



High Risk Groundwater Use Areas and Well Head Protection Areas

What You Need to Know

Facilities with gasoline underground storage tank (UST) systems in specific areas of the state with individual or community groundwater supply systems inherently convey a greater risk of potential harm to public health, safety, and the environment in the event that a spill, release, or discharge of gasoline should occur. The Maryland Department of the Environment's (MDE's) Oil Control Program (OCP) through the Code of Maryland Regulations (COMAR) 26.10.07, requires facilities in high risk groundwater use areas (HRGUAs) and in well head protection areas (WHPAs) to take certain additional steps to mitigate these potential harms.

Facility Owner Questionnaire

- Are you the owner of a new or existing UST system storing gasoline (including gasohol), greater than 2,000-gallons or with multiple USTs in a shared excavation?
- Is your facility located in Baltimore, Carroll, Cecil, Frederick, or Harford County?
- Is your facility supplied by an individual water supply well, or are any adjacent properties supplied by an individual water supply well? **OR** Is your facility located in an area that has one or more wells supplying a community water system or public water system?

If you answered yes to these questions, your facility may be subject to additional requirements related to HRGUAs or WHPAs. Please continue reading for additional definitions and requirements.

COMAR 26.10.07 Definitions

- "HRGUA" means an area with a new or existing gasoline UST system facility in which an individual water supply system serves as the water supply for the facility, an adjoining property of the facility, or both; **and** located in Baltimore, Carroll, Cecil, Frederick, or Harford County.
- "WHPA" means an area in Baltimore, Carroll, Cecil, Frederick, or Harford County identified **and** regulated by a local government surrounding one or more wells serving a community water system or public water system.
- "Existing gasoline UST system" means a UST system containing gasoline, including gasohol, that is used to fuel motor vehicles and has a storage capacity of greater than 2,000 gallons that was installed before January 26, 2005, if located in a HRGUA, and installed before January 1, 2010, if located in a WHPA.
- "New gasoline UST system" means a UST system, including a replacement UST system, containing gasoline (including gasohol) that is used to fuel motor vehicles, installed on or after January 26, 2005, if located in a HRGUA, and installed on or after January 1, 2010, if located in a WHPA.



High Risk Groundwater Use Areas and Well Head Protection Areas

What You Need to Know

- “Levels of concern” means: benzene at 5 parts per billion (ppb), toluene at 1,000 ppb, ethylbenzene at 700 ppb, total xylenes at 10,000 ppb, and methyl tert-butyl ether (MTBE) at 20 ppb.

As an owner of a new UST system, how do I comply with HRGUA and WHPA requirements?

New UST System Installation Requirements:

If the UST system has a storage capacity of greater than 2,000 gallons or there are multiple USTs installed in a shared excavation zone, install four monitoring pipes in accordance with specifications in COMAR 26.10.03.04B., with one located in each corner of the tank excavation zone. In conjunction with the monitoring pipes, install a piping system that is designed to allow for active ventilation of the excavation zone. In addition, for a new UST system, you must install and utilize an approved interstitial release detection system for the UST piping and conduct a helium test as described below.

New UST System Enhanced Monitoring Requirements:

The owner of a facility with a new gasoline, including gasohol, UST system in a HRGUA or WHPA must select, and upon receipt of **MDE approval**, implement one of the following four monitoring methods:

- 1) Install and sample a minimum of three properly constructed groundwater monitoring wells outside of the UST excavation zone, in approved locations that will allow for the determination of groundwater flow and in areas that are most likely to detect a spill, release, or discharge from the UST system.
- 2) Install a pressure control system that is continuously operated, continuously monitors storage tank pressure, maintains tank pressure at an average negative pressure, and prevents the release of gasoline vapors to the environment.
- 3) Install a soil vapor extraction system that is connected to the monitoring pipes and piping system and operated continuously to maintain active ventilation of the excavation zone.
- 4) An alternative method that will detect a spill, release, or discharge of gasoline liquids and vapors.

Note: If you elect to implement monitoring options #2 or #3 and have received MDE approval, you must be able to provide proof of continuous operation upon request from MDE.



High Risk Groundwater Use Areas and Well Head Protection Areas

What You Need to Know

I own an existing UST system storing gasoline in a HRGUA that was installed **before** January 26, 2005, or in a WPHA that was installed **before** January 1, 2010. What monitoring options are available to me?

You are limited to monitoring method #1. Therefore, you must install a minimum of three properly constructed groundwater monitoring wells upon receipt of MDE approval and meet the sampling and reporting requirements as outlined above. In addition, you must conduct a helium test as described below.

Enhanced Monitoring Requirements for Owners of **New and Existing UST Systems**

By no later than July 25, 2005 for HRGUA facilities, no later than January 1, 2010 for WPHA facilities, no later than 30 days after installation of a new UST system, and unless otherwise directed, on an **annual basis thereafter for all HRGUA and WPHA facilities**:

- Sample each groundwater monitoring well and analyze the samples for full-suite volatile organic compounds (VOCs), including naphthalene and fuel oxygenates, in accordance with EPA Method 8260.
- Sample each site supply well, if present, and analyze the samples for full-suite VOCs, including naphthalene and fuel oxygenates, in accordance with EPA Method 524.2.
- Within 60 days of sample collection, submit a complete laboratory report that includes a copy of the laboratory sample acceptance form, sample chain-of-custody, laboratory analytical results, and a site map identifying each site supply well and groundwater monitoring well located at the oil storage facility.
- If the concentration of benzene, toluene, ethylbenzene, total xylenes, or MTBE is detected at, greater than, or equal to the established “levels of concern”:
 - **Report the sampling results to MDE within 24 hours of receiving the laboratory report by calling OCP at 410-537-3442 during normal business hours or by calling MDE at 1-866-633-4686 outside of normal business hours,**
 - In coordination with MDE, within 48 hours initiate an on- and off-site investigation in accordance with COMAR 26.10.08.02-.04, and
 - Develop a corrective action plan under the direction of MDE.



High Risk Groundwater Use Areas and Well Head Protection Areas

What You Need to Know

Helium Testing Requirements for HRGUAs and WHPAs

- For existing UST systems installed before January 26, 2005, if located in a HRGUA, conduct a helium pressure test by no later than January 26, 2006 and on a 24-month basis thereafter. For existing UST systems installed before January 1, 2010, if located in a WHPA, conduct a helium pressure test by no later than January 1, 2010, and on a 24-month basis thereafter. The test must be conducted in accordance with Maryland Helium Testing Protocol.
 - Not applicable to UST systems with Stage II piping decommissioned using a method approved by the Department.
- For new UST systems, conduct a helium pressure test upon completing the installation, replacement, repair, or upgrade of a UST system and before placing the UST system in operation. The test must be conducted in accordance with Maryland Helium Testing Protocol.
- For any UST system located in HRGUAs or WHPAs: If leaks or deficiencies are found during helium testing of new or existing gasoline UST systems, make the necessary repairs and retest the UST system.
- In accordance with COMAR 26.10.08.01A and the Maryland Helium Testing Protocol, all failed tests must be reported to MDE within 2 hours. Two consecutive inconclusive tests are considered a failure and must be reported as required.
- Note that MDE may approve alternate testing procedures in lieu of helium tests.

Maryland Helium Testing Protocol is available on the MDE website at:

<https://mde.maryland.gov/programs/land/OilControl/Pages/factsheetpublications.aspx>

Questions

If you have additional questions regarding HRGUAs or WHPAs, please contact OCP at 410-537-3442 or 1-800-633-6101 x3442.

To report a spill, release, or discharge call 1-866-633-4686. Available 24 hours a day.

Limitations

This fact sheet is provided for informational purposes. This document is not intended, nor should it be interpreted to be a regulation, as defined in Section 10-101, State Government Article. The MDE encourages you to read and understand the regulations that govern the operation of underground storage systems found in Code of Maryland Regulations 26.10 "Oil Pollution Control and Storage Tank Management."