTW. The extraction wells were most recently cleaned in November 2018. Operation and maintenance of the pumping system is ongoing.

However, based on results from several pilot tests and a focused feasibility study of biosparging, EPA has included and evaluated an alternative (*Alternative 3*) that would protect human health and the environment.

Cleanup alternatives considered

EPA considered three alternatives for amending the original cleanup plan for OU1. These alternatives were evaluated against the seven criteria required by Superfund law (*see box, Page 7*). State and community acceptance are evaluated after EPA proposes a cleanup plan and holds a public comment period.

Here are summaries of the three alternatives.

Alternative 1 – No action: EPA always includes this as a comparison point for other alternatives. Under this alternative, EPA would do nothing to clean up the contaminated groundwater, so potential health risks would not be addressed. **Cost: \$0**

Alternative 2 – Enhanced Groundwater Pumping. The existing shallow and deep groundwater pumping system would be supplemented with additional pumping wells. Three additional pumping well clusters would be added to enhance the existing groundwater extraction system. This would expand pumping coverage to the north and south of the existing system to provide additional containment. The expanded system would continue to require operation and maintenance to maintain effectiveness. Groundwater monitoring would continue until cleanup levels are met and to monitor satisfaction of the OU1 and OU5 RAOs.

Cost:

\$10.5 million

Alternative 3 – Barrier Biosparging (EPA’s Recommended Alternative). Bioparging wells would be installed along the entire eastern perimeter (see Figure 2 below) of the property and used to inject air into the groundwater. The injected air would create aerobic conditions that would promote biodegradation of benzene, pyridines, and ammonia. This alternative would also include ongoing monitoring of groundwater to measure levels of contaminants and soil gas (both on- and off- site) to ensure that the groundwater treatment is not creating vapor intrusion concerns for the properties immediately across the street from the line of biosparge wells. Vapor intrusion happens when vapor created by groundwater contaminants moves underground and into buildings through their foundations. **Cost: \$4.3 million**

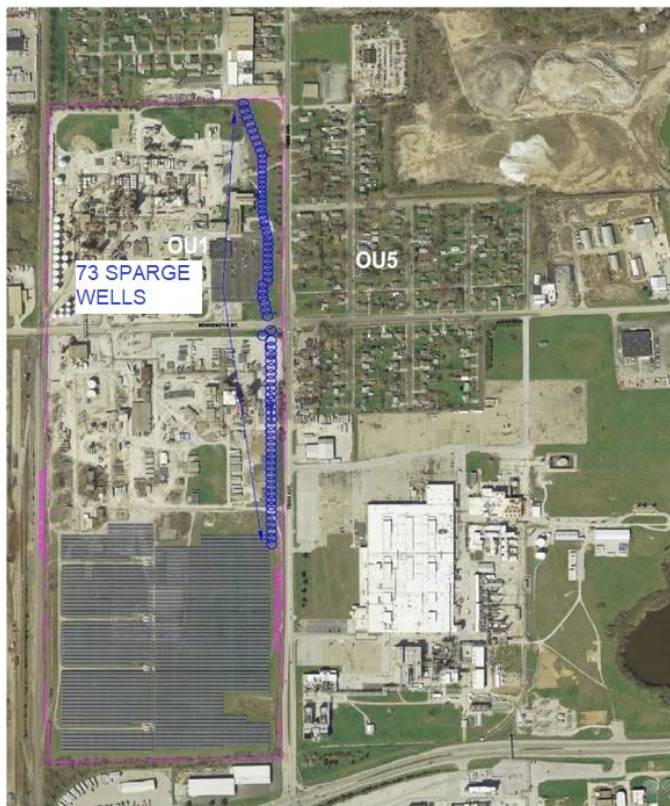


Figure 2. Alternative 3 – Biosparging proposed design

Evaluation of EPA’s recommended alternative

EPA recommends Alternative 3 because at this time the Focused Feasibility Study demonstrated that a change to the cleanup plan including a biosparge design could meet the cleanup goals for groundwater at OU1.

Alternative 3 would achieve these goals within a reasonable time and at a lower cost. It requires minimal effort to maintain long-term protectiveness. Alternative 3 meets the threshold criteria, offers a high degree of long-term effectiveness and permanence, and represents the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria.

Based on the information available now, EPA and IDEM agree that Alternative 3 would protect human health and the environment, comply with regulatory criteria, be cost-effective, and use permanent solutions and alternative treatment technologies to the maximum extent practicable.

Evaluation of all alternatives

Nine criteria (see chart next page) are used to evaluate the different alternatives and against each other to select a cleanup alternative. EPA concluded the “no-action” alternative would not protect people or the environment and was eliminated from consideration.

Alternatives 2 and 3 would comply with federal and state regulations. The groundwater under and near the site is not a current source of drinking water but is a potential future source of drinking water. Injection of clean air is allowed and subject to regulations. Soil gas monitoring of the biosparge system would be performed to evaluate the vapor intrusion pathway and any potential vapor intrusion issues posed by biosparging.

Alternatives 2 and 3 are both effective in the long-term. Both alternatives provide the required containment to prevent contaminated groundwater from migrating beyond the property boundary. Alternative 3 is more effective in the long-term because biosparging will treat contaminants in the groundwater leading to permanent reductions in groundwater concentrations, which should result in achieving cleanup standards in a shorter timeframe.

Alternative 3 will treat contaminated groundwater with biosparging, which will reduce the toxicity, mobility, and volume of groundwater contamination over time. Alternative 2 will reduce the mobility of contaminants by preventing off-site migration but does not treat or reduce the volume of contaminated groundwater.

Alternative 2 and 3 are both effective in the short term. Construction of Alternative 2 will be completed faster, but both alternatives will be completed and operational in a single construction season. Workers will be required to wear appropriate levels of protection to avoid exposure during remedy construction.

The existing groundwater extraction system will continue to operate until the selected remedy is fully implemented and operational. Risks to the cleanup workers and the surrounding neighborhood will be monitored through soil gas and groundwater monitoring, both during and immediately after remedy construction.

Materials and services are widely available to implement Alternatives 2 and 3. Alternative 2 would expand the existing groundwater extraction system, which has been operational at the site since 1994. Additional groundwater volume extracted under Alternative 2 would increase the current discharge of extracted groundwater to the local POTW, which has actively been trying to manage and minimize combined sewer overflow events resulting from groundwater discharge.

There is ample space along the site property boundary to install the new sparge and monitoring wells required for Alternative 3 and the presence of underground utilities that may impact well installation will be tracked and managed. No additional permitting is required for either Alternative 2 or 3. Alternatives 2 and 3 can be readily implemented and have been used successfully for other environmental cleanup projects.

Next steps

Before EPA makes a final decision, the Agency will consult with IDEM and review public comments. EPA will hold a 30-day public comment period. (*See Page 1 for the dates of the public comment period.*)

EPA encourages you to review and comment on the proposed cleanup plan. More detail on the cleanup alternatives is available in the official documents on file at the information repository (*listed on Page 1*) or EPA's website at www.epa.gov/superfund/reilly-tar-chemical. EPA will respond to the comments in a document called a "Responsiveness Summary," a part of the Record of Decision that describes the final cleanup plan.

The Agency will announce the selected cleanup plan in a local newspaper and will place a copy in the information repository and post it on EPA's website.

Evaluation criteria

EPA uses nine criteria to compare cleanup alternatives:

1. **Overall protection of human health and the environment** determines whether an alternative eliminates, reduces or controls threats to public health and the environment through engineering controls, treatment or institutional controls.
2. **Compliance with applicable or relevant and appropriate requirements** assures that each alternative complies with federal, tribal and state laws and regulations that pertain to the site, or whether a waiver is justified.
3. **Long-term effectiveness and permanence** evaluates how well an alternative will maintain protection of human health and the environment over time.
4. **Reduction of toxicity, mobility or volume through treatment** addresses how well the alternative reduces the harmful effects of principal contaminants, their ability to move in the environment and the amount of contamination present.
5. **Short-term effectiveness** considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents and the environment during implementation.
6. **Implementability** evaluates the technical and administrative feasibility of implementing the alternative, and whether materials and services are available to carry out the alternative.
7. **Cost** includes estimated capital or startup costs, such as the cost of buildings, treatment systems and monitoring wells. The criterion also considers costs to implement the alternative and operate and maintain it over time. Examples include laboratory analysis and personnel to operate equipment.
8. **State acceptance** is whether the state environmental agency, in this case the Indiana Department of Environmental Management, agrees or disagrees with EPA's recommended alternative.
9. **Community acceptance** evaluates how well the community near the site agrees with EPA's analyses and recommended alternative. Comments received on the Proposed Plan are an important indicator of community acceptance, which EPA evaluates after it receives and evaluates public comments on its recommended alternative.

Public Comment Sheet

Use this space to write your comments

EPA is interested in your comments on the proposed change in the cleanup plan for contaminated groundwater for the Reilly Tar & Chemical Operable Unit 1. You may use the space below to write your comments. You can fold, stamp and mail to EPA Community Involvement Coordinator Janet Pope. You may also submit comments online at: www.epa.gov/superfund/reilly-tar-chemical. Comments must be postmarked by **July 2, 2021**. If you have questions, contact Janet at 312-353-0628, or toll-free at 800-621-8431, Ext. 30628, 9 a.m. – 4:30 p.m., weekdays.

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Name: _____

Affiliation: _____

Address: _____

City: _____

State: _____ Zip: _____

Reilly Tar & Chemical – Comment Sheet

Fold on dashed lines, staple, stamp, and mail

Name _____

Address _____

City _____

State _____ Zip _____

Janet Pope
Community Involvement Coordinator
U.S. EPA Region 5
Community Involvement and
Outreach Section (RE-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Chart comparing cleanup alternatives with the nine Superfund remedy selection criteria under a residential cleanup scenario

| Evaluation Criterion | Alt. 1 | Alt. 2 | Alt. 3* |
|--|---|---------|---------|
| Overall Protection of Human Health and the Environment | ○ | ● | ● |
| Compliance with ARARs | ○ | ● | ● |
| Long-term Effectiveness and Permanence | ○ | ● | ● |
| Reduction of Toxicity, Mobility, or Volume through Treatment | ○ | ⊙ | ● |
| Short-term Effectiveness | N/A** | ● | ● |
| Implementability | N/A** | ● | ● |
| Alternative Cost (\$ millions) | \$0 | \$10.5M | \$4.3M |
| State Acceptance | IDEM has been involved in the review of alternatives and has indicated it concurs with EPA's recommended Alternative 3. | | |
| Community Acceptance | Will be evaluated after comment period. | | |

● Fully meets criterion ⊙ Partially meets criterion ○ Does not meet criterion

* EPA's recommended alternative

** N/A: not applicable, since no remedy is being implemented in the No-Action Alternative

Virtual public meeting/hearing

EPA will host a virtual public meeting and public hearing on June 15, 2021 to explain biosparging and the alternatives considered to change the current cleanup plan. The meeting will allow time for questions and for formal comments on the change to the proposed plan. The public meeting will be conducted via the Zoom platform. If this is your first time using Zoom, it will prompt you to download the application. You can join the Zoom public meeting at any time during the event hours below.

Date: June 15, 2021

Time: 6 – 8 p.m.

Link to join: <https://bit.ly/ReillyTar>

Or, join by phone toll-free at: 877-853-5257

You will be instructed to provide the meeting ID and passcode listed below whether you join online or by phone:

Meeting ID – 928 9400 9644

Passcode – 74409

You can also join the meeting by going to www.epa.gov/superfund/reilly-tar-chemical and clicking on the posted link.

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Reilly Tar & Chemical: Proposed Plan for Groundwater

United States
Environmental Protection
Agency
Region 5
Community Involvement and
Outreach Section (RE-19J)
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