



Petroleum Remediation Program

2022
EVALUATION REPORT

Program Evaluation Division

OFFICE OF THE LEGISLATIVE AUDITOR

STATE OF MINNESOTA

Program Evaluation Division

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OFFICE OF THE LEGISLATIVE AUDITOR

STATE OF MINNESOTA • Judy Randall, Legislative Auditor

February 2022

Members of the Legislative Audit Commission:

The Minnesota Pollution Control Agency's (MPCA's) Petroleum Remediation Program strives to protect the public and the environment from risks resulting from leaks, spills, and other releases from petroleum storage tanks. To do so, program staff decide what steps are necessary to address a release based on information provided by environmental consultants who investigate and clean up the release, as necessary.

We found that despite MPCA's reliance on consultants to investigate and clean up petroleum releases, the agency has limited authority to directly hold consultants accountable for poor-quality work. We offer recommendations to both MPCA and the Legislature.

Our evaluation was conducted by Caitlin Badger (evaluation manager), Eleanor Berry, and Will Harrison. MPCA cooperated fully with our evaluation, and we thank them for their assistance.

Sincerely,

A handwritten signature in black ink that reads "Judy Randall".

Judy Randall
Legislative Auditor



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Summary

Petroleum Remediation Program

Key Facts and Findings:

- The Minnesota Pollution Control Agency’s (MPCA’s) Petroleum Remediation Program seeks to protect people and the environment by overseeing responses to leaks and spills from petroleum storage tanks. (p. 6)
- The Petroleum Remediation Program relies on consultants to conduct investigations and take other actions at petroleum release sites. (p. 7)
- By law, consultants and contractors who work on petroleum release sites must be registered by the Petrofund Board; however, registration requirements are minimal. (pp. 35-36)
- While MPCA has implemented several strategies in an attempt to improve consultant performance, according to MPCA staff, some consultants performed poor-quality work at petroleum release sites. (pp. 38-40)
- MPCA has limited authority to directly hold consultants accountable for poor performance. (p. 41)
- The Petroleum Remediation Program concentrates its efforts on petroleum release sites that it determines pose a high risk to human health and the environment. (p. 16)
- Program guidance directs MPCA staff to primarily consider how a property is currently used—rather than how that property could be used in the future—when making decisions about how to respond to a release. (p. 24)
- Statutes prescribe the way in which MPCA must respond to release sites that are a “low potential risk”; however,

neither statutes nor the Petroleum Remediation Program define low potential risk. (p. 27)

- Statutes dictate how quickly MPCA must review certain plans for work at release sites; however, it is unclear whether MPCA must collect those plans. (p. 29)
- The majority of respondents to our surveys of consultants and program staff agreed that the Petroleum Remediation Program is meeting its goal to protect human health and the environment. (p. 33)

Key Recommendations:

- The Legislature should direct MPCA to collaborate with the Petrofund Board to study whether and how to establish technical qualifications for consultants working on Petroleum Remediation Program sites. (p. 43)
- The Legislature should direct MPCA and the Department of Commerce to collaborate in holding consultants more accountable for poor-quality work on release sites. (p. 43)
- MPCA should consider additional steps the agency could take to reduce risks resulting from future changes to petroleum-contaminated properties. (p. 25)
- MPCA should define the characteristics of release sites it considers to be a low potential risk and ensure that it addresses those sites in the manner prescribed by law. (p. 28)
- The Legislature should clarify state law with regard to whether MPCA is required to collect plans for certain types of site work. (p. 30)

While consultants are responsible for conducting investigations and clean-up work related to a petroleum release, MPCA has limited authority to directly hold consultants accountable for poor performance.

Report Summary

Petroleum products—such as gasoline or heating fuel oil—play an integral role in everyday life. However, if petroleum is inadvertently released into the environment—from a leaking storage tank, for example—the release can threaten human health and the environment.

The Minnesota Pollution Control Agency’s (MPCA’s) Petroleum Remediation Program oversees key aspects of the state’s response to releases from petroleum storage tanks. To do so, MPCA program staff first identify the individual or entity who is responsible for addressing the release—referred to as the “responsible party.” Next, the release is typically investigated, after which program staff decide whether the contamination needs to be cleaned up or otherwise remediated. Finally, if certain criteria have been met, program staff close the case for the site.

MPCA’s Petroleum Remediation Program seeks to protect human health and the environment by overseeing responses to releases from petroleum storage tanks.

The Petroleum Remediation Program relies on consultants to conduct investigations and take other actions at petroleum release sites.

MPCA staff do not directly investigate petroleum releases or clean up (or otherwise mitigate) petroleum contamination. Rather, environmental consultants—who are typically hired by the responsible party—perform these activities. The consultant conducts field work at the release site and submits reports to MPCA with recommendations about how to address the release. Petroleum Remediation Program staff review the reports and determine what additional actions are needed at the site.

By law, consultants and contractors who work on release sites must be registered by the Petrofund Board; however, registration requirements are minimal.

Statutes require all consultants and contractors who work on petroleum tank

releases to register with the Petroleum Tank Release Compensation Board—also called the Petrofund Board.¹ If unregistered consultants or contractors perform work at a release site, those consultants or contractors—as well as the responsible party—may be subject to penalties.

By law, to register with the Petrofund Board, consultants must meet only the following requirements: (1) obtain, maintain, and demonstrate professional liability coverage; (2) certify knowledge of and agree to abide by certain laws; (3) agree to make records available for inspection; and (4) agree to include a signed statement with each claim submitted to the board that costs are accurate. The Petrofund Board has not adopted rules requiring the certification of consultants, nor does it consider a consultant’s technical qualifications as part of the registration process.

According to MPCA staff, some consultants have performed poor-quality work at petroleum release sites.

Many MPCA program staff said that the overall quality of consultant work has negatively affected the Petroleum Remediation Program’s ability to meet its overarching goal. In our survey of MPCA program staff, over one-half of respondents said that the overall quality of consultant work had a negative impact on the program’s ability to protect human health and the environment.² Additionally, 57 percent of respondents said that the overall quality of consultant work had a negative impact on their ability to make scientifically sound decisions about release sites. A majority of staff identified other specific concerns, including consultants who do not follow program guidance and concerns about the quality of the data some consultants provide.

Despite these concerns, a majority of staff survey respondents indicated that consultants adequately performed certain

¹ *Minnesota Statutes* 2021, 115C.11, subd. 1(a). The Petrofund Board is staffed by the Department of Commerce and oversees state reimbursements to responsible parties for work conducted at release sites.

² We received a response from each Petroleum Remediation Program hydrologist and project manager, for a 100 percent response rate.

tasks. For example, about three-quarters of respondents said that consultants often or always adequately investigated release sites and evaluated site risks. Several staff members stated that consultant performance varies from one consultant to the next.

MPCA has limited authority to directly hold consultants accountable for poor performance.

The Petroleum Tank Release Cleanup Act does not give MPCA authority to directly hold consultants accountable for poor performance. Instead, the act explicitly gives the Department of Commerce and the Petrofund Board the authority to impose consequences on consultants. For example, the Department of Commerce has authority to impose monetary penalties on consultants. Further, the Commissioner of Commerce and the Petrofund Board, rather than MPCA, make decisions about a consultant’s registration status.

While MPCA may request that consultants do additional work to address deficient performance, the consequences of doing so fall on the responsible party and the state, rather than the consultant who performed poorly. We recommend that the Legislature direct MPCA and the Department of Commerce to collaborate in holding consultants more accountable for poor-quality work on petroleum release sites. We also recommend that the Legislature direct the MPCA and the Petrofund Board to study whether and how to establish technical qualifications for consultants working on petroleum release sites.

The Petroleum Remediation Program concentrates its efforts on the petroleum release sites that it determines pose a high risk to human health and the environment.

The Petroleum Remediation Program takes a risk-based approach to addressing contamination from petroleum storage tanks. In other words, depending on the risks identified at the release site, the Petroleum Remediation Program may or

may not direct responsible parties to clean up the petroleum contamination. In accordance with program guidance, release sites that staff determine pose a high risk to human health or the environment should be remediated to reduce risks. When risks are low and contamination is stable, program guidance states that contamination should be left in place to naturally degrade.

Statutes prescribe the way in which MPCA must respond to release sites that are a “low potential risk”; however, neither statutes nor MPCA define low potential risk.

According to state law, MPCA is required to address petroleum releases using passive bioremediation at any site it determines to be a “low potential risk.”³ In other words, for sites that are low-risk, statutes prohibit the agency from actively cleaning up or remediating the site. In contrast, statutes do not indicate whether or how MPCA should remediate releases that are high-risk.

Neither state law nor MPCA define what characteristics or site conditions would make a site a low potential risk. In response to our survey, Petroleum Remediation Program staff varied with regard to the site characteristics that would lead them to consider passive bioremediation to be an appropriate approach for a release site. Further, staff comments led us to question whether they used passive bioremediation for all low-risk sites, as required by law.

We recommend that MPCA explicitly define the characteristics of sites that are a low potential risk to the public’s health and the environment. MPCA should also ensure that staff’s site management decisions consistently adhere to the passive bioremediation requirement in law.

Program guidance directs MPCA staff to primarily consider how a property is currently used—rather than how that property could be used in the future—when making release site decisions.

As a result of the program’s risk-based approach, program staff may decide to close

While MPCA oversees consultant work on petroleum release sites, the Department of Commerce—rather than MPCA—is granted authority in law to penalize consultants for poor performance.

³ *Minnesota Statutes* 2021, 115C.03, subd. 1a.

The Petroleum Remediation Program largely does not consider how a property may be used in the future when determining whether and how to address a petroleum release.

a release site's case when some petroleum contamination is still present at the site. However, the conditions that are present at a release site when staff decide to close the case could change in the future, such as if a property owner decides to redevelop the site. Those changes could introduce new risks.

When program staff determine whether a release poses a risk to human health or the environment, program guidance primarily directs staff to consider only how the property is *currently* used. Several staff members said it is difficult to know how a property will be used in the future when making site decisions. On the other hand, some staff said they often or always consider the future use of a property. We recommend that MPCA ensure staff take a consistent approach regarding the extent to which they consider how a property may be used in the future when they make site decisions.

Further, a few staff described limitations to not considering a property's future use—limitations that could put human health at risk. While MPCA staff described several ways that individuals could learn about petroleum contamination at properties they own or are hoping to purchase, several staff explained how these existing mechanisms are

not foolproof. We recommend that MPCA consider additional steps it could take to reduce risks resulting from future changes to petroleum-contaminated properties.

Aspects of state law regarding how MPCA reviews plans for work at petroleum release sites are unclear.

Statutes direct MPCA to review certain plans for release site work within a specific timeframe. For example, statutes require MPCA to review a plan within 60 days for “excavation basin soil sampling, excavation of contaminated soil, treatment of contaminated soil, or remedial investigation tasks” or explain why more review time is needed.⁴

Statutes clearly outline timelines for MPCA to review certain plans; however, it is not clear whether MPCA is required by law to *collect* such plans. While the Petroleum Remediation Program collects many documents from consultants, MPCA has chosen not to collect “plans” for many of the activities outlined in law. We recommend that the Legislature clarify what it expects of MPCA with regard to these requirements, including whether MPCA is required to collect plans for the types of work described in law.

⁴ *Minnesota Statutes* 2021, 115C.09, subs. 2a(a) and 2a(c).

Summary of Agency Response

In a letter dated February 15, 2022, Minnesota Pollution Control Agency Commissioner Katrina Kessler said that MPCA “appreciates the OLA’s feedback and is dedicated to finding and implementing improvements.” She commented that the agency “concurs with the OLA’s findings that additional improvements are needed in the work of some environmental consultants”; however, she added that MPCA does not allow poor-quality consultant work “to impact our ability to ensure contaminated sites are properly addressed.” The commissioner commented that the “Petroleum Remediation Program implements a risk-based approach” to release sites and stated that MPCA “will revise our guidance to define low-risk sites...” and implement a database designation that will enable it to better track high-risk and low-risk sites. Finally, Commissioner Kessler stated that MPCA “agrees future risk should be further reviewed and new tools considered to ensure consistency across sites,” noting that this was an issue “previously identified by staff and supported by leadership as one of the three ongoing continuous improvement projects for consistency in cleanup.” Overall, the commissioner stated that MPCA is “committed to working collaboratively to ensure we fulfill our mission of protecting human health and the environment.”

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Introduction

From the fuel to run one's car to the oil to heat one's home, petroleum products play an integral role in daily life. While petroleum products have become ubiquitous, in certain circumstances—such as with petroleum spills or leaks—petroleum products can be hazardous.

The Petroleum Remediation Program strives to protect the public and the environment from risks resulting from petroleum products that have leaked, spilled, or otherwise been released from petroleum storage tanks. Administered by the Minnesota Pollution Control Agency (MPCA), the program oversees investigations into petroleum releases and clean-up actions taken to mitigate their effects.

Glossary

Throughout this report, additional information about terms highlighted in blue can be found in the glossary at the end of the report.

In June 2021, the Legislative Audit Commission directed the Office of the Legislative Auditor to evaluate Minnesota's Petroleum Remediation Program. We focused our evaluation on the following questions:

- **To what extent does MPCA have adequate policies and practices for assessing risks and ensuring adequate clean-up at contaminated sites?**
- **To what extent has MPCA's Petroleum Remediation Program accomplished its goals?**

To address these questions, we reviewed relevant state statutes and administrative rules. We also examined the program's guidance documents and analyzed data about petroleum releases reported to MPCA in fiscal years 2017 through 2021.

To better understand the extent to which the program has accomplished its goals, we interviewed several program staff and supervisors. We also surveyed all hydrologists and project managers currently working on petroleum release sites overseen by the Petroleum Remediation Program.¹ Further, we solicited feedback from businesses that work on petroleum release sites by interviewing representatives of two consulting firms and conducting a survey of consultants and contractors.²

We also spoke with other program stakeholders, including a petroleum industry representative and two staff from the Department of Commerce who work with the Petroleum Tank Release Compensation Board. Finally, we spoke with a manager within Wisconsin's Department of Natural Resources to better understand how petroleum remediation practices and policies might differ between states.

¹ We surveyed each of the Petroleum Remediation Program's eight hydrologists and 15 project managers; we received a response from each staff member, for a 100 percent response rate.

² We contacted a representative from each of the consulting or contracting firms registered with the Petroleum Tank Release Compensation Board as of September 2021. Of the 247 individuals we contacted, we received 102 responses, for a response rate of 41 percent.

Our evaluation focused solely on MPCA's Petroleum Remediation Program; we did not evaluate other MPCA programs or other state agencies whose work relates to petroleum remediation. We focused our evaluation on whether MPCA has implemented high-level policies and practices that support the program's goals. We did not hire technical experts to evaluate the scientific rigor of the program's work, nor did we look at the adequacy of risk assessments or clean-ups conducted for individual sites.

Chapter 1: Background

Petroleum products that inadvertently spill or leak into the environment can pose various hazards to humans and the environment. When these spills or leaks occur, state law requires individuals to take certain actions in response. First, individuals must immediately notify the Minnesota Pollution Control Agency (MPCA) of any petroleum spill or leak greater than five gallons.¹ In addition to reporting the spill or leak, the law requires people to recover “as rapidly and as thoroughly as possible” the spilled petroleum product and to immediately take other actions that may reasonably “minimize or abate pollution of waters of the state.”² Once a petroleum spill or leak is reported to MPCA, the agency may take various actions to mitigate its risks to humans and the environment.

In this chapter, we first provide a brief description of potential risks posed by petroleum when it is released into the environment. We then provide an overview of MPCA’s Petroleum Remediation Program, one of the agency’s key programs responsible for overseeing actions to address petroleum spills and leaks. Next, we discuss duties and responsibilities related to petroleum spills outlined in law for certain state agencies, and we describe the characteristics of petroleum spills managed primarily by the Petroleum Remediation Program in recent years. Finally, we provide an overview of Minnesota’s Petroleum Tank Release Cleanup Fund.

Key Findings in This Chapter

- MPCA’s Petroleum Remediation Program seeks to protect human health and the environment by overseeing responses to releases from petroleum storage tanks.
- The Petroleum Remediation Program relies on consultants to conduct investigations and take other actions at petroleum release sites.
- In addition to MPCA, statutes assign duties related to petroleum tank releases to the Petroleum Tank Release Compensation Board and the Department of Commerce.

¹ *Minnesota Statutes* 2021, 115.061. *Minnesota Statutes* 2021, 115C.065, also requires consultants and contractors involved in the removal of petroleum storage tanks to immediately notify MPCA if they discover petroleum contamination that exceeds state guidelines.

² *Ibid.*

Petroleum Risks

Petroleum Products

Agricultural alcohol gasoline
Aviation gasoline
Aviation turbine fuel and jet fuel
Biobutanol
Biodiesel fuel
Casinghead, absorption, condensation, drip, or natural gasoline
Denatured ethanol
Diesel fuel oil
Dyed fuel
E85
Gas turbine fuel oil
Gasoline
Gasoline blended with ethanol
Gasoline blended with nonethanol oxygenate
Heating fuel oil
Kerosene
M85
Marine gasoline

* *Minnesota Statutes* 2021, 296A.01, subd. 42.

Petroleum is a complex mixture of hydrocarbons that naturally occurs in the earth. It is used in numerous products, including in gasoline for vehicles and heating fuel oils for furnaces. The statutory definition of “petroleum products” includes a variety of products, as shown in the box on the left.³

Petroleum releases—such as leaks from storage tanks—can pose risks to human health and the environment.

Petroleum products are often kept in storage **tanks**.⁴ Sometimes petroleum is inadvertently released from these tanks into the environment. For example, a tank’s pipes may have a loose connection resulting in a leak, or a tank may overflow if someone accidentally overfills it.

A petroleum **release**—defined as “a spilling, leaking, emitting, discharging, escaping, leaching, or disposing of petroleum from a tank into the environment”—can negatively affect human health and the environment.⁵ For example, some petroleum products—such as gasoline—contain benzene, which the U.S. Environmental Protection Agency classifies as a carcinogen. Benzene can cause effects such as dizziness and vomiting if consumed at high

levels. Gasoline could leak out of a storage tank, seep through the soil, and contaminate groundwater. This contamination could cause health problems if a person used that groundwater as a source of drinking water. If the release instead affected a lake or other surface water, the release could negatively affect wildlife in or around the lake.



Tanks and Releases

A tank is “any one or a combination of containers, vessels, and enclosures, including structures and appurtenances connected to them, that is, or has been, used to contain, dispense, or store petroleum.” Certain pipeline facilities and most mobile tanks are not considered petroleum storage tanks.

A petroleum release is “a spilling, leaking, emitting, discharging, escaping, leaching, or disposing of petroleum from a tank into the environment...but does not include discharges or designed venting allowed under agency rules.”

— *Minnesota Statutes* 2021, 115C.02, subs. 12 and 14

³ *Minnesota Statutes* 2021, 296A.01, subd. 42. In addition to “petroleum products,” the statutory definition of “petroleum” also includes new and used lubricating oils and certain new and used hydraulic oils. *Minnesota Statutes* 2021, 115C.02, subd. 10.

⁴ According to MPCA, there were about 35,300 regulated petroleum storage tanks in Minnesota as of August 2021. Owners of some, but not all, petroleum storage tanks must notify MPCA of the existence and specifications of those tanks under *Minnesota Statutes* 2021, 116.47 and 116.48. For example, owners are not required to notify MPCA of the tank’s existence for tanks with a capacity of 1,110 gallons or less that stores heating oil meant to be used on the property where the tank is located. While the total number of unregulated storage tanks is unknown, MPCA was aware of about 12,000 unregulated tanks as of August 2021.

⁵ *Minnesota Statutes* 2021, 115C.02, subd. 12.



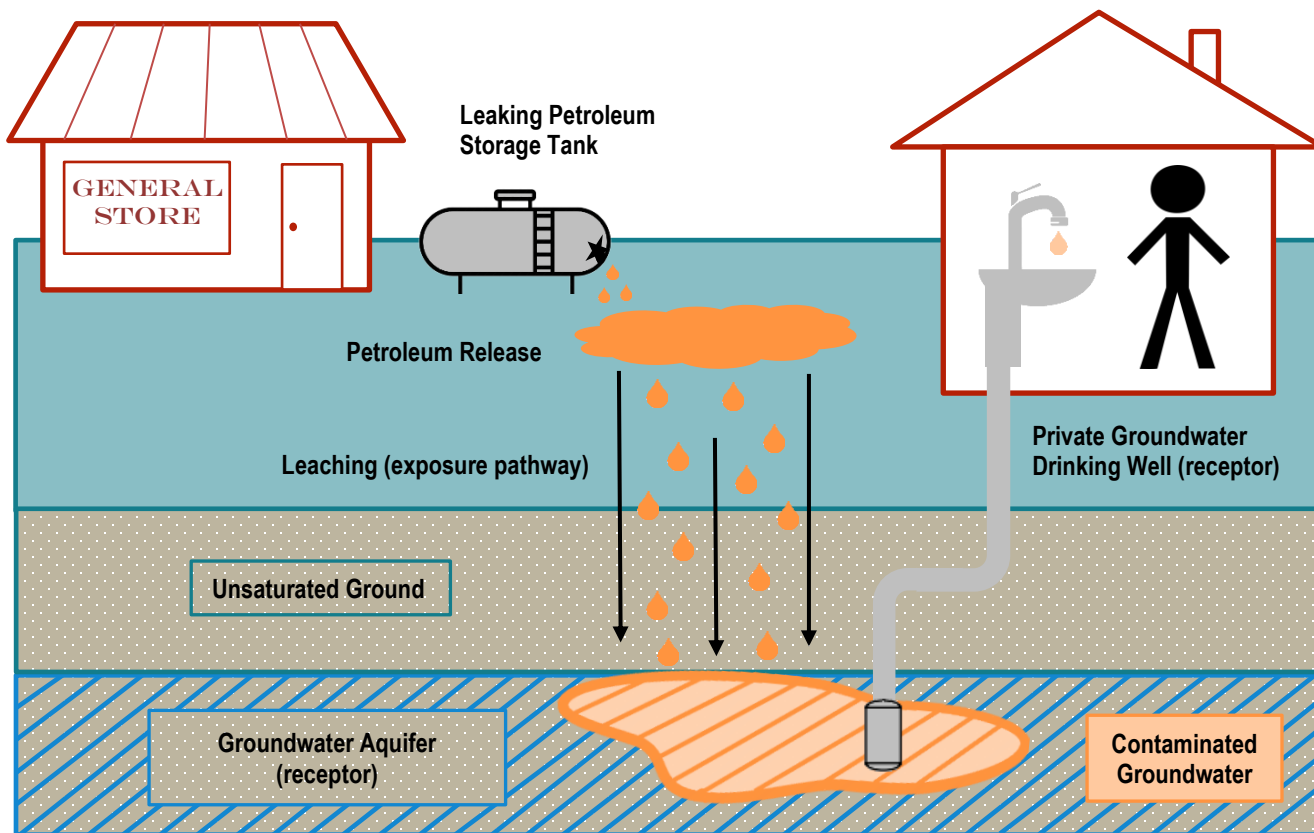
Receptors and Exposure Pathways

A receptor is a feature of a property that could potentially be contaminated by a released petroleum product, while an exposure pathway is a route that the contamination could take from the source of the release to a receptor.

Exhibit 1.1 illustrates a hypothetical petroleum tank release. In it, an aboveground petroleum storage tank has leaked, making it a source of potential contamination. Contamination from the tank could potentially affect various features located at or around the property—referred to as “**receptors**.” The contamination would reach these receptors via “**exposure pathways**,” or routes the contamination takes from the source of the release to the receptor. For example, as seen in Exhibit 1.1, petroleum contamination has leached through the soil—an example of an exposure pathway—into a groundwater aquifer, which is an example of a receptor.

The leaching has contaminated a groundwater drinking well (also a receptor), which gets its water from the contaminated aquifer. This contaminated groundwater drinking well could adversely affect someone who uses it as a source of drinking water.

Exhibit 1.1: A petroleum release could lead to the contamination of groundwater that people use for drinking.



NOTE: The image above depicts a simplified hypothetical petroleum release. It is intended for the purpose of illustrating basic concepts related to how petroleum contamination might spread. It is not meant to account for all ways in which petroleum contamination could affect a property.

SOURCE: Office of the Legislative Auditor.

Petroleum Remediation Program Overview

The Petroleum Remediation Program is a program within MPCA’s Remediation Division that oversees responses to certain petroleum releases that have been reported to the agency. As of July 2021, the program consisted of three units and a total of 29 staff members, some of whom are dedicated to the program specifically, while others also conduct work for other petroleum-focused MPCA programs.⁶

MPCA’s Petroleum Remediation Program seeks to protect human health and the environment by overseeing responses to releases from petroleum storage tanks.

The Petroleum Remediation Program’s process for overseeing responses to releases from petroleum storage tanks involves four general phases, as outlined in the box to the right. First, program staff identify the individual or entity who is responsible for addressing the release. This person or entity—referred to as the responsible party—is the owner or operator of the petroleum storage tank.⁷ As we discuss more below, by law, MPCA may require the responsible party to take action in response to a petroleum release.⁸



Key Phases in the Petroleum Remediation Program’s Process

Phase 1: Identify the **responsible party**

Phase 2: Investigate the release

Phase 3: Complete mitigation actions, if necessary

Phase 4: Close the case file for the **release site**

* The phases listed above represent the Petroleum Remediation Program’s process for many—but not all—release sites.



Responsible Party

A responsible party is an individual, partnership, corporation, or other legal entity, that is responsible for addressing a petroleum release. While there are exceptions, a responsible party is generally an owner or operator of the petroleum storage tank at any time during or after the release.

— *Minnesota Statutes 2021, 115C.02, subs. 9 and 13; and 115C.021*

After identifying the responsible party, the next step is to investigate the release. As we discuss in Chapter 2, investigations involve an assessment of risks to human health and the environment posed by the release. This assessment usually includes identifying the extent and magnitude of the release, receptors that are at risk, and exposure pathways that the released petroleum might take to reach those receptors. It also involves taking samples, such as soil or groundwater samples, to determine if receptors have been contaminated.

Next, Petroleum Remediation Program staff decide whether to require the responsible party to mitigate the effects of the petroleum contamination. Program staff use information obtained during the investigation to

⁶ The Petroleum Remediation Program also had one student worker at that time.

⁷ Statutes use the term “responsible person,” but define “person” to include an individual, partnership, association, corporation, or other legal entity. We instead use the term “responsible party.” A party is typically responsible for addressing a release if they own or operate the tank at any time during or after the release. *Minnesota Statutes 2021, 115C.02, subs. 9 and 13; and 115C.021, subd. 1.*

⁸ *Minnesota Statutes 2021, 115C.03, subd. 1.*

decide what additional action, if any, is needed at the release site.⁹ Depending on site conditions, additional actions could include clean-up activities, such as excavating contaminated soil.

Finally, Petroleum Remediation Program staff determine whether it is appropriate to close the case for the release site. Program staff may close the case for a site once the site's risks to human health and the environment have been adequately addressed. We describe how the Petroleum Remediation Program operates in greater detail in Chapter 2.

The Petroleum Remediation Program relies on consultants to conduct investigations and take other actions at petroleum release sites.

Although MPCA staff make decisions about how to address a release site, they do not themselves conduct site investigations or undertake mitigation activities. Instead, the responsible party ordinarily acts to investigate and—if necessary—clean up the site. However, responsible parties do not typically do this work themselves; instead, MPCA instructs them to hire an environmental **consultant**.¹⁰ In situations where program staff cannot identify a responsible party—or if the responsible party does not cooperate—MPCA may take direct responsibility for addressing the petroleum release.¹¹ In those cases, MPCA contracts with an environmental consultant to investigate the release and complete any necessary mitigation.

In general, consultants work at release sites and submit reports and plans to MPCA. Petroleum Remediation Program staff—including project managers and hydrologists—review reports and determine what additional actions are needed.¹² For example, program staff review information in the investigation reports submitted by consultants—such as information about contamination levels—to determine whether any clean-up activities are needed at a site.

⁹ The Petroleum Remediation Program defines a petroleum release site as the physical location of a petroleum release from a specific petroleum tank system. In situations where the characteristics of a release from a tank system are different from an earlier release from that same tank system, a single tank system could have more than one petroleum release “site.”

¹⁰ As we describe in Chapter 3, statutes differentiate between consultants and **contractors**. We use the term “consultants” in this chapter to refer to both consultants and contractors.

¹¹ *Minnesota Statutes* 2021, 115C.03, subd. 2. The agency stated that these sites are often higher risk and often the most complex, largest, and longest-running sites. MPCA took direct responsibility for addressing the release at 57 petroleum release sites first reported between fiscal years 2017 and 2021 (4 percent).

¹² The program assigns a project manager to each release site; the program may or may not assign a hydrologist to a release site, depending on the characteristics of the site. Project managers are generally responsible for overseeing work at petroleum release sites. Hydrologists are responsible for overseeing the more technical aspects of a release site.

Legal Requirements

Below, we discuss requirements outlined in law pertaining to petroleum tank releases. We first discuss requirements for MPCA before describing requirements for other state entities.

Requirements for MPCA

MPCA’s Petroleum Remediation Program is not named or defined in statute. Rather, the Petroleum Tank Release Cleanup Act establishes a “petroleum tank release cleanup program” and assigns certain powers and duties to MPCA.¹³

Statutes give MPCA authority—but generally do not require it—to take action in response to a petroleum tank release.

The Petroleum Tank Release Cleanup Act gives MPCA a number of powers to respond to releases from petroleum storage tanks, as noted in the box below.¹⁴ First, MPCA may investigate petroleum releases to identify “the existence, source, nature, and extent of a release, the responsible [parties], and the extent of danger to the public health and welfare or the environment.”¹⁵ MPCA can also order responsible parties to take actions to mitigate petroleum contamination and in certain situations—such as if a responsible party is uncooperative or cannot be identified—MPCA may take such actions itself.¹⁶

Key Powers Granted to MPCA by the Petroleum Tank Release Cleanup Act

1. MPCA may conduct investigations of petroleum tank releases.
2. In response to a release, MPCA may obtain information from and access the property of responsible parties and others.
3. MPCA may order a responsible party to address the release.
4. MPCA may address a release when the agency cannot identify a responsible party or the responsible party does not cooperate.
5. In emergency situations, MPCA may address a release without first asking the responsible party to act or notifying the property owner.
6. MPCA may assist with addressing a release upon request.
7. MPCA may pursue civil penalties in order to enforce certain responsibilities granted to it under the Petroleum Tank Release Cleanup Act.

* *Minnesota Statutes* 2021, 115C.03 and 115C.05. This list does not include all powers granted to MPCA.

¹³ *Minnesota Statutes* 2021, 115C.08, subd. 4(a)(1).

¹⁴ *Minnesota Statutes* 2021, Chapter 115C.

¹⁵ *Minnesota Statutes* 2021, 115C.03, subd. 5.

¹⁶ *Minnesota Statutes* 2021, 115C.03, subds. 1 and 2.

While the Petroleum Tank Release Cleanup Act gives MPCA the power to take the actions described above, it does not *require* MPCA to take them. For example, the act says that MPCA *may* order a responsible party to take actions to mitigate petroleum contamination, but it does not require MPCA to order such actions.¹⁷

The act does, however, include some requirements for MPCA, as shown in the box below. For example, it requires MPCA to review within 60 or 120 days certain plans for work at release sites.¹⁸ We discuss some of these requirements in greater detail in Chapter 2.

Other MPCA programs also have duties pertaining to petroleum releases. For example, MPCA's Emergency Response Program responds to a petroleum release when the release is considered an emergency—such as a derailed train that is leaking petroleum into a river, or an overturned tanker that is leaking oil onto a freeway.

Key Requirements for MPCA in the Petroleum Tank Release Cleanup Act and Related Rules

1. MPCA must use **passive bioremediation** for petroleum tank release sites that are a low potential risk to public health and the environment.
2. MPCA must review certain plans for site work within 60 days of their submittal and certain other plans within 120 days or explain why more time is needed to review the plan.
3. MPCA must provide a report to the Petrofund Board indicating—among other things—whether a responsible party cooperated and whether actions taken to address the release were appropriate “in terms of protecting public health, welfare, and the environment.”
4. MPCA must review applications from individuals aggrieved by a decision related to a petroleum release, meet with the aggrieved individual, and issue a decision on the matter.
5. MPCA must take actions needed to obtain federal funding to carry out its responsibilities related to petroleum tank releases.

* *Minnesota Statutes* 2021, 115C.03, subds. 1a and 7a; 115C.09, subd. 2a; and 115C.10, subd. 2. *Minnesota Rules*, 2890.4400, subp. 6, <https://www.revisor.mn.gov/rules/2890.4400/>, accessed June 24, 2021. This list does not include all requirements of MPCA.

Requirements for Other State Entities

MPCA is responsible by law for overseeing some—but not all—aspects of the state's response to petroleum tank releases.

In addition to MPCA, statutes assign duties related to petroleum tank releases to the Petroleum Tank Release Compensation Board and the Department of Commerce.

The Petroleum Tank Release Compensation Board and the Minnesota Department of Commerce play important roles with regard to the consultants who work at petroleum

¹⁷ *Minnesota Statutes* 2021, 115C.03, subd. 1.

¹⁸ *Minnesota Statutes* 2021, 115C.09, subd. 2a(c).

release sites and the use of state funds to pay for release site costs. The Petroleum Tank Release Compensation Board—commonly referred to as the Petrofund Board—registers consultants who work at petroleum release sites.¹⁹ It also provides reimbursements to responsible parties and others for a portion of consultant and certain other site costs.²⁰ Additionally, the act gives the board the authority to delegate its powers and duties to the Minnesota Department of Commerce.²¹

The Petroleum Tank Release Cleanup Act also assigns powers to the Department of Commerce. The act requires the Department of Commerce to provide staff for the Petrofund Board, if requested.²² It also gives the Department of Commerce the power to sanction consultants who work at petroleum release sites.²³ The department may sanction consultants for a variety of reasons, such as if a consultant has committed fraud or if their work has failed to “conform to the minimal standards of acceptable and prevailing engineering, hydrogeological, or other technical practices within the reasonable control of the consultant or contractor.”²⁴

Statutes establish important duties for the Petrofund Board and the Department of Commerce regarding petroleum tank releases.

<u>State Agency or Board</u>	<u>Key Powers and Responsibilities</u>
Petrofund Board	<ul style="list-style-type: none"> • Required to register consultants who conduct petroleum release site work • May deny a consultant registration application in certain instances • Required to provide reimbursement to responsible parties and other eligible applicants for reimbursable costs • May reduce the amount of a reimbursement for a variety of reasons • May delegate its powers and responsibilities to the Minnesota Department of Commerce
Minnesota Department of Commerce	<ul style="list-style-type: none"> • Required to provide staff for the Petrofund Board, if requested • May deny, suspend, or revoke a consultant’s registration • May censure or impose a civil penalty of not more than \$10,000 on a consultant

* *Minnesota Statutes* 2021, 115C.11, subs. 1(a) and 1(i); 115C.09, subs. 1(a)-(b), 3(i), and 10; 115C.112; and 115C.07, subd. 2.

¹⁹ *Minnesota Statutes* 2021, 115C.11, subd. 1(a). The Petrofund Board consists of five members who are appointed by the governor: (1) the Commissioner of Commerce, (2) the Commissioner of MPCA, (3) one representative from the petroleum industry, (4) one public member, and (5) one person with experience in claims adjustment. *Minnesota Statutes* 2021, 115C.07, subd. 1.

²⁰ *Minnesota Statutes* 2021, 115C.09, subd. 1. Property owners who voluntarily respond to a release and other individuals who MPCA directed to take actions to mitigate petroleum contamination are examples of other entities eligible for reimbursement. *Minnesota Statutes* 2021, 115C.09, subs. 3a and 3b.

²¹ *Minnesota Statutes* 2021, 115C.09, subd. 10.

²² *Minnesota Statutes* 2021, 115C.07, subd. 2.

²³ *Minnesota Statutes* 2021, 115C.112.

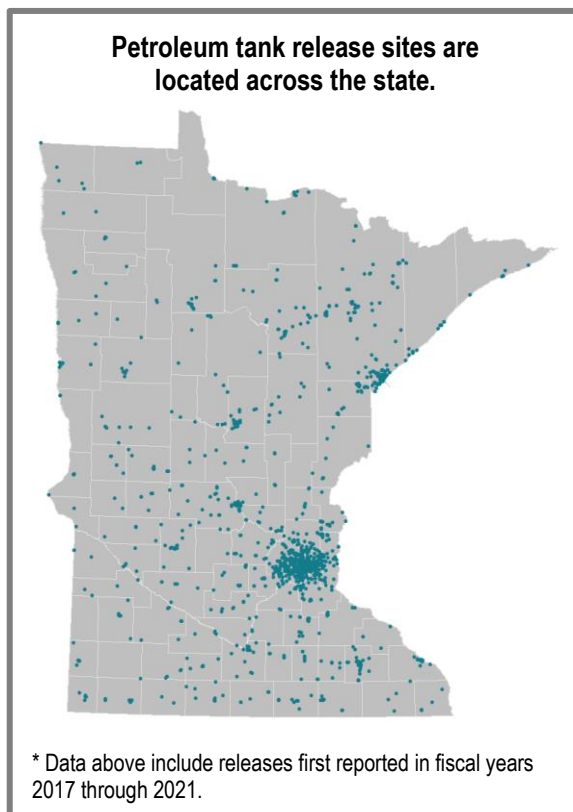
²⁴ *Ibid.*

Petroleum Tank Release Sites in Minnesota

As seen in the map to the right, petroleum tank release sites are located across Minnesota.²⁵ In this section, we discuss the number and characteristics of petroleum release sites recently reported in Minnesota.

The Petroleum Remediation Program oversaw responses to about 1,340 petroleum release sites initially reported during fiscal years 2017 through 2021.

In recent years, the number of new petroleum release sites for which the Petroleum Remediation Program was responsible generally decreased, from a high of 291 sites in Fiscal Year 2017 to a low of 220 sites in Fiscal Year 2021. In fiscal years 2017 through 2021, the average number of new release sites reported per year was 268.



More than two-thirds of petroleum release sites first reported in recent years were located on commercial properties.

Land Use Designation	Number of Release Sites	Percentage of Release Sites
Commercial	897	67%
Residential	255	19
Educational	40	3
Industrial	33	2
Other	22	2
Agricultural	18	1
Recreational	15	1
Unknown	59	4

* Data above include release sites first reported in fiscal years 2017 through 2021.

Recent petroleum tank release sites were primarily located on commercial or residential properties. Sixty-seven percent of the release sites first reported during fiscal years 2017 through 2021 were located on commercial properties, and 19 percent were located on residential properties. We provide additional information about where petroleum tank release sites were located in the box to the left.

As seen in the box below, for release sites initially reported in fiscal years 2017 through 2021, the most common categories of released petroleum products were gasoline, fuel oil, and diesel. A release site can be contaminated by more than one petroleum product; the number of categories of petroleum products released at a single site first reported during this time period ranged from one to four.

²⁵ Release site data referenced throughout this report may include some release sites that were part of MPCA’s Brownfield Program and were not part of the Petroleum Remediation Program; we were unable to exclude these release sites from our analyses. We discuss the Brownfield Program in Chapter 2.

Gasoline, fuel oil, and diesel were the most commonly released categories of products at petroleum release sites reported in recent years.

Petroleum Product Type	Number of Release Sites	Percentage of Release Sites
Gasoline	449	34%
Fuel oil	446	33
Diesel	386	29
Unknown product	58	4
Hydraulic fluid	52	4
Used oil	43	3
Waste oil	14	1
Kerosene	6	<1
Denatured ethanol	3	<1
Transmission fluid and motor oil	3	<1

* Data above include release sites first reported in fiscal years 2017 through 2021. For this analysis, we combined some petroleum products into broader categories.

Petroleum Tank Release Cleanup Fund

The Petroleum Tank Release Cleanup Fund—commonly referred to as the Petrofund—provides funding to address petroleum tank releases. The Petrofund is overseen by the Petrofund Board with support from the Department of Commerce. The fund’s primary source of revenue is a fee paid by distributors of petroleum products.

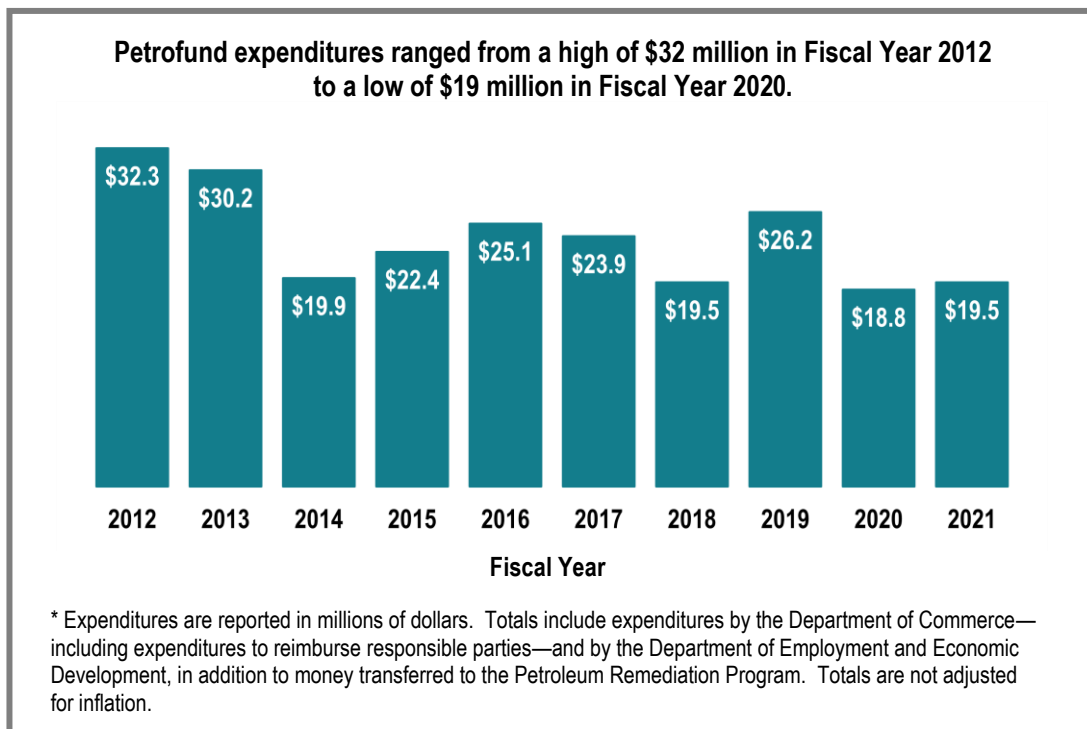
The Petrofund is a key source of funding for the Petroleum Remediation Program and other petroleum contamination clean-up activities in Minnesota.

MPCA receives Petrofund dollars to cover administrative and staff costs related to its work.²⁶ MPCA can also use Petrofund dollars to cover the costs of conducting investigations and taking actions to mitigate petroleum contamination at the petroleum release sites for which it is directly responsible. In Fiscal Year 2021, the Petroleum Remediation Program’s funding totaled about \$11.5 million, 93 percent of which came from the Petrofund, while 7 percent came from federal grants. About \$6 million of the program’s funding was for addressing releases for which MPCA took direct responsibility, while the remaining amount was for salaries and other administrative expenses.

²⁶ *Minnesota Statutes* 2021, 115C.08, subds. 4(a)(1)-(2) and 4(a)(7).

Additionally, the Petrofund can directly reimburse a share of the costs incurred by responsible parties for investigations and other actions taken at release sites.²⁷ The Petrofund Board (or its staff) reviews applications for reimbursement and determines how much to reimburse the responsible party. The board typically reimburses the responsible party for up to 90 percent of the costs they incurred.²⁸

The Petrofund also provides funding to other state agencies with responsibilities pertaining to petroleum releases, such as the Department of Employment and Economic Development.²⁹ As shown in the chart below, Petrofund expenditures totaled about \$19.5 million in Fiscal Year 2021.



²⁷ *Minnesota Statutes* 2021, 115C.09, subd. 3(a).

²⁸ The Board may reimburse the applicant for less than the full amount allowed for a variety of reasons, such as if the responsible party did not fully cooperate with MPCA. *Minnesota Statutes* 2021, 115C.09, subd. 3(i). In certain circumstances, the board may reimburse at a rate higher than 90 percent of the incurred costs. *Minnesota Statutes* 2021, 115C.09, subd. 3a(b).

²⁹ *Minnesota Statutes* 2021, 115C.08, subd. 4(c).



OLA

Chapter 2: Program Operation and Goals

The Minnesota Pollution Control Agency (MPCA) outlines specific priorities for the Petroleum Remediation Program. First, the program is to “oversee the prompt investigation, cleanup, and [case] closure of petroleum tank **release sites**.”¹

Additionally, the program is to ensure that “investigations, cleanups, and [case] closures occur as quickly as possible without compromising [MPCA’s] mandate to protect human health and the environment.”²

In this chapter, we describe how program staff oversee responses to petroleum tank **releases**. We then discuss how well MPCA is measuring the extent to which the program is meeting its goals to protect human health and the environment.

Key Findings in This Chapter

- The Petroleum Remediation Program concentrates its efforts on petroleum release sites that it determines pose a high risk to human health and the environment.
- Program guidance directs MPCA staff to primarily consider how a property is currently used—rather than how that property could be used in the future—when making site decisions.

Program Operation

The Petroleum Remediation Program relies on **consultants** and **contractors** to conduct release site investigations and clean-up activities, while MPCA program staff oversee the overall response to the release site.³ MPCA has established a set of guidance documents that outline how consultants and staff should address petroleum **tank releases**, from site investigation to site clean-up and more.

While guidance documents provide a detailed framework for how consultants and staff should address petroleum tank releases, the actions taken at a particular release site vary depending on each site’s characteristics. In this section, we provide an overview of the Petroleum Remediation Program’s approach to addressing petroleum tank releases. We then examine its oversight of release investigations and clean-ups in greater detail.

¹ Minnesota Pollution Control Agency, *Petroleum Remediation Program*, <https://www.pca.state.mn.us/waste/petroleum-remediation-program>, accessed May 11, 2021.

² A third priority for the program is to “coordinate with the responsible parties and the Department of Commerce to ensure prompt and proper reimbursement of eligible [release site] expenses...” *Ibid.*

³ For the remainder of this chapter, “consultants” refers to both consultants and contractors as defined by law. *Minnesota Statutes* 2021, 115C.02, subds. 5a-5b.

The Petroleum Remediation Program concentrates its efforts on the petroleum release sites that it determines pose a high risk to human health and the environment.

The Petroleum Remediation Program generally takes a risk-based approach to addressing petroleum tank release sites. Under this approach, staff make site decisions based on an evaluation “of risks posed to human health and the environment.”⁴

Program guidance indicates that steps should be taken to reduce petroleum contamination risks when there are **exposure pathways**, or routes for contamination to travel from the contamination source to a **receptor**. On the other hand, when risks to receptors are low and contamination is stable, the program states that contamination should be left in place to naturally degrade.⁵ In other words, depending on the risks posed by the release, the Petroleum Remediation Program may or may not direct **responsible parties** to clean up the petroleum contamination; for some sites, the program allows the contamination to break down naturally over time.⁶



The Petroleum Remediation Program evaluates four primary risks resulting from a petroleum tank release:

- Impacts to **groundwater** that threaten human health
- **Petroleum vapors** that may lead to dangerous conditions or threaten human health
- Impacts to **surface water** quality
- Impacts to **surface soil** that threaten human health or may lead to contaminated surface runoff

— Minnesota Pollution Control Agency,
Petroleum Remediation Program General Policy

As part of our evaluation, we surveyed all Petroleum Remediation Program hydrologists and project managers, and the majority were in favor of the agency’s risk-based approach.⁷ About three-quarters of respondents (17 of 23 staff members) agreed or somewhat agreed that the program’s risk-based approach reflects best practices in the field, and all respondents agreed or somewhat agreed that the program should continue its current risk-based approach. One staff person explained that this approach helps the program manage its workload and address releases in a timely manner. Another staff person commented that the risk-based approach allows the program to account for both the financial and environmental costs of clean-up activities.

Representatives from the two consulting firms we interviewed were also supportive of the Petroleum Remediation Program’s overall approach to addressing contamination. One representative commented that the program’s risk-based approach is both scientifically proven and helps to ensure that the Petrofund does not run out of funding.

⁴ Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp1-01, *Petroleum Remediation Program General Policy*, January 2021, 6, <https://www.pca.state.mn.us/sites/default/files/c-prp1-01.pdf>, accessed May 11, 2021.

⁵ We discuss legal requirements pertaining to low-risk release sites later in this chapter.

⁶ Later in this chapter, we discuss criteria that must be met before MPCA decides to close the case for a release site.

⁷ We surveyed each of the Petroleum Remediation Program’s eight hydrologists and 15 project managers working on petroleum tank release sites as of September 2021; we received a response from each staff member, for a 100 percent response rate. The total number of responses varies by question.

Release Site Investigations

For many petroleum release sites, one of the first steps in addressing a petroleum tank release is to investigate the site. For most releases, consultants hired by the responsible party conduct the site investigation.⁸ During the investigation, the consultant assesses the nature of the release, including what risks to human health and the environment are present at or around the release site. For example, a consultant might take soil and groundwater samples that are analyzed by a lab for possible petroleum contaminants. Program guidance describes MPCA’s expectations regarding how to conduct an investigation and what information consultants should provide to program staff.

Consultants conduct an investigation at many—but not all—release sites, depending on the conditions present at or near the site. We list those conditions in the box to the right. For example, program guidance directs consultants to conduct an investigation if the “contamination intercepts a seasonally high water table” or if the consultant needs to remove more than 200 cubic yards of soil in order to address the contamination.⁹



Program guidance directs consultants to investigate a release site when any of the following conditions exist:

- Contamination cannot be addressed by **excavation** of 200 cubic yards of soil or less
- Groundwater is present in the excavation and has been in contact with either petroleum product or petroleum-contaminated soil, or groundwater contamination is suspected
- Contamination intercepts a seasonally high water table or bedrock
- Other impacts—such as the discharge of contaminated water to surface waters or sewers or vapor impacts to buildings or utilities—are known or suspected
- Residual soil contamination meets any of the program’s field screening criteria or has a soil analytical result greater than 100 mg/kg gasoline range organics (GRO) or diesel range organics (DRO)
- Contaminated groundwater is encountered in post-excavation **soil borings**

— Minnesota Pollution Control Agency,
*Excavation of Petroleum-Contaminated
Soil and Tank Removal Sampling*

The Petroleum Remediation Program instructs consultants to evaluate numerous factors to determine if a release site poses a high risk to human health or the environment.

For release sites at which consultants conduct an investigation, program guidance states that investigations should include a risk evaluation with two components: (1) a subsurface investigation in which the consultant determines the extent and magnitude

⁸ As we discussed in Chapter 1, MPCA contracted directly with consultants to address 57 of the nearly 1,340 release sites first reported in fiscal years 2017 through 2021 (4 percent).

⁹ Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp3-01, *Excavation of Petroleum-Contaminated Soil and Tank Removal Sampling*, March 2017, 2, <https://www.pca.state.mn.us/sites/default/files/c-prp3-01.pdf>, accessed June 23, 2021.

of the contamination, and (2) a “receptor survey.” During a receptor survey, the consultant determines what receptors are at risk around the release site, in addition to other information pertinent to the site, such as its geology. For example, program guidance states that the consultant should complete a visual inspection of properties located within a 500-foot radius of the source of the release to determine the presence of basements and other possible receptors.

Release Site Example Gas Station: Part 1

A petroleum release was reported at a gas station as a result of a spill during product delivery. Petroleum Remediation Program staff identified and contacted the responsible party, who in turn contracted with a consultant to investigate the release.

During the investigation, through numerous soil borings and monitoring wells, the consultant sought to determine the extent of the petroleum contamination. The consultant:

- Collected soil and groundwater samples.
- Conducted soil vapor borings to test for soil vapor.

As a result of its investigation, the consultant determined that groundwater at the release site was contaminated. The consultant recommended that program staff approve additional groundwater monitoring to further assess potential risks to an on-site water supply well and nearby surface waters.

As part of the site investigation, the Petroleum Remediation Program instructs consultants to consider whether there are conditions present at or around the release site that the program categorizes as “high risk.” Program guidance lists 14 site conditions that indicate high risk. As shown in Exhibit 2.1, high-risk conditions include a potential for explosive petroleum vapors, among others. As we discuss below, program guidance indicates that if a site has one or more of these “high-risk” conditions, consultants—in consultation with MPCA—should typically take additional actions to address the petroleum impacts at the site.

After concluding its investigation, the consultant submits a report of its findings and makes a recommendation to MPCA about how to proceed with the release site, including whether additional monitoring or investigation is necessary, and whether or not action is needed to address the effects of the petroleum release. Program staff use the information provided in the consultant’s report to decide how to address the petroleum release.

Exhibit 2.1: The Petroleum Remediation Program has established several conditions indicating a site is high-risk.

Water-Related Site Conditions:

- The impacts of petroleum on a drinking water supply *well* are above a **drinking water standard** or conditions indicate that impacts above a drinking water standard are imminent.
- The impacts of petroleum on a drinking water supply *line* are above a drinking water standard or conditions indicate that impacts above a drinking water standard are imminent.
- The impacts of petroleum on a nondrinking water supply well are above a **beneficial use level**.
- There is an expanding groundwater **contaminant plume** and the measured groundwater travel time indicates the contaminant plume will reach a water supply well within five years.
- Petroleum compounds are present above a drinking water standard in the aquifer associated with a sensitive groundwater condition.
- Contamination is discharging into surface water and contaminant concentrations are above a **surface water standard**.
- There is petroleum sheen on the surface water.

Vapor-Related Site Conditions:

- There is an actual or potential risk of explosive vapor accumulation in structures or utilities.
- The impacts of petroleum on a habitable structure are above a vapor **intrusion screening value** or conditions indicate that impacts above a vapor intrusion screening value are imminent.

Soil-Related Site Conditions:

- There is surface soil that is saturated by petroleum or has a gasoline range organics (GRO) or a diesel range organics (DRO) concentration of 100 mg/kg or greater within the uppermost:
 - Two feet of soil at a commercial or industrial property.
 - Four feet of soil at a residential property.

Other Site Conditions:

- A recent release has occurred.
- Recoverable mobile **light non-aqueous phase liquid (LNAPL)** is present.
- An emergency condition exists.

SOURCE: Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp4-02, *Risk Evaluation and Site Management Decision at Petroleum Release Sites*, January 2021, 7-8, <https://www.pca.state.mn.us/sites/default/files/c-prp4-02.pdf>, accessed June 28, 2021.

Corrective Actions

Depending on the site conditions identified during the investigation, Petroleum Remediation Program staff may decide that a release site needs one or more “**corrective actions**.” Corrective actions are activities done at a release site to eliminate a high-risk condition.



Examples of Corrective Actions

- Surface soil excavation and treatment
- Water supply well replacement
- Manual or passive light non-aqueous phase liquid (LNAPL) recovery
- **Stimulated biodegradation**
- **In situ chemical oxidation injection**
- Subsurface LNAPL body excavation

Determining a Corrective Action Approach

According to program guidance, MPCA typically determines that corrective action is necessary if the consultant indicates that the release site has one or more of the high-risk site conditions outlined in Exhibit 2.1. If program staff determine that corrective action is necessary to address risks to human health or the environment, the agency next determines how to address those risks.

The Petroleum Remediation Program has established a multistep process to determine whether a corrective action is appropriate for a release site.

The corrective action process involves two phases: (1) a design phase and (2) an implementation phase.¹⁰ In the design phase, the Petroleum Remediation Program directs the consultant to submit a plan describing the corrective action(s) they propose for the release site. For example, a consultant might recommend that they excavate the contaminated soil or install a soil vapor extraction system that pulls petroleum vapors from the soil to the surface for treatment. Program guidance directs consultants to include in the corrective action design their rationale for selecting the proposed corrective action, as well as two or three corrective action alternatives.

After MPCA receives the consultant’s corrective action proposal, staff determine whether the consultant should proceed with the recommended corrective action. If the consultant proposed a simple corrective action (such as soil excavation), program staff may approve the corrective action after reviewing the consultant’s initial proposal. If the consultant proposed a more complex corrective action (such as *in situ* chemical oxidation injection), program staff may instruct the consultant to further study and report on the efficacy of the proposal through a focused investigation and/or pilot study. Per program guidance, only after program staff review and approve information about a corrective action’s design can consultants enter the implementation phase during which they execute the proposed corrective action(s) at the release site.

¹⁰ On a site-by-site basis, MPCA may also approve an “interim corrective action” for sites with emergency or high-priority conditions that require immediate action. Interim actions—such as the provision of bottled water or building ventilation—“may not result in permanent or comprehensive risk reduction.” Interim actions typically occur before an investigation is completed. Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp7-01, *Corrective Action Design and Implementation*, January 2021, 2, <https://www.pca.state.mn.us/sites/default/files/c-prp7-01.pdf>, accessed July 22, 2021.

**Release Site Example
Gas Station: Part 2**

Petroleum Remediation Program staff approved the consultant’s recommendation to conduct additional groundwater monitoring. After additional monitoring, the consultant recommended that program staff approve a corrective action to further address the petroleum contamination.

The consultant submitted a corrective action design plan and subsequently conducted a focused investigation to more fully understand the presence of light non-aqueous phase liquid at the site. The consultant then submitted the results of its focused investigation and a more detailed excavation plan to program staff.

Next, program staff approved the consultant’s excavation plan, at which point, the consultant commenced the excavation of approximately 1,500 cubic yards of contaminated soil.

Program guidance instructs consultants to establish a corrective action goal that will demonstrate whether the corrective action effectively addresses the site’s high-risk conditions. For example, in the case of a contaminated drinking water well, a consultant might set a goal for the well water to meet drinking water standards. Petroleum Remediation Program supervisors explained that staff review and vet the corrective action goals. If the corrective action is not meeting its goals, a supervisor explained that program staff will ask the consultant to implement an alternative corrective action approach.

Frequency of Corrective Actions

Depending on the risks posed by the release, Petroleum Remediation Program staff determine whether or not a corrective action or other mitigation activity is necessary at a release site.

The large majority of release sites in our review period had not been subject to a corrective action or other site mitigation activity.

As of August 2021, 84 percent of release sites first reported in fiscal years 2017 through 2021 had not been subject to a corrective action or other mitigation activity.¹¹ For the 16 percent of sites at which consultants had implemented a corrective action or other mitigation strategy, the Petroleum Remediation Program relied heavily on one approach to addressing the contamination. As shown in the box to the right, the vast majority (94 percent) of corrective action or other mitigation activities at release sites in our review period were excavations. Other approaches, such as drinking water well replacement or surface water mitigation, were rarely used.

At the release sites that were subject to a corrective action or other mitigation activity, excavation was the most commonly used approach.

Corrective Action or Mitigation Approach	Total
Excavation	94%
Other	2
LNAPL recovery	1
Sub-slab depressurization	1
Vacuum truck collection	1
Vapor mitigation	1

* Data reflect actions taken as of August 2021 for release sites first reported in fiscal years 2017 through 2021.

¹¹ We included in our analysis all corrective actions and mitigation activities regardless of whether the activity took place before or after an investigation. Of the release sites in our review for which MPCA had closed the case, 21 percent were subject to a corrective action or other mitigation activity.

Case Closure

After completing an investigation, and after completing any corrective actions (if necessary), a consultant may recommend to MPCA that the program close the release site's case. Before recommending that program staff close the case, program guidance directs the consultant to demonstrate that all exposure pathways have been adequately investigated, and that any high-risk conditions at the site have been addressed. When program staff close the case, the Petroleum Remediation Program concludes its regulatory oversight of the release.¹²

The Petroleum Remediation Program has largely established clear criteria that must be met before staff determine that release site risks have been sufficiently addressed.

Petroleum Remediation Program staff may close a release site's case when additional site investigation, monitoring, or corrective action is not necessary to protect human health and the environment. The program has established four specific criteria, as seen in the box to the right, that must be met before staff can declare that site risks have been sufficiently addressed and the agency can close the case. For example, the program instructs the consultant to demonstrate that the groundwater contaminant plume is stable, and that treatment of any excavated soil is complete. Consultants do not need to demonstrate that all petroleum contamination has been removed from the site before program staff consider case closure.



Program staff may close a release site's case after consultants demonstrate:

- Proper treatment of excavated soil is completed and documented.
- Mobile light non-aqueous phase liquid is recovered to the maximum extent practicable.
- The groundwater contaminant plume is demonstrably stable.
- The corrective action goals are achieved.

* The site conditions above may not be relevant to all release sites. For example, some sites are not subject to a corrective action.

— **Minnesota Pollution Control Agency,
Risk Evaluation and Site Management
Decision at Petroleum Release Sites**

Petroleum Remediation Program staff generally agreed that the program has established clear expectations about when to close a case. About 90 percent of staff survey respondents (21 staff members) agreed or somewhat agreed that the Petroleum Remediation Program has established clear expectations for how they determine whether to close the case for a release site.

¹² MPCA may reopen a closed case in the event of new information about the release.

Release Site Example Gas Station: Part 3

After removing the contaminated soil, the consultant further monitored the status of the site. When monitoring results indicated that the petroleum risks had been adequately mitigated, the consultant recommended that MPCA close the case for the site.

Petroleum Remediation Program staff reviewed the consultant's recommendation to close the case to ensure that the site met the program's case closure criteria. Program staff concurred with the consultant's recommendation and closed the case.

The majority of respondents to our survey of consultants and contractors also thought program expectations for case closure were generally clear. To better understand consultants' perspectives on the Petroleum Remediation Program, we surveyed representatives from all consulting and contracting firms registered with the Petrofund Board.¹³ In response to that survey, 65 percent of respondents agreed or somewhat agreed that the Petroleum Remediation Program has established clear expectations about the instances for which their company should recommend case closure, while 11 percent disagreed or somewhat disagreed.¹⁴

At the time of our review, program staff had determined that petroleum contamination had been adequately addressed within one year for nearly half of recent release sites.

As part of our evaluation, we sought to determine how much time passed between (1) the date a release was reported and (2) the date program staff closed the case for the release site. Of the nearly 1,440 release sites first reported in fiscal years 2017 through 2021, staff closed the case for 45 percent of those sites within one year.¹⁵

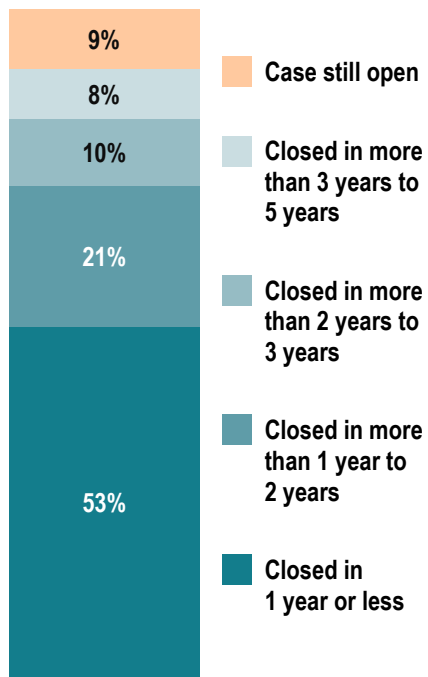
To better understand how long it took the program to address petroleum releases, we examined a cohort of 291 release sites that were first reported in Fiscal Year 2017, as shown in the box on the following page. We found that MPCA staff had closed the case on about 90 percent of those sites as of August 2021, or within no more than about five years. Staff took a median of 292 days to close the case for sites first reported in Fiscal Year 2017.

¹³ We contacted a representative from each of the consulting or contracting firms registered with the Petrofund Board as of September 2021. Of the 247 individuals we contacted, we received 102 responses, for a survey response rate of 41 percent. Of the respondents, 55 said their company had worked on Petroleum Remediation Program sites in the past five years. Survey totals reflect the responses of those 55 respondents. The total number of responses varies by question.

¹⁴ The remaining respondents indicated that either (1) their company did not perform this type of work in the past five years, or (2) they did not know or preferred not to respond to the question.

¹⁵ Data reflect case closures as of August 2021. Totals include sites regardless of whether a consultant conducted a site investigation. Staff closed the case for about 2 percent of these sites within one month of the date the release was reported.

Petroleum Remediation Program staff closed the case within one year for the majority of release sites first reported in Fiscal Year 2017.



* Data reflect case closures as of August 2021. Percentages do not sum to 100 percent due to rounding.

To ensure the timeliness of its work, the program has established a goal of cleaning up 80 percent of release sites within three years of the release’s discovery. We determined that MPCA surpassed this goal for release sites first reported in Fiscal Year 2017. Program staff closed the case within three years for 84 percent of those release sites.¹⁶

Addressing Future Hazards

Program staff may decide to close a release site’s case when some petroleum contamination is still present at the site as long as risks to human health and the environment have been sufficiently addressed. However, the conditions that are present at a release site when Petroleum Remediation Program staff decide to close the case could change in the future, and those changes could introduce new site risks.

Petroleum Remediation Program guidance directs MPCA staff to primarily consider how a property is currently used—rather than how that property could be used in the future—when making site decisions.

When program staff determine whether or not a release poses a risk to human health or the environment, program guidance primarily instructs staff to consider only how the property is *currently* used; it does not generally require staff to assess site risks in the event the property’s use changes in the future.¹⁷ For example, perhaps a petroleum release occurred at a property where there are currently no private drinking water wells. When

deciding whether it is appropriate to close the case for the site, staff need not ensure that human health or the environment are protected in the event a private drinking water well is installed on the property in the future.

A few staff members described limitations to the program’s current practice of not considering how a property could be used in the future—limitations that could put people at risk. For example, one staff person described overseeing a release site with high levels of petroleum soil vapor. The staff person explained that, while there is not a building on the property currently, someone could build



...once a site is closed, future use of a site is not regulated and anything can happen to a property after it is closed.

— Petroleum Remediation Program Staff Person

¹⁶ Further, program staff closed the case within three years for 84 percent of release sites first reported in Fiscal Year 2018. We based our analysis on the date the release was reported rather than the date the release was “discovered.”

¹⁷ MPCA staff said for some sites where the future use of a property is “imminent and known,” staff do incorporate information about the property’s future use into its clean-up plan. MPCA staff also said that they require corrective actions for sites where “petroleum compounds are present above a drinking water standard in an aquifer associated with a sensitive groundwater condition,” which MPCA told us considers future use.

one. If the elevated petroleum vapors at the site are not addressed, future buildings at the site could be at risk of vapor intrusion, the staff person said. A few staff people mentioned concerns about the possibility of someone installing a well in a contaminated area. This could result in people consuming contaminated water, a staff person said.

On the other hand, several staff members commented that considering how a property may be used in the future can be challenging. For example, several staff members said it is difficult to know how a property will be used in the future. Without knowing how a site will be used, a couple of staff members said the program would need to clean up all release sites to the highest standard possible to account for all scenarios. One staff person commented that cleaning up all sites to the highest standard would result in additional costs and require more time to address the release. Similarly, a supervisor commented that this approach would not be financially or technically practical.



If we were to plan for future use at all, then we should just clean the site to the most restrictive guidelines for the site so no matter what the future site use, then it will be OK, but that is a lot of extra time/money for every site...I don't believe that is practical....

— Petroleum Remediation Program Staff Person

The extent to which Petroleum Remediation Program staff said they consider how a property may be used in the future varied across staff.

Staff comments indicated that staff do not take a consistent approach with respect to whether they considered how a property may be used in the future when making site decisions. In response to our staff survey, 48 percent of respondents (11 staff members) said they never or rarely consider the future use of a release site when making site decisions. In contrast, 17 percent of respondents (four staff members) said they often or always consider the future use of a release site when making site decisions.

Staff also differed with regard to whether they believed it is important or even possible to consider how a property might be used in the future when they make site decisions. In response to our staff survey, 30 percent of respondents (seven staff members) said it is important or very important for program staff to consider the future use of a release site when making site decisions. In contrast, about 22 percent of respondents (five staff members) said it is not possible and/or not practical to consider the future use of a site.

RECOMMENDATION

MPCA should:

- **Consider additional steps it could take to reduce risks resulting from future changes to petroleum-contaminated properties.**
 - **Ensure staff take a consistent approach in the extent to which they consider how a property may be used in the future when they make site decisions.**
-

After the Petroleum Remediation Program closes the case for a release site, several MPCA staff described how the property owner or buyer are primarily responsible for ensuring they do not alter the property in a way that could result in unsafe exposure to petroleum contamination in the future. In our interviews, staff described several ways that property owners or buyers could learn about petroleum contamination at properties they own or are hoping to purchase. For example:

Property disclosures. By law, property sellers are required to disclose certain information about the property to potential buyers. For example, Minnesota statutes state that “before transferring ownership of property that the owner knows...contained an underground or aboveground storage tank that had a release for which no corrective action was taken...the owner shall record with the county recorder or registrar of titles...an affidavit containing: ...a description of the tank...and of any known release from the tank of a regulated substance to the full extent known...”¹⁸

What’s in My Neighborhood. MPCA provides a website called “What’s in My Neighborhood” that shows where petroleum releases have been located across the state. The website allows visitors to search by property location or address, and provides information, such as when the release was reported and whether or not MPCA has closed the case for the site.¹⁹

MPCA’s Brownfield Program. Several staff said that MPCA’s Brownfield Program is an option for owners of contaminated properties who want to redevelop or makes changes to their property.²⁰ The Brownfield Program provides technical assistance and liability assurance letters to property owners, buyers, and others. This program is voluntary; property owners and others are not required to participate before making changes to a property with a release site.

Several of the potential avenues through which members of the public could learn about petroleum contamination were outside of the scope of this evaluation. For this reason, we do not provide a specific finding or recommendation about the extent to which MPCA adequately protects the public and the environment from future risks related to existing petroleum contamination. However, several staff described how the existing mechanisms to inform the public about petroleum contamination risks are not foolproof. For example, a couple of staff members commented that property sellers do not always disclose contamination issues on the property; this could result in future property owners unwittingly creating new contamination risks if they make changes to the property.

¹⁸ *Minnesota Statutes* 2021, 116.48, subd. 6(a)(2).

¹⁹ This website may not include all contaminated properties in Minnesota. MPCA states that the website includes data from “the 1990s or earlier, and [data] are fairly complete from 2003 on.” Further, while individuals may be able to determine whether a specific property is a release site, it is not clear for all release sites on the website whether surrounding properties have also been contaminated as a result of the release.

²⁰ “Brownfields are abandoned, idled, or underused industrial and commercial properties where financing expansion or redevelopment is complicated by actual or suspected environmental contamination.” Minnesota Pollution Control Agency, “Brownfields,” <https://www.pca.state.mn.us/waste/brownfields>, accessed November 18, 2021.

MPCA told us that the agency is working on a “continuous improvement project” to identify—among other things—potential new strategies that would further protect human health and the environment from future changes to contaminated properties. We think these efforts are important and we recommend that they continue. MPCA should consider what additional steps the agency can take—perhaps in collaboration with other agencies, units of local government, or business groups—to further ensure that public health and the environment are protected from petroleum contamination into the future.

We also recommend that MPCA ensure Petroleum Remediation Program staff take a consistent approach with regard to the extent to which they consider the future use of a property when making site decisions. While the actions needed to address petroleum contamination may vary from one site to the next due to each site’s unique characteristics, expectations for site work should not vary as a result of which staff person is assigned to the case.

Key Requirements in Law

As we discussed in Chapter 1, the state’s Petroleum Tank Release Cleanup Act outlines few specific requirements for MPCA with regard to how the agency responds to petroleum releases. In this section, we discuss two explicit requirements regarding (1) how MPCA must respond to certain petroleum tank releases, and (2) the speed with which it must conduct certain aspects of its work.

Corrective Action Requirements

Statutes prescribe the way in which MPCA must respond to release sites that are a “low potential risk”; however, neither statutes nor the Petroleum Remediation Program define low potential risk.



Passive bioremediation must be used for petroleum tank cleanups whenever an assessment of the site determines that there is a low potential risk to public health and the environment.

— *Minnesota Statutes 2021, 115C.03, subd. 1a*

According to state law, “whenever an assessment of the site determines that there is a low potential risk to public health and the environment,” MPCA is required to address the release with “**passive bioremediation**.”²¹ Passive bioremediation, while not defined in law, typically refers to “various physical, chemical, or biological processes” that degrade the petroleum contamination naturally and “without human intervention.”²² In other words, for release sites that program staff determine are low potential risk, statutes prohibit the agency from actively cleaning up the site.

In contrast, the Petroleum Tank Release Cleanup Act neither indicates whether MPCA is supposed to remediate release sites determined to be high risk, nor does it describe how the agency is supposed to address petroleum contamination at those sites.

²¹ *Minnesota Statutes 2021, 115C.03, subd. 1a.*

²² Daniel F. Pope and Jerry N. Jones, *Monitored Natural Attenuation of Petroleum Hydrocarbons* (Washington, DC: United States Environmental Protection Agency, 1999): 1, <https://nepis.epa.gov/Exec/QueryPDF.cgi/30002379.PDF?Dockey=30002379.PDF>, accessed November 10, 2021.

Further, neither law nor the Petroleum Remediation Program’s guidance defines what characteristics or site conditions would make a site a low potential risk.²³ In response to our survey, Petroleum Remediation Program staff varied with regard to the site characteristics that would lead them to consider passive bioremediation to be an appropriate approach for a release site. For example, in our survey, a majority of respondents said that they would consider how the contamination could potentially affect site receptors—among other considerations—but respondents differed in the standards they said they would apply. A few staff members said passive bioremediation is appropriate when there are no receptors near the release, some staff members said it is appropriate when there are no risks to receptors, and a couple of staff members said it is appropriate when there is a low risk to receptors.

RECOMMENDATION

MPCA should define the characteristics of release sites it considers to be a “low potential risk” and ensure passive bioremediation is used at those sites as required by law.

Because the Petroleum Remediation Program does not define low risk and does not classify release sites as low potential risk, we were unable to determine whether the program used passive bioremediation in accordance with law for release sites in our review period.²⁴ However, interviews with program staff and responses to our survey led us to question whether passive bioremediation was used consistently or for all sites considered to be a low potential risk, as statutes require. We recommend that MPCA explicitly define the characteristics of sites that are a low potential risk to the public’s health and the environment and ensure that staff’s site management decisions consistently adhere to state law.

If MPCA determines there are release sites it would define as being low potential risk for which it does not believe passive bioremediation would be appropriate, the agency should recommend to the Legislature that this requirement in law be amended. For example, the U.S. Environmental Protection Agency states that some components of petroleum may not be readily biodegradable and that the overall efficacy of passive bioremediation depends on certain site conditions, such as groundwater flow and soil type.²⁵ It is possible that some sites could pose a limited risk to the public or the environment, yet still warrant some clean-up activities given the site conditions or type of petroleum product released.

²³ A few MPCA staff told us that they consider low-risk sites to be sites that are not classified as high-risk.

²⁴ The Petroleum Remediation Program does not maintain data about whether they classified sites as low-risk or high-risk.

²⁵ *A Citizen’s Guide to Bioremediation* (United States Environmental Protection Agency, September 2012), https://clu-in.org/download/Citizens/a_citizens_guide_to_bioremediation.pdf, accessed July 22, 2021; *A Citizen’s Guide to Monitored Natural Attenuation* (United States Environmental Protection Agency, September 2012), https://clu-in.org/download/Citizens/a_citizens_guide_to_monitored_natural_attenuation.pdf, accessed July 22, 2021; and Daniel F. Pope and Jerry N. Jones, *Monitored Natural Attenuation of Petroleum Hydrocarbons* (Washington, DC: United States Environmental Protection Agency, May 1999), <https://nepis.epa.gov/Exe/ZyPDF.cgi/30002379.PDF?Dockey=30002379.PDF>, accessed November 10, 2021.

Timeliness Requirements

In addition to outlining how MPCA must respond to certain releases, state law addresses how quickly MPCA must conduct aspects of its work.

Statutes dictate how quickly MPCA must review certain plans for work at petroleum tank release sites; however, aspects of the law are unclear.

By law, MPCA must review certain plans for site work within 60 or 120 days.²⁶ For example, statutes require MPCA to review a plan within 60 days for “excavation basin soil sampling, excavation of contaminated soil, treatment of contaminated soil, or remedial investigation tasks.”²⁷ As part of this requirement, MPCA must provide a notice of approval (or disapproval) of the plan to the Petrofund Board and the individual applying for reimbursement of site costs from the Petrofund.

While statutes clearly outline the timelines for MPCA to review certain plans, it is not clear whether MPCA is required by law to *collect* such plans. The law states that MPCA’s “commissioner shall review a plan, and provide an approval or disapproval...or the commissioner shall explain to the board why additional time is necessary [to review the plan].”²⁸ One Petroleum Remediation Program supervisor told us that the intent of this section of law is to ensure that responsible parties are reimbursed in a timely manner by requiring MPCA to promptly review site documents. That may be true; however, it is not clear whether the intent of the law is also to ensure that MPCA collects and reviews plans for specific site work.

While the Petroleum Remediation Program collects many documents from consultants, a program supervisor told us that the program does not collect or review “plans” for many of the activities outlined in this section of law.²⁹ The supervisor explained that, instead of collecting work plans for these activities, the program has established guidance that describes the steps consultants should take to conduct much of their work. As a result, consultants generally need not wait for program staff to review and approve their work plans, the supervisor said. Rather, MPCA expects consultants to submit reports describing the outcomes of their work. Because these reports are not “plans,” the supervisor stated that they are not subject to the review timelines in law. Instead, MPCA established an internal objective that staff review consultant reports within 90 days of receipt.

²⁶ *Minnesota Statutes* 2021, 115C.09, subds. 2a(a) and 2a(c). If MPCA is unable to review a plan within the prescribed timeframe, the agency must explain to the Petrofund Board why more time is needed to review the plan.

²⁷ *Ibid.*

²⁸ *Minnesota Statutes* 2021, 115C.09, subd. 2a(c).

²⁹ The Petroleum Remediation Program collects plans for pilot tests, focused investigations, and corrective actions. *Minnesota Statutes* 2021, 115C.09, subds. 2a(a)(1) and 2a(c), identifies plans for “excavation basin soil sampling, excavation of contaminated soil, treatment of contaminated soil, [and] remedial investigation tasks”; MPCA does not collect work plans for those activities. MPCA staff told us that collecting work plans in addition to those they already collect would increase the length of time it takes to investigate a release site and would be duplicative of program guidance.

Despite the ambiguity in law, we reviewed the speed with which program staff reviewed three types of consultant reports.³⁰ For release sites first reported in fiscal years 2017 through 2021, we found that program staff reviewed most of those reports in 120 days or less. For example, we found that staff reviewed about 95 percent of investigation and excavation reports within 120 days of receipt.³¹ MPCA staff were somewhat less successful at meeting the program’s objective to review reports within 90 days. Program staff reviewed 62 percent of investigation reports and 79 percent of excavation reports within 90 days.

RECOMMENDATION

The Legislature should clarify *Minnesota Statutes 2021, 115C.09, subd. 2a*, with regard to whether MPCA is required to collect plans for certain types of site work.

In establishing the timeliness requirements in law, it is not clear whether the Legislature (1) wanted to ensure that responsible parties received reimbursements from the Petrofund in a timely manner, (2) sought to ensure that the work taking place at a release site proceeded in a timely manner overall, (3) intended for MPCA to proactively vet and approve consultant work through specific plans, or (4) all of the above.

Under MPCA’s current interpretation of the law, many of the documents MPCA collects from consultants are not subject to the existing timeliness requirements in law because they are not “plans” for work to be done in the future. Rather, they are reports describing site work that consultants have already completed.

We recommend that the Legislature clarify what it expects of MPCA with regard to the timeliness requirement in law, including whether MPCA is required to collect plans for the types of work described in statutes.

Measuring Program Success

The extent to which the Petroleum Remediation Program ensures petroleum tank releases are adequately addressed depends on both the program staff who make decisions about how to address a release site and the consultants in the field conducting investigations, monitoring releases, and implementing corrective actions. In the following section, we discuss the extent to which the Petroleum Remediation Program has established objectives to measure how well it is protecting human health and the environment from petroleum tank releases. We then describe the extent to which

³⁰ For the purposes of this analysis, we included only reports for which Petroleum Remediation Program staff had completed their review as of August 2021. We did not include reports for which staff review was pending. The data we present represent the best-case scenario regarding how quickly MPCA staff reviewed these three types of reports.

³¹ For release sites first reported in fiscal years 2017 through 2021, it took staff an average of 75 days to review investigation reports and an average of 52 days to review excavation reports. For the corrective action design plans in our review—which the program asserts *are* subject to the 120-day review timeline in law—we found staff reviewed 15 of the 16 plans MPCA received for sites in our review period within 120 days.

program staff and representatives from consulting firms believe the program is fulfilling its overarching goal.

Program Goals and Objectives

There are no explicit goals for the Petroleum Remediation Program in law. However, MPCA program guidance states: “The Petroleum Remediation Program (PRP) investigates and evaluates risks from petroleum tank releases, with the goal of protecting human health and the environment.”³² Program guidance further states that program objectives are to “ensure safe drinking water supplies, prevent unsafe exposure to petroleum vapors, prevent surface water impacts, and prevent exposure to contaminated surface soil.”³³

The Petroleum Remediation Program has established measurable objectives pertaining to the timeliness of its work but not pertaining to the program’s effectiveness.

In addition to the broad goal of protecting human health and the environment as described above, the Petroleum Remediation Program has established measurable objectives pertaining to the speed with which releases are addressed. As we discussed previously, the program strives to clean up 80 percent of release sites within three years of the release’s discovery. Additionally, the program has an objective that not more than 10 percent of release sites be idle at any given time.³⁴ A program supervisor told us it is important that site investigative work is done quickly so that program staff are aware of the level of risk posed by a release site and can respond accordingly.

While the program has established measurable objectives regarding how quickly work is completed at program release sites, the program has not developed measurable objectives that address whether the program’s work has effectively accomplished its primary goal related to environmental protection and public health. One supervisor explained that the program’s ability to protect human health and the environment relies somewhat on whether the interim steps taken for a release site—such as investigation, risk assessment, and corrective action—are completed properly. While the program has established guidance meant to describe how to properly complete these interim steps, the program has not established metrics to ensure its staff appropriately and consistently apply that guidance when making site decisions.³⁵ For example, guidance indicates that high-risk sites typically necessitate a corrective action; however, a program supervisor

³² Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp1-01, *Petroleum Remediation Program General Policy*, January 2021, 1, <https://www.pca.state.mn.us/sites/default/files/c-prp1-01.pdf>, accessed May 11, 2021.

³³ *Ibid.*

³⁴ The Petroleum Remediation Program defines an idle site as a release site that “has had no significant activity in 2 years.” Minnesota Pollution Control Agency, Petroleum Remediation Program, *FY 2022 Program Plan*, 15.

³⁵ As we discuss in Chapter 3, the Petroleum Remediation Program has established some processes meant to ensure consultants are following program guidance.

stated that the program has not systematically tracked whether staff ensured corrective actions were implemented at all high-risk sites.

While the program has not established performance measures pertaining to the overall effectiveness of its work, program staff described methods of ensuring that staff conduct quality work. For example, during the program's **Site Decision Committee** meetings, staff present information about a release site to their peers, supervisors, and the program manager. A program supervisor said this committee is a way for supervisors to randomly check on the quality and consistency of staff work. As another example, staff described two "look-back" projects for which staff have reexamined certain release site files due to advancements in analytical methods and standards.³⁶ A supervisor said these projects have enabled the agency to review the quality of work done at sites with closed cases. The same supervisor commented that the infrequency with which the program reopens investigations into release sites for which it has already closed the case is also evidence of high-quality work.³⁷

RECOMMENDATION

MPCA should establish measurable objectives pertaining to the quality of the Petroleum Remediation Program's work and regularly evaluate the extent to which it meets those objectives.

We commend the program for establishing measurable objectives pertaining to the timeliness of its work. However, just because work is done in a timely manner does not guarantee it is done well. A staff person, in their eagerness to meet the program's timeliness objectives, could decide to close the case for a release site without ensuring that the program has adequately addressed risks to human health and the environment.

While consultants play a key role in investigating and cleaning up a release site, program staff make the final decisions about how to address a release. For example, staff decide whether a site needs a corrective action, whether to close the case, and whether the consultant's report includes adequate information. We appreciate the efforts the program has made to ensure staff conduct high-quality work. However, many of those efforts are site-specific, rather than a systematic evaluation of the program's effectiveness across all release sites.

We recommend that—in addition to measuring staff efficiency—MPCA also regularly measure the adequacy of staff work across all sites. For example, MPCA could systematically evaluate whether all low potential risk sites are addressed with passive bioremediation, as required by law, and whether all high-risk sites receive a corrective

³⁶ These projects include the Petroleum Remediation Program's Gasoline Additive Project that concerns issues with leaded gasoline, and the Vapor Intrusion Project that concerns issues with petroleum vapor intrusion. MPCA said that these projects will help the agency determine whether previous work addressed emerging issues and new detection methods, among other things.

³⁷ We found that the Petroleum Remediation Program reopened the case for only 1 of the nearly 1,340 release sites first reported in fiscal years 2017 through 2021. As of February 2022, MPCA reported that they had reviewed about 3 percent of sites reported in our review period to determine if the case needed to be reopened. MPCA typically reviews closed cases as a result of information they receive when sites are being considered for redevelopment or refinancing.

action.³⁸ Setting objectives regarding the effectiveness or quality of its work will help the program to systematically ensure that staff decisions adhere to program expectations, are consistent across similar sites, and meet the agency's broader goal of protecting human health and the environment.

Staff and Consultants' Assessment of Program Performance

Due to the highly technical nature of the Petroleum Remediation Program's work, we were unable to evaluate whether the program's guidance documents adequately reflect modern day scientific understandings about petroleum releases. As a result, we do not render an overarching opinion regarding how well the program protects human health and the environment from petroleum releases. However, we asked program staff—both project managers and hydrologists—as well as representatives from consulting and contracting firms that were registered with the Petrofund Board how well the program was fulfilling its overarching goal of protecting human health and the environment.

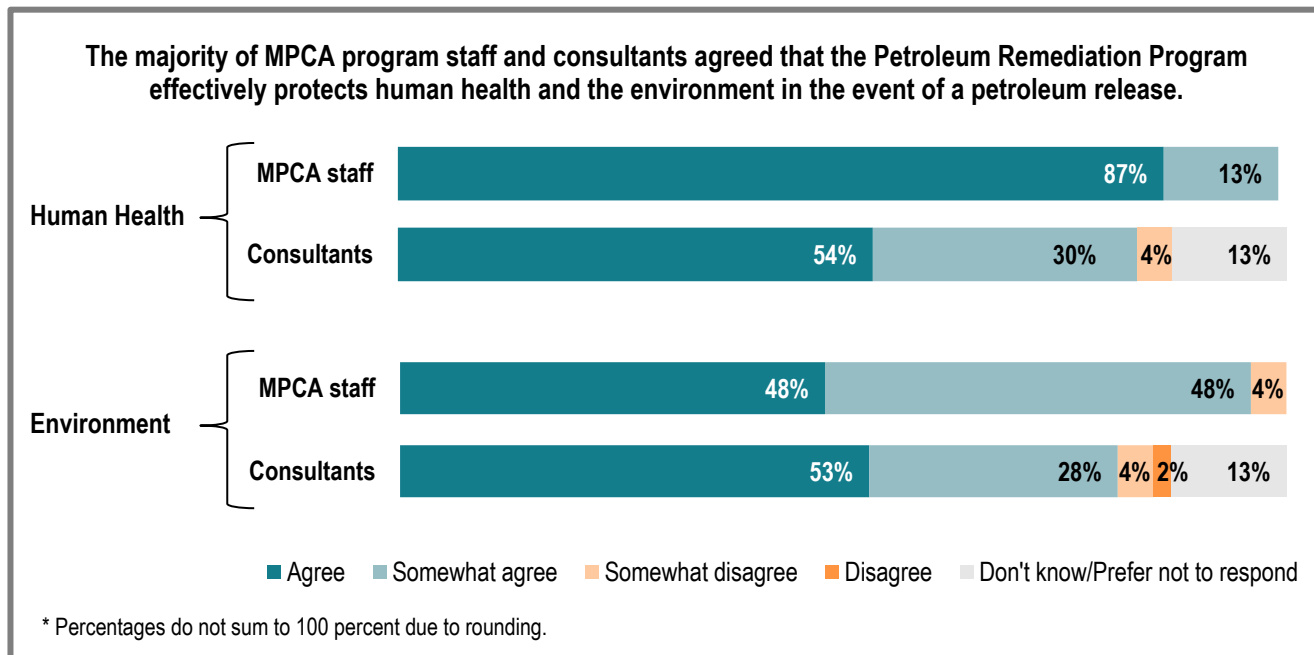
The majority of respondents to our surveys of program staff and consultants agreed that the Petroleum Remediation Program is meeting its goal to protect human health and the environment.

In our survey of Petroleum Remediation Program staff, 100 percent of respondents (23 staff members) agreed or somewhat agreed that the Petroleum Remediation Program effectively protects *human health* in the event of a petroleum release. Over 90 percent of respondents (20 staff members) said cases for release sites were never or rarely closed before adequately protecting human health. Similarly, 96 percent of respondents (22 staff members) agreed or somewhat agreed that the program effectively protects the *environment* in the event of a petroleum release. Eighty-six percent of respondents (19 staff members) said cases were never or rarely closed before adequately protecting the environment.

The majority of consultants likewise thought that the Petroleum Remediation Program was generally fulfilling its overarching goal of protecting human health and the environment. More than 80 percent of respondents to our consultant survey agreed or somewhat agreed that MPCA's Petroleum Remediation Program effectively protects human health and the environment in the event of a petroleum release. Additionally, the majority of respondents to our consultant survey who worked in other states indicated that Minnesota's Petroleum Remediation Program is as good or better at protecting human health and the environment than the state petroleum tank release programs in the majority of other states in which they work.³⁹

³⁸ *Minnesota Statutes* 2021, 115C.03, subd. 1a.

³⁹ We excluded responses from consultants who did not know how the performance of any of the other states in which they worked compared to Minnesota's Petroleum Remediation Program.



However, some consultants identified areas for improvement. In our consultant survey, nearly 30 percent of respondents disagreed or somewhat disagreed that expectations for site work are sufficiently consistent across program staff. Additionally, a couple of consultants said that the program takes too long to review reports.

It is worth acknowledging that program staff or other individuals whose work is dependent on this program may have a natural inclination to offer favorable comments about the program. While consultants and Petroleum Remediation

Program staff generally felt the program effectively protects human health and the environment, some responses to our consultant survey and the existence of a lawsuit alleging the contrary indicate that there are some opposing opinions.⁴⁰ These are perspectives the program could further explore, possibly as part of establishing performance metrics related to the quality of work performed by program staff.



There have been a number of new staff added to the PRP program and thus staff turnover has created inconsistency in application of guidance documents.

— Consultant Survey Respondent

⁴⁰ Complaint and Jury Demand, November 12, 2021, pp. 6-7, *Toso vs. Minnesota Pollution Control Agency*, 62-CV-21-5991. Defendant’s Answer to Plaintiff’s Complaint, December 23, 2021, *Toso vs. Minnesota Pollution Control Agency*, 62-CV-21-5991.

Chapter 3: Consultant Qualifications and Performance

Environmental **consultants** are integral to the Petroleum Remediation Program. Consultants identify and evaluate petroleum **release site** risks, make recommendations to Minnesota Pollution Control Agency (MPCA) program staff about the course of action for a site, and develop plans for **corrective actions**, if needed. Consultants may also work with **contractors** to carry out specific tasks at release sites, such as soil **excavation** or well installation.

In this chapter, we first discuss registration requirements for consultants and contractors working at Petroleum Remediation Program sites. We then describe consultant performance and MPCA’s oversight of consultants before providing several recommendations for the Legislature and MPCA regarding consultant performance and accountability. Finally, we discuss additional challenges stemming from the roles and responsibilities established in the Petroleum Tank Release Cleanup Act.

Key Findings in This Chapter

- Registration requirements for consultants working on Petroleum Remediation Program sites are minimal.
- Many Petroleum Remediation Program staff said that the overall quality of consultant work has negatively affected the program’s ability to meet its goals.
- MPCA has limited authority to directly hold consultants accountable for their work on petroleum release sites.

Consultant Qualifications



Consultants and Contractors

A consultant provides a “professional opinion, advice, or analysis regarding a **release**.”

In contrast, a contractor provides products and services within a specific scope of work, such as excavation, treatment of contaminated soil and groundwater, laboratory analysis, and well installations.

— *Minnesota Statutes 2021, 115C.02, subds. 5a and 5b*

By law, the Petroleum Tank Release Compensation Board (Petrofund Board) is responsible for authorizing which consultants and contractors may work on Petroleum Remediation Program release sites.¹ The Board maintains lists of registered consultants and contractors that it makes available to **responsible parties**.

By law, consultants and contractors who work on release sites must be “registered” by the Petrofund Board.

Statutes require all consultants and contractors who work on petroleum **tank** releases to register with the Petrofund

¹ *Minnesota Statutes 2021, 115C.11, subd. 1(a)*. The Petrofund Board has the power to delegate this authority to the Department of Commerce. *Minnesota Statutes 2021, 115C.09, subd. 10*. Some actions attributed to the Petrofund Board in this section may be performed by Department of Commerce staff rather than by board members.

Board.² Similarly, statutes state that all work in response to a petroleum tank release “must be performed by registered consultants and contractors.”³

If an unregistered consultant or contractor performs work at a release site, they—along with the responsible party—may be subject to penalties. For example, the responsible party may not receive the maximum allowable reimbursement amount for the costs of addressing the petroleum release.⁴ Additionally, the Commissioner of Commerce may penalize consultants or contractors that worked at a release site without being registered, including imposing a financial penalty of up to \$10,000.⁵

Registration requirements for consultants working on Petroleum Remediation Program sites are minimal.



Consultant Registration Requirements

1. Obtain and maintain professional liability coverage and agree to provide documentation of this coverage
2. Certify knowledge of and provide a signed statement agreeing to abide by the requirements of the Petroleum Tank Release Cleanup Act and the rules under it
3. Provide a signed statement that the consultant will make its records available for inspection
4. Agree to provide a signed statement with each claim that costs are true and accurate

— *Minnesota Statutes 2021, 115C.11, subd. 1(a)*

Statutes dictate that, to register with the Petrofund Board, consultants must meet four general requirements, as shown in the box to the left.⁶ For example, consultants must obtain and maintain professional liability coverage and agree to provide documentation of this coverage to the Petrofund Board.⁷ The Petrofund Board is not a licensing board; it does not regulate who can work on petroleum tank releases through a licensing process, it merely registers consultants based on whether they meet the requirements in law.

By law, the Petrofund Board may adopt rules requiring certification of environmental consultants.⁸ However, the Petrofund Board has not adopted any such rules. For example, the

Petrofund Board does not require any of the business’s employees to complete a relevant training course or pass an examination demonstrating proficiency in certain site activities. The Petrofund Director told us that the Petrofund Board does not consider a business’s technical abilities when it decides whether to register the business as a consultant.

² *Minnesota Statutes 2021, 115C.11, subd. 1(a).*

³ *Minnesota Statutes 2021, 115C.11, subd. 1(c).*

⁴ *Minnesota Statutes 2021, 115C.11, subd. 1(d).*

⁵ *Minnesota Statutes 2021, 115C.112, (9).* The Commissioner of Commerce may also censure a registrant or deny, suspend, or revoke a consultant or contractor’s registration. In addition to penalizing a consultant or contractor who performs work without being registered with the Petrofund Board, the Commissioner of Commerce may penalize a consultant or contractor that has allowed an unregistered consultant or contractor to perform work at a release site.

⁶ *Minnesota Statutes 2021, 115C.11, subd. 1(a).* The Petroleum Tank Release Cleanup Act does not specify any registration requirements for contractors who register with the Petrofund Board.

⁷ *Minnesota Statutes 2021, 115C.11, subds. 1(a)(4)-(5).*

⁸ *Minnesota Statutes 2021, 115C.07, subd. 3(b).*

By comparison, MPCA has established qualifications and certification requirements for contractors who install, remove, or repair underground storage tanks, including petroleum storage tanks.⁹ As part of the requirements, the contractor's staff must include at least one certified supervisor. To become a certified supervisor, state law requires individuals to have recent tank service experience and successfully complete a tank service provider training course.¹⁰

The Petrofund Board and the Petroleum Remediation Program provide responsible parties with little information about consultant qualifications or capabilities.

When MPCA requires a responsible party to address a petroleum release, one of the first steps in the process is typically for the responsible party to hire a qualified consultant. The Petroleum Remediation Program directs responsible parties to the Petrofund Board's list of registered consultants. That list includes (1) the name of the consultant, (2) consultant contact information, and (3) the location(s) of the consultant's office(s).

However, neither the Petrofund Board nor the Petroleum Remediation Program provide information about the types of work companies can perform or their qualifications. For example, they do not indicate whether a consultant has experience conducting site investigations or implementing various corrective actions. The Petrofund Director and a few Petroleum Remediation Program staff told us responsible parties sometimes request consultant referrals. The Petrofund Director said that, to avoid showing favoritism, Petrofund staff do not provide guidance on which consultant to select. MPCA commented that—if asked—program staff may provide guidance to the responsible party on questions to ask or things to consider when choosing a consultant. However, like Petrofund staff, one Petroleum Remediation Program staff member said that the state should be unbiased about consultants, and they do not want to recommend that a responsible party hire (or not hire) particular consultants.

Consultant Performance

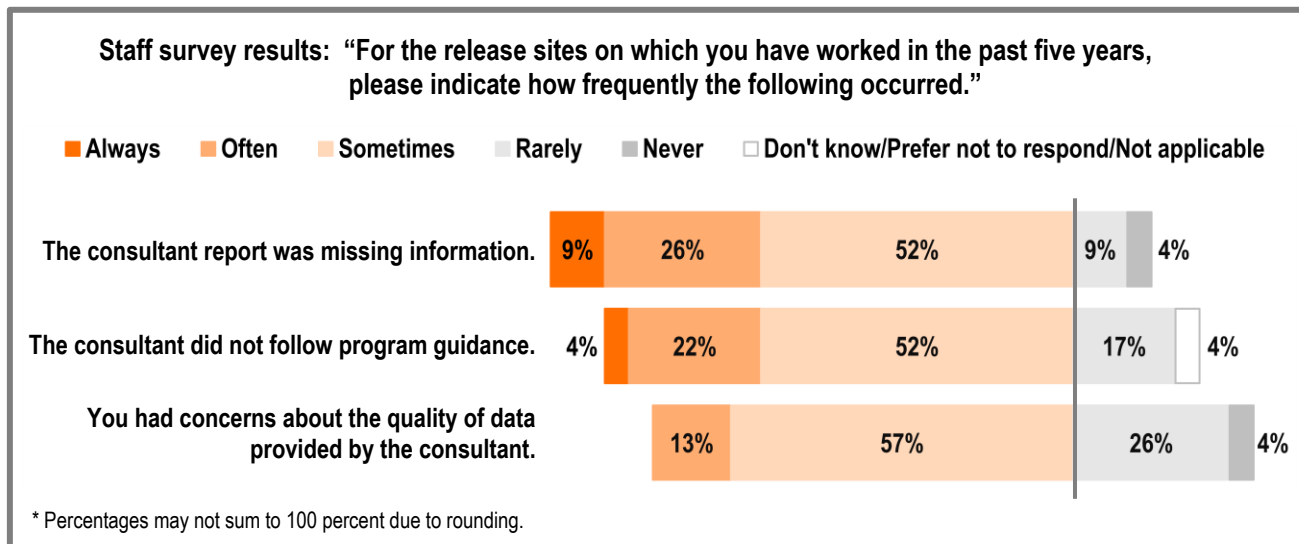
The Petroleum Remediation Program's success in meeting its goals to protect human health and the environment depends in large part on the work of consultants. As we described in previous chapters, the Petroleum Remediation Program relies on consultants to identify potential risks to human health and the environment resulting from petroleum releases and to address those risks through corrective actions, when necessary. Petroleum Remediation Program staff rely on information that consultants provide about release sites to make decisions about whether further actions are needed to address the release.

⁹ *Minnesota Rules*, Chapter 7105, <https://www.revisor.mn.gov/rules/7105/>, accessed November 24, 2021.

¹⁰ *Minnesota Rules*, 7105.0060, subp. 1, <https://www.revisor.mn.gov/rules/7105.0060/>, accessed November 24, 2021.

Many Petroleum Remediation Program staff said that the overall quality of consultant work has negatively affected the program’s ability to meet its goals.

As part of our evaluation, we surveyed program staff about the adequacy of consultant work and the effect of the overall quality of consultant work on the program.¹¹ Eighty-seven percent of respondents (20 staff members) said that consultant reports were at least sometimes missing information.¹² Furthermore, 70 percent of staff (16 staff members) said they at least sometimes had concerns about the quality of data provided by the consultant.



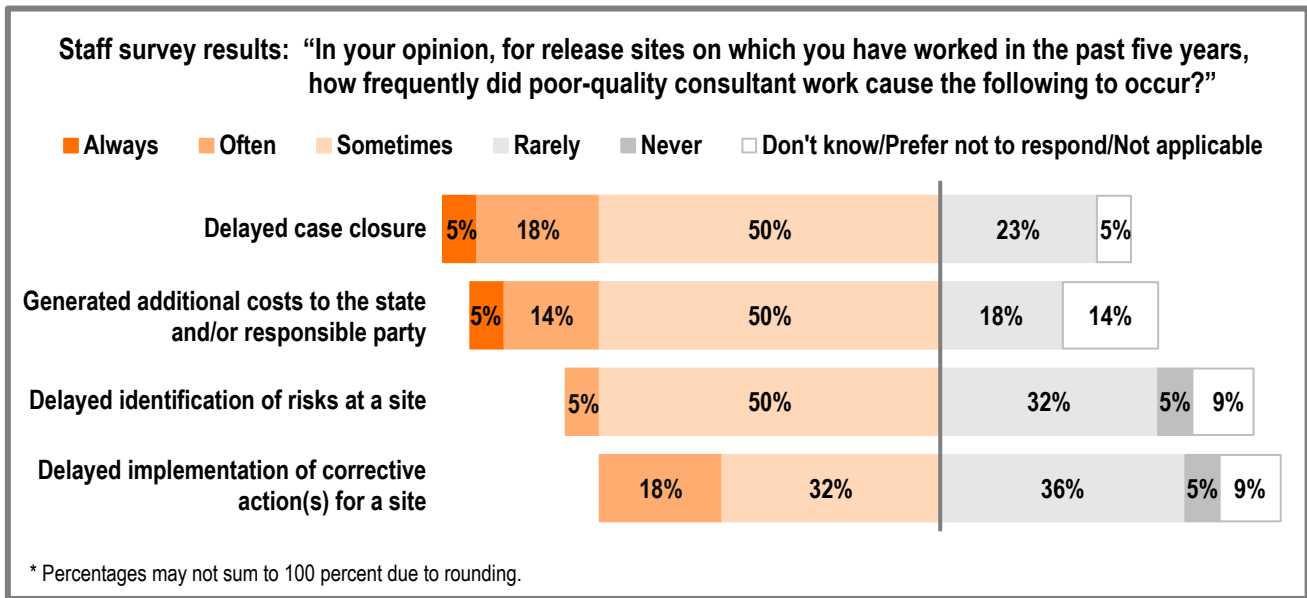
Staff also indicated that consultants did not always follow program guidance. Nearly 80 percent of staff survey respondents (18 staff members) said that consultants at least sometimes did not follow program guidance. Program data supported staff assertions. As we discuss below, the program has a field audit process by which MPCA staff assess whether consultants are adhering to program guidance in the field. When we analyzed audit results for release sites that were first reported between fiscal years 2017 and 2021, we determined that MPCA staff found at least one instance of consultants not following guidance at half of the sites in our review.¹³

¹¹ We surveyed each of the Petroleum Remediation Program’s eight hydrologists and 15 project managers working on petroleum tank release sites as of September 2021; we received a response from each staff member, for a response rate of 100 percent. The total number of responses varies by question.

¹² If reports have certain deficiencies—such as if a report is missing information—MPCA staff may request that the consultant address those deficiencies.

¹³ As of August 2021, staff had performed field audits at 54 release sites first reported in fiscal years 2017 through 2021 (4 percent). Staff performed more than one audit at some sites.

When we asked staff about the specific impacts of poor-quality consultant work, about three-quarters of respondents (16 staff members) said that poor-quality consultant work at least sometimes delayed case closure. Sixty-eight percent (15 staff members) said that poor-quality consultant work at least sometimes resulted in additional costs to the responsible party or the state. In our interviews with program staff, a couple of staff told us that poor-quality consultant work also creates more work for program staff because of additional time spent reviewing reports or communicating back and forth with the consultant.



Altogether, 52 percent of respondents (12 staff members) said that the overall quality of consultant work had a negative impact on the program’s ability to meet its goals to protect human health and the environment. Additionally, 57 percent of respondents (13 staff members) said that the overall quality of consultant work had a negative impact on their ability to make scientifically sound decisions about release sites.

Despite staff concerns about consultant work overall, a majority of staff survey respondents indicated that consultants often or always adequately performed certain tasks. For example, about three-quarters of respondents (16 staff members) said that consultants often or always adequately investigated release sites and evaluated site risks.

Several staff members stated that consultant performance varies from one consultant to the next. One MPCA staff member commented that, while the quality of investigations and risk assessments done by the majority of consultants is good, there are some consultants with which the agency has had problems. Another staff member said there can be a “really wide range” regarding the quality of consultant work; for example, some consultants submit very good reports, while others submit poor-quality reports.

Consultant Oversight

MPCA has implemented several strategies in an attempt to ensure that consultants conduct high-quality work.

While staff expressed concerns about the quality of some consultants' work, the agency has taken several steps in an effort to improve consultant performance. For example:



Survey Results: Program Guidance

Over 75 percent of staff and consultant survey respondents agreed or somewhat agreed that program guidance documents are sufficiently **comprehensive**.

At least 70 percent of staff and consultant survey respondents agreed or somewhat agreed that program guidance documents are sufficiently **scientifically rigorous**.

Over 60 percent of staff and consultant survey respondents agreed or somewhat agreed that program guidance documents are **updated in a timely manner** to reflect scientific advancements in the field.

Program guidance. Petroleum Remediation Program guidance outlines steps for addressing a petroleum release. As we discussed in Chapter 2, rather than approving consultant plans for each aspect of their site work, the program expects consultants to adhere to the program expectations established in guidance. As shown in the box to the left, in our surveys, program staff and consultants and contractors largely agreed that program guidance documents are sufficiently comprehensive and scientifically rigorous.¹⁴

Field audits. To help ensure that consultants investigating or cleaning up release sites are providing Petroleum Remediation Program staff with high-quality data, MPCA launched a field audit initiative in 2007. As part of the initiative, MPCA staff periodically make unannounced site visits and observe consultant practices to determine whether consulting staff are following program guidance.¹⁵ At the conclusion of the audit, staff provide feedback to the consultant about any instances in which the consultant did not follow guidance and request that the consultant take measures to prevent the issues from reoccurring.

Report consistency. The program is also seeking to improve the consistency of consultant reports. During the first stage of this initiative, MPCA is working to reduce the amount of missing information in consultant reports.¹⁶ To do so, MPCA has added

checklists to various report templates in order to more clearly communicate expectations about the information consultants must include. During the second stage of the initiative, which has yet to begin, MPCA will seek to increase consistency in how staff address consultant investigations that do not follow guidance, among other goals.

¹⁴ For our survey of consultants and contractors, we contacted a representative from each of the consulting or contracting firms registered with the Petrofund Board as of September 2021. Of the 247 individuals we contacted, we received 102 responses, for a response rate of 41 percent. Of the respondents, 55 said their company had worked on Petroleum Remediation Program sites in the past five years. Survey totals reflect the responses of those 55 respondents. The total number of responses varies by question. For the remainder of this chapter, when referencing this survey, “consultant” includes both consultant and contractor respondents.

¹⁵ Staff told us they may consider different factors—including when a consultant was last audited, site location, the type of work taking place, and whether the consultant has a history of audit errors—when selecting sites to audit.

¹⁶ An MPCA staff person told us that the first stage of the initiative launched in 2021.

Despite the Petroleum Remediation Program’s efforts to ensure that consultants conduct high-quality work, MPCA staff expressed concerns about the program’s ability to ensure consultants perform adequately.

MPCA has limited authority to directly hold consultants accountable for their work on petroleum release sites.

The Petroleum Tank Release Cleanup Act does not give MPCA authority to directly hold consultants accountable—through penalties or sanctions, for example—for poor performance. Instead, the act explicitly gives the Department of Commerce and the Petrofund Board the authority to impose consequences on consultants. For example, statutes grant the Department of Commerce the authority to levy monetary penalties against consultants for substandard work.¹⁷ Additionally, the Commissioner of Commerce and the Petrofund Board, rather than MPCA, make decisions about a consultant’s registration status.¹⁸ MPCA cannot directly prevent a consultant from registering with the Petrofund Board nor revoke a consultant’s registration.

Further, MPCA typically cannot directly address issues with poor consultant performance through the contracting process because responsible parties—rather than MPCA—contract with consultants for the work conducted at most release sites.¹⁹ When a responsible party contracts with a consultant, MPCA does not have control over the terms of the contract, nor does it control payment to the consultant. This limits MPCA’s ability to directly address consultant performance issues. For example, MPCA cannot reduce a consultant’s pay for not following program guidance. Additionally, MPCA has no ability to control whether a responsible party contracts with a problematic consultant again in the future. Instead, Petroleum Remediation Program staff may have to continue to work with consultants with repeated performance issues.

Rather than holding consultants directly accountable for poor performance, MPCA staff told us the agency indirectly holds consultants accountable for poor performance through the responsible party. Statutes grant MPCA the authority to require responsible parties to “take reasonable and necessary” actions to address a petroleum release.²⁰ Through the responsible party, if MPCA determines that consultant work is inadequate, it may direct the consultant to do more work or redo aspects of its work until the work is adequate.



If there are delays in reporting or if work isn’t being completed as requested by the MPCA, there could be reductions in the reimbursement from [the] Petrofund, but that is a penalty on the [responsible party], not the consultant.

— Program Remediation Program Staff Person

While MPCA may direct consultants to do additional work to address deficient performance, the consequences of having to perform additional work fall on the responsible party and the state, rather than the consultant who

¹⁷ *Minnesota Statutes* 2021, 115C.112.

¹⁸ *Minnesota Statutes* 2021, 115C.11, subd. 1(i); and 115C.112.

¹⁹ Responsible parties contracted with consultants for 96 percent of petroleum release sites first reported between fiscal years 2017 and 2021. As we discussed in Chapter 1, MPCA contracts directly with consultants for sites at which the agency takes direct responsibility for addressing the release. For those sites, MPCA does have direct control over the contract and consultant performance.

²⁰ *Minnesota Statutes* 2021, 115C.03, subd. 1.

performed inadequately. For example, poor consultant performance may result in costs that are ineligible for reimbursement or in a reimbursement reduction overall. If consultant reports are missing information, for instance, certain costs may not be eligible for reimbursement. However, because the responsible party applies for the reimbursement rather than the consultant, the responsible party is obligated to pay any additional costs that were not reimbursed—not the consultant.²¹ Likewise, the state may incur additional costs as a result of additional staff time needed to address the poor consultant performance.

In our staff survey, 70 percent of respondents (16 staff members) disagreed or somewhat disagreed that the program has an adequate process for addressing poor consultant performance. About 60 percent of respondents (14 staff members) disagreed or somewhat disagreed that there are adequate penalties for consultants with performance issues.

70%
of staff survey respondents indicated that the Petroleum Remediation Program does not have an adequate process for addressing poor consultant performance.

Recommendations

Although granted the authority in law, the Department of Commerce has rarely taken enforcement actions to address poor consultant performance. When the state has pursued enforcement actions against a consultant—such as issuing a fine or revoking a registration—Commerce’s website indicates that the majority of these actions pertained to other issues, such as fraud, rather than poor-quality work.²² While the Department of Commerce has the power to address consultant performance, a Commerce staff member told us that it is MPCA’s role to determine whether a consultant’s work is appropriate.

Department of Commerce staff told us that Petroleum Remediation Program staff have rarely shared concerns about specific consultants with them. Commerce staff may learn about consultant performance issues as part of the process for determining Petrofund reimbursements, but those performance issues pertain to a consultant’s performance at a specific site—rather than indicating a pattern of performance problems. A supervisor in the Petroleum Remediation Program said that, while there is a lot of communication between MPCA staff and Commerce staff, there is no formal mechanism to share concerns about consultant performance.

Below, we discuss recommendations for the Legislature and the Petroleum Remediation Program regarding poor consultant performance.

²¹ A few MPCA staff told us that a responsible party may be able to negotiate with the consultant so that the responsible party would not have to pay the consultant for nonreimbursable costs resulting from poor-quality consultant work. However, the extent to which a responsible party can negotiate with a consultant by law is unclear. Statutes state that “An applicant may not accept forgiveness or demand payment from a consultant or contractor for the nonreimbursable portion of an application for reimbursement submitted under [chapter 115C]....” *Minnesota Statutes* 2021, 115C.045.

²² Minnesota Department of Commerce, *Petrofund Enforcement Actions*, <https://mn.gov/commerce/industries/fuel/petrofund/enforcement.jsp>, accessed August 5, 2021.

RECOMMENDATION

The Legislature should direct MPCA to collaborate with the Petrofund Board to study whether and how to establish technical qualifications for consultants working on Petroleum Remediation Program sites.

As we discussed in the first section of this chapter, the Petrofund Board registers consultants working on Petroleum Remediation Program sites and has the authority to establish certification requirements for environmental consultants. However, the Board has not yet done so.

The Legislature should direct MPCA to work with the Petrofund Board to explore whether establishing technical qualifications for firms working on Petroleum Remediation Program sites would be feasible. Two MPCA supervisors told us there may be challenges to developing a certification program for consultants working on Petroleum Remediation Program sites because consultants perform a variety of different tasks. However, establishing some minimum technical requirements for consultants may help reduce the frequency of poor-quality work.

Even if MPCA and the Petrofund Board determine that establishing a formal certification requirement would not be feasible, there are other options they could consider to ensure that consultants are sufficiently qualified. One Petroleum Remediation Program supervisor told us that the program already has additional requirements for consultants with whom MPCA contracts directly. For example, they told us that the program ensures that companies have a professional geologist on staff. MPCA and the Petrofund Board could consider implementing a similar requirement for all registered consultants. MPCA and the Petrofund Board could also look to other states for additional examples of registration or certification requirements that may help ensure quality consultant work.

RECOMMENDATION

The Legislature should direct MPCA and the Minnesota Department of Commerce to collaborate in holding consultants more accountable for poor-quality work on petroleum release sites.

The Petroleum Remediation Program and the Department of Commerce do not have a systematic way to collaboratively hold consultants accountable for poor performance. Commerce staff may learn about issues with consultant work on a site-by-site basis; however, MPCA staff do not have a formal process for communicating with Commerce staff about repeated issues with a consultant's work over time and across multiple release sites.

We recommend that the Legislature direct Petroleum Remediation Program staff to work with Department of Commerce staff to develop a systematic way to hold consultants accountable for poor performance when there are repeat performance issues. For example, a couple of MPCA staff told us it would be helpful to have a rating system for consultants. Commerce and MPCA could develop a formal performance evaluation process to provide MPCA and the responsible party the opportunity to evaluate

consultant work.²³ Establishing formal performance evaluations could assist the Department of Commerce in monitoring consultant performance over time. Commerce could make these evaluations publicly available, which could help promote accountability.

Poor-quality consultant work may result in program inefficiencies and unnecessary costs to the state and the responsible party. Developing a more formalized system to communicate about consultant performance would enable the Department of Commerce to respond as necessary, such as by revoking or suspending a consultant's registration.

RECOMMENDATION

MPCA should make data regarding consultant performance more accessible to responsible parties.

Petroleum Remediation Program staff currently collect some data on consultant performance. For example, through field audits, staff collect data about instances in which consultants do not follow program guidance. Additionally, when program staff reject a consultant report because of problems with the quality of the work, staff track these report rejections in the program's database. While Petroleum Remediation Program staff said findings from its review of consultant performance are classified as public information, the program does not publish these findings. For example, this information is not available on MPCA's website; someone would have to know that this information exists and then contact the program to request it.

We recommend that the Petroleum Remediation Program make consultant performance data more accessible to responsible parties. Performance data could potentially help responsible parties make more informed decisions about which consultants they should contact when they are seeking bids for petroleum release site work. As we discussed at the beginning of this chapter, responsible parties have limited information with which to select a qualified consultant. Yet, if a consultant performs poorly, the responsible party could face additional costs.

If the program makes performance data more accessible to the public, it will be critical for program staff to ensure that data accurately and fairly reflect consultant performance. Further, there may be some limitations associated with sharing some consultant performance data. For example, MPCA staff only conduct audits of a sample of release sites, so field audit data will not provide a comprehensive view of the performance of all consultants working on these sites. MPCA should consider which performance data (1) objectively assess consultant performance and (2) will be most helpful to responsible parties as they select a qualified consultant.

²³ State law requires agencies to evaluate work performed under certain professional or technical contracts. *Minnesota Statutes* 2021, 16C.08, subd. 4(c). However, because the Petroleum Remediation Program typically does not contract directly with consultants, this requirement typically does not apply for work at program sites.

Additional Challenges

The roles and responsibilities established in the Petroleum Tank Release Cleanup Act create a number of potential challenges for the Petroleum Remediation Program. As we discussed above, the division of responsibilities between state entities complicates the process of holding consultants accountable for poor performance. Additionally, consultants may have to navigate conflicting priorities as a result of the roles established in law. These conflicting priorities may pose additional challenges for the effective administration of the Petroleum Remediation Program.

Some MPCA staff told us there is a potential for a conflict of interest with regard to consultants’ site recommendations.

A consultant is typically responsible for meeting the expectations of both MPCA and the responsible party. MPCA decides how consultants should conduct their work generally and reviews consultant work to determine what actions the consultant should take at a particular release site. On the other hand, the responsible party holds the contract with the consultant and is responsible for paying the consultant for its work.

However, MPCA and the responsible party may have conflicting priorities. While the responsible party may apply to the Petrofund Board for reimbursement for a share of the cost of addressing the petroleum tank release, the responsible party is typically responsible for at least 10 percent of project costs.²⁴ As a result, a responsible party may have a financial interest in trying to limit the amount of work done to address the release in order to reduce project costs, regardless of what is actually needed to adequately protect human health and the environment. At the same time, the Petroleum Remediation Program expects consultants to follow program guidance when making recommendations about how to address a release, even if the responsible party—the consultant’s client—may not agree with those recommendations.

In our survey of MPCA staff, we found that staff often disagreed with consultant recommendations about how to address a release. As we discussed in Chapter 2, after evaluating site risks, the consultant makes a recommendation in the investigation report to either close the case or pursue further action to address the release. In our staff



Some consultants have a tendency to recommend [case] closure whether or not the site conditions warrant closure. It is in the best interest of their client [the responsible party] for the [case] to be closed.

— Program Remediation Program Staff Person

survey, 77 percent of respondents (17 staff members) told us they at least sometimes disagreed when a consultant recommended in the investigation report that MPCA close the case. Nearly one-third of respondents (seven staff members) said they *often* disagreed when a consultant recommended case closure. Several MPCA staff said that some consultants recommend closure because that is the outcome the responsible party desires, rather than what is appropriate at the site, according to program guidance.

²⁴ *Minnesota Statutes* 2021, 115C.09, subd. 3(a).

However, respondents to our consultant survey indicated that their clients typically did not pressure them to recommend case closure. No respondents who had recent experience providing case closure recommendations to MPCA reported that responsible parties often or always attempted to pressure or persuade their company to recommend case closure, even if closure was not warranted. Rather, a majority of respondents (58 percent) reported that responsible parties never attempted to pressure or persuade their company to recommend case closure.

It is unclear the extent to which the potential for a conflict of interest—and other challenges pertaining to the division of responsibilities established in the Petroleum Tank Release Cleanup Act—affects the extent to which the Petroleum Remediation Program adequately protects human health and the environment from petroleum tank releases. While there is a potential for a conflict of interest in consultant recommendations, ultimately, MPCA makes the decision about whether case closure is appropriate.

Our evaluation focused narrowly on MPCA's Petroleum Remediation Program. Because the division of responsibilities and the issue of a potential conflict of interest relate to the Petroleum Tank Release Cleanup Act more generally, we do not provide a recommendation about broader changes to the act. Nevertheless, we think these issues warrant further examination.²⁵

²⁵ For example, although most program staff did not indicate this was a concern, consultants could also potentially recommend additional work, resulting in additional pay to themselves, when it is not warranted.

List of Recommendations

- The Minnesota Pollution Control Agency (MPCA) should:
 - Consider additional steps it could take to reduce risks resulting from future changes to petroleum-contaminated properties.
 - Ensure staff take a consistent approach in the extent to which they consider how a property may be used in the future when they make site decisions. (p. 25)
- MPCA should define the characteristics of release sites it considers to be a “low potential risk” and ensure passive bioremediation is used at those sites as required by law. (p. 28)
- The Legislature should clarify *Minnesota Statutes* 2021, 115C.09, subd. 2a, with regard to whether MPCA is required to collect plans for certain types of site work. (p. 30)
- MPCA should establish measurable objectives pertaining to the quality of the Petroleum Remediation Program’s work and regularly evaluate the extent to which it meets those objectives. (p. 32)
- The Legislature should direct MPCA to collaborate with the Petrofund Board to study whether and how to establish technical qualifications for consultants working on Petroleum Remediation Program sites. (p. 43)
- The Legislature should direct MPCA and the Minnesota Department of Commerce to collaborate in holding consultants more accountable for poor-quality work on petroleum release sites. (p. 43)
- MPCA should make data regarding consultant performance more accessible to responsible parties. (p. 44)



OLA

Glossary

Beneficial use level. “A level determined on a site-specific basis dependent on the actual usage of the groundwater and the necessary water quality level needed to maintain those uses.”¹

Consultant. An individual, partnership, association, private corporation, or other legal entity that performs consulting services, which includes “the rendering of professional opinion, advice, or analysis regarding a release.”²

Contaminant plume. The dispersion of contamination outward from the contamination source through an aquifer creates a contaminant plume, or an area of contaminated water.

Contractor. An individual, partnership, association, private corporation, or other legal entity that performs contractor services, including “products and services within a scope of work that can be defined by typical written plans and specifications including, but not limited to, excavation, treatment of contaminated soil and groundwater, soil borings and well installations, laboratory analysis, surveying, electrical work, plumbing, carpentry, and equipment.”³

Corrective actions. Activities done at a release site to eliminate a high-risk condition, such as soil excavation or well replacement.

Drinking water standards. Standards established by the Minnesota Department of Health or the U.S. Environmental Protection Agency that are used to determine whether the level of contaminants in drinking water may pose health risks to people drinking the water.

Excavation. Excavation involves the digging up of contaminated soil and debris to either treat the contamination or to dispose of the contaminated soil in a landfill.

Exposure pathway. A route for contamination to travel from the contamination source to a receptor.

***In situ* chemical oxidation injection.** Involves the addition of chemical “oxidants” to the soil and groundwater by injecting them underground, which generates a chemical reaction that converts contaminants into harmless byproducts. “*In situ*” indicates that the corrective action is done in place, rather than excavating the soil or pumping out groundwater for treatment.

¹ Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp1-01, *Petroleum Remediation Program General Policy*, January 2021, 5, <https://www.pca.state.mn.us/sites/default/files/c-prp1-01.pdf>, accessed May 11, 2021.

² *Minnesota Statutes* 2021, 115C.02, subd. 5a.

³ *Minnesota Statutes* 2021, 115C.02, subd. 5b.

Intrusion screening values. Values based on U.S. Environmental Protection Agency methods and parameters “used for screening for inhalation risks to indoor air” from contaminants, including those in petroleum vapors.⁴

Light non-aqueous phase liquid (LNAPL). “A liquid petroleum product existing in the pores of subsurface sediments and rocks that is immiscible with water and less dense than water.”⁵ Sometimes also called “free product.”

Passive bioremediation. Various physical, chemical, or biological processes that “act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or ground water.”⁶

Receptor. A feature at or near a release site that could potentially be contaminated by a released petroleum product.

Release. “A spilling, leaking, emitting, discharging, escaping, leaching, or disposing of petroleum from a tank into the environment...”⁷ It does not include discharges or designed venting allowed under agency rules.

Release site. The physical location of a petroleum release from a specific petroleum tank system. A single tank system can have more than one petroleum release site in situations where the characteristics of a release from that tank system are different from an earlier release from that tank system.

Responsible party. An individual, partnership, association, public or private corporation, or other legal entity, that is responsible for addressing a petroleum release.⁸ While there are exceptions, a responsible party is generally an owner or operator of the petroleum storage tank at any time during or after the release.

Site Decision Committee. A Petroleum Remediation Program committee comprised of program staff, such as project managers, hydrologists, and supervisors, that meets bi-monthly to discuss staff plans and recommendations for a petroleum release site.

Soil boring. A sampling technique that involves drilling holes in the soil to collect samples used to determine the presence of contamination.

⁴ Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp1-01, *Petroleum Remediation Program General Policy*, January 2021, 5, <https://www.pca.state.mn.us/sites/default/files/c-prp1-01.pdf>, accessed May 11, 2021.

⁵ Minnesota Pollution Control Agency, Petroleum Remediation Program, c-prp2-02, *Light Non-Aqueous Phase Liquid Management Strategy*, January 2021, 1, <https://www.pca.state.mn.us/sites/default/files/c-prp2-02.pdf>, accessed June 23, 2021.

⁶ Daniel F. Pope and Jerry N. Jones, *Monitored Natural Attenuation of Petroleum Hydrocarbons* (Washington, DC: United States Environmental Protection Agency, 1999), 1, <https://nepis.epa.gov/Exec/QueryPDF.cgi/30002379.PDF?Dockey=30002379.PDF>, accessed November 10, 2021.

⁷ *Minnesota Statutes* 2021, 115C.02, subd. 12.

⁸ *Minnesota Statutes* 2021, 115C.02, subd. 13.

Stimulated biodegradation. A method for increasing the rate at which contamination breaks down. For example, one technique is to add nutrients to the soil to encourage the growth of microorganisms that help break down petroleum.

Surface water standard. Numeric standards that are used to determine whether levels of a chemical or pollutant in surface water indicate unacceptable impacts to that surface water.

Tank. “Any one or a combination of containers, vessels, and enclosures, including structures and appurtenances connected to them, that is, or has been, used to contain, dispense, or store petroleum” excluding certain federally regulated pipeline facilities and most mobile tanks.⁹

⁹ *Minnesota Statutes* 2021, 115C.02, subd. 14.



OLA

February 15, 2022

Ms. Judy Randall
Legislative Auditor
Office of the Legislative Auditor
Centennial Building, Room 140
658 Cedar Street
St. Paul, MN 55155-1603

Dear Ms. Randall:

Thank you for the opportunity to review and respond to the Office of the Legislative Auditor's (OLA) program evaluation of the Minnesota Pollution Control Agency's (MPCA or Agency) Petroleum Remediation Program. Through this program, the MPCA advances its mission to protect human health and the environment by overseeing prompt and thorough investigation, cleanup, and closure of petroleum contamination sites.

The OLA's evaluation finds that "the majority of the respondents to [OLA] surveys of consultants and [MPCA] program staff agreed that the Petroleum Remediation Program is meeting its goals to protect human health and the environment." (*Page S-1, Key Facts and Findings*). In fact, the OLA reports 100% of MPCA staff and 84% of environmental consults surveyed stated that the work the program completes is protective of human health.

We are proud of this program's outcomes, which the U.S. Environmental Protection Agency (EPA) recognizes as a top-performing program in the Midwest: Minnesota is the only state in EPA Region 5 to achieve its goal for cleaning up leaking underground storage tank sites.

The MPCA is committed to continuous improvement and has built a culture where learning is valued. The Agency appreciates the OLA's feedback and is dedicated to finding and implementing improvements. We have made numerous improvements to the program — many initiated by our own staff — and we continuously seek out and adopt new approaches and processes that emerge with the advancement of science and technology. The EPA has endorsed these efforts, specifically recognizing two "lookback" projects on vapor intrusion and gasoline additives that ensure closed sites are still protective in light of new scientific information.

Commitment to protecting Minnesotans from pollution

The overarching goals of the Petroleum Remediation Program are to ensure Minnesotans have clean drinking water and are protected from toxic vapors associated with contamination from leaking petroleum tanks, and to prevent contamination from impacting nearby surface waters like lakes and rivers.

The program achieves success through the following priorities:

- Overseeing prompt investigation, cleanup, and closure of petroleum release sites.
- Ensuring these investigations, cleanups, and closures occur as quickly as possible without compromising our mandate to protect human health and the environment.
- Coordinating with the responsible parties and the Minnesota Department of Commerce to ensure prompt and proper reimbursement of eligible expenses incurred during investigation and cleanup of petroleum releases.

Regulated parties and consultant performance

Owners and operators of storage tanks are responsible for cleaning up spills or leaks should they occur. Much of this work is conducted by environmental consultants hired by the responsible parties and is completed within guidelines and to meet standards set by the MPCA's Petroleum Remediation Program — from initial investigations through the completion of cleanup stages. The Agency oversees all program sites and has clear authority over responsible parties to appropriately address contamination.

The agency also has tools in place to ensure consultants' work is of high quality and meets standards. Consultants must adhere to written guidance, which takes place of work plans for initial cleanup investigations, and MPCA staff reviews all site-specific work plans for corrective action. Our staff provides education and training on the guidance and conducts field audit reviews that ensure work was adequately completed and consultants receive timely feedback. In addition, the program launched a new project to improve the quality of consultants' reports in May 2021 (see below reference to REPORT project).

The Agency concurs with the OLA's findings that additional improvements are needed in the work of some environmental consultants and the Agency is willing to work with the Department of Commerce and the Legislature to develop strategies to satisfy this recommendation.

However, it must be noted that incidences of inadequate work products are limited — and the MPCA does not allow this to impact our ability to ensure contaminated sites are properly addressed. If/when consultants' work does not meet MPCA standards, the Agency requires consultants, through the responsible party, to correct the work or complete additional steps to fill in the gaps. While this may at times result in administrative delays and prolonged cleanup timelines, the MPCA consistently exercises its authority to ensure the responsible party appropriately addresses the site to protect human health and the environment.

Assessing risks from contamination

The MPCA's Petroleum Remediation Program implements a risk-based approach to corrective action at petroleum release sites. It is a well-defined and studied method implemented by other state cleanup programs nationwide and approved by the EPA.

We don't put Minnesotans' health on a sliding scale: The Agency divides contaminated sites into two categories and prioritizes leaks and spills that have the highest risk of harming the environment or affecting human health. The criteria for "high-risk" sites in need of corrective action are clearly articulated in the program's guidance, which the OLA acknowledges and outlines on page 18 (exhibit 2.1). In turn, "low-risk" sites are indirectly defined as those that are not "high-risk." Low-risk sites are where passive bioremediation, or no action provides adequate protection as outlined by Minnesota statute.

The MPCA agrees that we can more clearly articulate the high- and low-risk definition relationship. We will revise our guidance to define low-risk sites as those sites that do not meet the high-risk criteria already in our guidance and will also include designation of whether a site is high- or low-risk within our database to assist with future tracking.

Considering risk of contamination into the future

As much as possible, the MPCA considers the potential for future risk of exposure to contamination. However, determining future risk is complex because several conditions could change, including plans for how a site will be used, new knowledge of contaminants' potential health and environmental risk, and science and technology improvements. Since no single mechanism guarantees complete protection, we use a "belt and suspenders" approach where multiple mechanisms are stronger than any one alone.

The following parties each play a role in this approach:

- **MPCA:** Staff consider future development or change of use when known, along with local government's future zoning plans. We require corrective actions at sites where petroleum compounds are present above a drinking water standard in an aquifer associated with sensitive groundwater condition. The MPCA also requires institutional controls to be placed on the property such as affidavits or environmental covenants, if appropriate.
- **Current owners, sellers:** Minnesota Statute Section 116.48 requires sellers to file an affidavit with the property record when there was contamination found but no corrective action taken. Minnesota Statute Section 513.55 requires any seller to make a general disclosure at time of sale of the condition of the property. To assist with its implementation, MPCA worked with Minnesota Realtors on prompt questions about contamination affecting the property and specific mitigation systems.
- **Buyers, new owners:** Through due diligence, these parties search information shared publicly by MPCA through website tools such as What's in My Neighborhood, petroleum remediation maps, the Minnesota Groundwater Contamination Atlas, and others.
- **Developers, lenders:** Standard lender practices require developers to obtain assurances that environmental issues are reviewed and addressed for various types of new development. MPCA's Brownfields Program was created specifically to address contaminated site transactions and redevelopment for non-responsible parties and is available for these transactions.

The MPCA agrees future risk should be further reviewed and new tools considered to ensure consistency across sites. This issue was previously identified by staff and supported by leadership as one of the three ongoing continuous improvement projects for consistency in cleanup.

Measuring quality and supporting continuous improvement

The MPCA is committed to excellence across all its programs and helps ensure consistency and quality of staff work toward the Petroleum Remediation Program's desired outcomes through several ways. We hire highly qualified professionals, set high expectations for staff, and provide ongoing training and support for professional growth.

One strategy to ensure and measure the quality of work is the program's "re-open committee for old sites," which tracks when the MPCA reviews and reopens old sites. This committee reviews closed sites when it receives new information, most often reported through the State Duty Officer. Of the 20,000 closed leak sites in the program, we reviewed 202 sites during FY2017-2021. Of those sites, only 18 were

reopened to determine whether additional work is required. This measure provides the program an indication of past cleanup quality.

A separate “site decision committee” also measures staff performance and work quality by examining their participation as presenters, reviewers, and observers — as well as decisions made by supervisors and managers — to ensure consistent approaches and to allow staff to learn from their coworkers’ experiences. The MPCA agrees that we can utilize both these metrics to evaluate the quality of past site decisions and implement improvements to future site decisions, if necessary.

To nurture a culture where learning is valued, MPCA staff are encouraged to bring forward new ideas for innovative and improved processes that align with evolving practices in their fields and the advancement of science and technology. Such ideas by staff are researched and, when appropriate, implemented into Agency programs and processes.

Examples of continuous improvement projects:

- **Report evaluation and performance oversight team (REPORT):** With the goal of improving quality of materials submitted by consultants, this workgroup focuses on standardizing reports provided by consultants and report review by staff. The project launched in May 2021 and will be expanded in coming months.
- **Agency-wide project to enhance and increase consistency in cleanups:** This ongoing project consists of three components: inventory of risk criteria, values, and guidance; review of plume definition and stability determinations; and review of mechanisms to address future risk. The goal is to improve and make more consistent efforts related to cleanup within and across programs.
- **“Look-back” projects:** Staff are reviewing our work at closed sites to ensure sites remain protective of human health and the environment with the advancement of science. Two separate projects examine risks associated with vapor intrusion and gasoline additives. Reviews will determine whether previous work is still effective despite emerging issues, changing health-based guidance values, new laboratory detection methods and/or lower laboratory detection methods. The EPA has endorsed this work, recognizing the need to apply new knowledge to current, future, and previous site work.

The MPCA strives to be a learning organization, to foster a culture that values innovation and ingrains improvement into our everyday work. Going forward we will continue to look for ways to improve our processes and guidance to ensure consistent and optimal outcomes.

The MPCA appreciates the OLA’s evaluation of the Petroleum Remediation Program and its final report that recognizes both the outcomes of this important program and the contributions of our dedicated and hardworking staff. We are committed to working collaboratively to ensure we fulfill our mission of protecting human health and the environment.

Sincerely,



Katrina Kessler
Commissioner

Forthcoming OLA Evaluations

Emergency Ambulance Services

Minnesota Department of Education's Role in Addressing the Achievement Gap

Unemployment Insurance Program: Efforts to Prevent and Detect the Use of Stolen Identities

Recent OLA Evaluations

Agriculture

Pesticide Regulation, March 2020

Agricultural Utilization Research Institute (AURI), May 2016

Agricultural Commodity Councils, March 2014

Criminal Justice and Public Safety

Driver Examination Stations, March 2021

Safety in State Correctional Facilities, February 2020

Guardian ad Litem Program, March 2018

Mental Health Services in County Jails, March 2016

Health Services in State Correctional Facilities, February 2014

Law Enforcement's Use of State Databases, February 2013

Economic Development

Minnesota Investment Fund, February 2018

Minnesota Research Tax Credit, February 2017

Iron Range Resources and Rehabilitation Board (IRRRB), March 2016

Education (Preschool, K-12, and Postsecondary)

Collaborative Urban and Greater Minnesota Educators of Color (CUGMEC) Grant Program, March 2021

Compensatory Education Revenue, March 2020

Debt Service Equalization for School Facilities, March 2019

Early Childhood Programs, April 2018

Perpich Center for Arts Education, January 2017

Standardized Student Testing, March 2017

Minnesota State High School League, April 2017

Minnesota Teacher Licensure, March 2016

Special Education, March 2013

Environment and Natural Resources

Petroleum Remediation Program, February 2022

Public Facilities Authority: Wastewater Infrastructure Programs, January 2019

Clean Water Fund Outcomes, March 2017

Department of Natural Resources: Deer Population Management, May 2016

Recycling and Waste Reduction, February 2015

DNR Forest Management, August 2014

Conservation Easements, February 2013

Sustainable Forest Incentive Program, November 2013

Financial Institutions, Insurance, and Regulated Industries

Department of Commerce's Civil Insurance Complaint Investigations, February 2022

Government Operations

Office of Minnesota Information Technology Services (MNIT), February 2019

Mineral Taxation, April 2015

Councils on Asian-Pacific Minnesotans, Black Minnesotans, Chicano/Latino People, and Indian Affairs, March 2014

Health

Office of Health Facility Complaints, March 2018

Minnesota Department of Health Oversight of HMO Complaint Resolution, February 2016

Minnesota Health Insurance Exchange (MNSure), February 2015

Minnesota Board of Nursing: Complaint Resolution Process, March 2015

Human Services

DHS Oversight of Personal Care Assistance, March 2020

Home- and Community-Based Services: Financial Oversight, February 2017

Managed Care Organizations' Administrative Expenses, March 2015

State-Operated Human Services, February 2013

Medical Assistance Payment Rates for Dental Services, March 2013

Jobs, Training, and Labor

State Protections for Meatpacking Workers, 2015

State Employee Union Fair Share Fee Calculations, July 2013

Miscellaneous

Board of Cosmetology Licensing, May 2021

Minnesota Department of Human Rights: Complaint Resolution Process, February 2020

Public Utilities Commission's Public Participation Processes, July 2020

Economic Development and Housing Challenge Program, February 2019

Minnesota State Arts Board Grant Administration, February 2019

Board of Animal Health's Oversight of Deer and Elk Farms, April 2018

Voter Registration, March 2018

Minnesota Film and TV Board, April 2015

Transportation

MnDOT Workforce and Contracting Goals, May 2021

MnDOT Measures of Financial Effectiveness, March 2019

MnDOT Highway Project Selection, March 2016

MnDOT Selection of Pavement Surface for Road Rehabilitation, March 2014

MnDOT Noise Barriers, October 2013



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