



MARYLAND DEPARTMENT OF THE ENVIRONMENT

OIL CONTROL PROGRAM

**CERTIFIED UST SYSTEM INSPECTOR
REFERENCE HANDBOOK**



Maryland
Department of
the Environment

Revised May 2023

[MDE Oil Control Program \(maryland.gov\)](https://www.maryland.gov/mde/oil-control-program)

****Disclaimer****

This handbook is intended only as a guidance to aid the public and Maryland-certified UST System Inspectors in understanding and implementing Maryland Department of the Environment (MDE) requirements. It is neither intended to supplement or replace any statutory or regulatory requirements and does not create any enforceable rights at law or equity. In the event of any inadvertent conflict between this guidance handbook and MDE's statutes and regulations, the statutes and regulations shall control.

MDE does not endorse any company or product that is mentioned or shown in this handbook. Any companies, names, facilities, services, or commercial products in this handbook are shown only as a written or visual example.

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INTRODUCTION

The Maryland Department of the Environment (MDE) has enacted a tank inspection program to ensure the protection of groundwater resources and public health from a spill, release or discharge of regulated substances stored in underground storage tank (UST) systems, in July 2006. However, in 2015 U.S. Environmental Protection Agency implemented new 40 CFR 280. In June 2022 MDE repealed and replaced Code of Maryland Regulations 26.10 to comply with the new 40CFR 280 regulations.

Since July 2006, the owner(s) of a UST system that stores a regulated substance (oil or hazardous substance by definition) have been required upon notification from MDE, to have the UST system inspected by an MDE-certified UST System Inspector (“inspector”). The inspector must visit the UST facility and complete a detailed site inspection report provided by the MDE. In addition, the inspector will evaluate items such as UST and piping release detection, overfill and spill prevention, system corrosion protection, facility housekeeping, and other compliance concerns.

The owner of a UST system is required to have the system inspected:

- within 6 months of installation;
- within 30 days of receiving notification from the MDE;
- at least once every 3 years after the initial inspection;
- within 3 months of an ownership change; and
- as may be required by MDE.

MDE requires the owner of a motor fuel, bulk oil storage, used oil, or a hazardous substance UST system to obtain the services of an MDE-certified UST system inspector to perform an inspection and submit the inspection report in accordance with the above inspection frequency or by the due date of an issued *Notice to Inspect* letter from the MDE. An example *Notice to Inspect* letter is included as Appendix A. Deficiencies found during the inspection must be corrected within 30 days of receiving the *Notice to Correct Deficiencies* letter or other date as determined by MDE.

UST System Registration Requirements

The owner, operator, and person-in-charge of a UST system shall register each UST system and maintain up-to-date registration with the MDE on a form provided by the MDE in accordance with *COMAR 26.10.03.09A*. Types of UST systems that are required to be registered with the MDE regardless of size include: motor fuels (e.g., gasoline, diesel); used oil; kerosene; UST systems storing a hazardous substance if listed on US EPA hazardous substance list; emergency generators; and heating oil, either used for bulk storage or commercial consumptive use. Farm or residential UST systems greater than 1,100-gallon capacity used for storing motor fuel or heating oil must also be registered.

Registration forms may be obtained on the MDE Oil Control Program (OCP) website. To print a copy of the registration form, go to:

[Application Forms \(maryland.gov\)](#)

You may also contact OCP at 410-537-3442 to receive copies of these documents.

Links to COMAR 26.10 and a range of fact sheets covering UST system compliance related subjects are available on the OCP website at:

[Fact Sheets and Publications \(maryland.gov\)](#)

Check the OCP website often to keep current of any changes.

Preparing for the Inspection

MDE recommends that the MDE-certified UST system inspector and/or the company employing the inspector have liability insurance that covers “errors and omissions.” A self-employed inspector or the company employing the inspector must have a current State of Maryland business license at the time of the inspection.

A list of companies employing MDE-certified UST system inspectors/technicians/removers and companies providing other services (i.e., testers, oil spill contractors, and environmental consultants) are available on the OCP website at:

[Fact Sheets and Publications \(maryland.gov\)](#)

MDE encourages UST owners and operators to ask to see the inspector’s MDE issued certified Underground Storage System Inspector card (yellow card with the State Seal in the background with an (I) in the upper right corner). The card will have an expiration date and must be valid at the time of the inspection. A valid certification can also be verified from the OCP website at:

[Certification Search \(state.md.us\)](#)

Prior to arriving at the facility for the inspection, OCP recommends the inspector contact the owner or operator to discuss the information that will be required. OCP also recommends that the inspector and/or owner download the UST facility summary from the OCP website at:

[MDE UST - Facility Summary \(state.md.us\)](#)

“Owner Fact Sheet/Preparing for an UST Inspection” is available from the MDE web site at:

[UST Certification Programs \(maryland.gov\)](#)

It is recommended the certified inspector discuss with UST system owner the required information needed to complete the inspection **before** the inspection date.

This information includes, but is not limited to, the following:

1. The MDE Facility ID number, UST and Compartment ID number(s) can be obtained from the UST facility summary form or the *Notice to Inspect* letter.
2. Type of material used for the construction of the USTs and piping. This can be obtained from the UST *Facility Summary*; however, certified inspectors are required to field verify.
3. Documentation confirming that the financial responsibility (FR) for the UST(s) systems was submitted to MDE annually.
4. The last 12 months of daily inventory and monthly reconciliation records. (Note: non-metered emergency generator tanks or heating oil tanks used for on-site consumptive use are exempt from this requirement.)
5. The last UST and piping precision tightness test results. (Note: must have test results even if the test is from the initial UST installation.)
6. Annual field test results for the pressurized line leak detector(s).
7. The last 12 months of release detection test results/records for the UST(s) and piping systems. (Note: effective June 13, 2022, emergency generator UST systems are required to have a monthly release detection method. On-site consumptive use heating oil USTs are exempt from monthly release detection; however, they are required to perform precision tightness tests at installation, at 15 years, and every 5 years thereafter.)
8. Cathodic protection (CP) test results for metallic components of UST systems that require corrosion protection.
9. Helium test results if the UST system is located in a High Risk Groundwater Use Area (HRGUA) or Well Head Protection Area (WHPA).
10. Spill catchment basin and containment sump test results.
11. Owner/operator manuals for electronic automatic tank gauge or electronic monitoring systems.
12. If located in HRGUA or WHPA, monitoring well and potable well groundwater sample results.
13. Stage II vapor recovery test results for gasoline UST systems if the station meets the requirements for Stage II systems.
14. Verification keys to dispensers and monitoring wells are available on-site.
15. Monthly and annual walk-through inspection records.

16. Facility operator information (i.e., names and training certificates for Class A, Class B, and Class C Operators and written operator instruction manual for the facility to be inspected).

If the owner does not have the appropriate documentation, encourage the owner to research the information with previous owners or the UST system installer.

Expectations for the Inspection

The inspector shall verify as much of the UST system as is visibly possible without excavation (i.e., open up and inspect all catchment basins, containment sumps, all tank top openings, look in fill pipe openings and under dispensers). In addition, a complete walk through of the facility is required to evaluate other petroleum related operations (e.g., drum storage, aboveground storage tanks for spillage or proper stabilization, and housekeeping issues). All components and appurtenances connected to an UST system shall be operational. Any that are not operational must be repaired, removed, or otherwise decommissioned (see *COMAR 26.10.02.04*).

COMPLETING THE UST SYSTEM COMPLIANCE INSPECTION REPORT

Only a **MDE-Certified UST System Inspector** shall complete this report. (*COMAR 26.10.06*). The owner must choose and contact a company that employs a Maryland Certified Inspector to inspect the UST system(s).

The inspection report is available on the OCP web at:
[UST Certification Programs \(maryland.gov\)](http://www.maryland.gov/USTCertificationPrograms)

The inspection report must be completed by typing or printing clearly using black or blue ink only (**Do Not Use Pencil**). Mail the report and all supporting information OCP, ATTN: Third Party Inspections, at the address listed on page 1 and 2 of the inspection report.

Signatures Required: Pages 2, 13 (ARA Report), and page 26 (Inspection Report) require the inspector and owner/operator or designated representative signature/initial. Failure to complete and sign/initial (pages 2, 13, and 26) the inspection report will result in the MDE failing the report.

USTs: Use additional report forms if more than five (5) regulated USTs are present at the facility and require an inspection. Each form must be filled out completely and use the correct facility ID number and UST number as listed on the MDE UST Facility Summary.

Dispensers: When more than 5 dispensers are present at a facility, complete an additional Page 6 of the report form for the additional dispensers.

Comments: Starting on page 5 of the Inspection Report, there are Comments sections for the inspector to add additional details about a failure, describe UST modifications/corrections and include dates that work/testing was completed.

Facility Information: The MDE facility ID number shall be inserted on each page by the inspector (i.e., middle of page 1 and bottom of pages 2 through 28).

Facility UST Summary: A tool is available on the MDE website, which allows the inspector to generate a UST report on the facility to be inspected. The website address is:
[MDE UST - Facility Summary \(state.md.us\)](http://www.state.md.us/MDEUST-FacilitySummary)

The inspector may select one or more search parameters to find a facility. By clicking on “View Report”, the inspector can download the document for use in completing the inspection report.

Red Tag Delivery Ban: If OCP has implemented a delivery ban at a facility, it will be displayed on the UST Facility Summary report. An inspector shall contact OCP (410-537-3442) to receive approval to remove the locking tag and instructions to proceed. **Removal of a tag without MDE approval violates Maryland law and regulation and may result in enforcement actions.**

Section 1. General Information

Facility Name: Include all information for the facility: Facility Name, Location Address, City, and Telephone Number.

Owner Name: Include all information for the registered owner: Owner Name, Mailing Address, City, State, Zip Code, Telephone Number, Fax Number, and E-mail.

Operator Name: Include all information for the UST operator: Name of the operator or operator company name, Telephone, Fax Number, and E-mail. If the operator is the same person or company as the owner, print or type in Operator Name: "Same as Owner."

MDE Facility ID Number: Include the MDE facility identification number. This is a unique number assigned to each UST facility when the initial registration form is submitted by the owner. The MDE facility ID number can be found: (1) on the UST Facility Certificate of Registration (see next page); (2) on the *Notice to Inspect* letter issued to the UST owner; (3) by viewing and printing a copy of the UST Facility Summary at:

[MDE UST - Facility Summary \(state.md.us\)](https://state.md.us) ; or (4) by contacting OCP at (410) 537-3442.

Date of Inspection: List the date of inspection month (mm) / day (dd) / year (yy).

Registration Certificate: The Underground Storage Tank (UST) Certificate of Registration (Figure 1 on next page) is provided to the registered UST owner to identify the facility and all USTs (currently-in-use, temporarily out of service and permanently out-of-use) associated with the facility. This certificate is different than the Facility Summary and is required to be displayed or made available on-site.



Figure 1

Land and Materials Administration • Oil Control Program • 410-537-3442

UNDERGROUND STORAGE TANK FACILITY

Certificate of Registration

Facility No. 0000000

Issued: February 8, 2023

This certifies that **State of Maryland (Demonstration only)** has duly registered its underground storage tank system(s) with the State of Maryland, Department of the Environment as required by Environment Article Section 4-411.1, *Annotated Code of Maryland*, for the following location:

**Facility Address: (Demonstration Only) Montgomery Park
1800 Washington Blvd, Suite 620
Baltimore, MD 21230**

This certificate authorizes the use of the listed underground storage tank system(s) only in accordance with Code of Maryland Regulations (COMAR) 26.10. **This Certificate does not confirm that the UST system(s) are being operated in full compliance with all COMAR regulations.**

The following tank(s) have been duly registered at the above facility:

TANK NUMBER	COMPARTMENT ID	TANK CAPACITY	INSTALL DATE	SUBSTANCE STORED	CLOSURE STATUS
001	-	Unknown	3/1/1985	Diesel	Permanently Out Of Use
002	A	12,000 gal.	8/1/2007	Gasohol	Permanently Out Of Use
002	B	8,000 gal.	8/1/2007	Gasohol	Permanently Out Of Use
003	-	30,000 gal.	5/1/2018	Gasohol	
004	A	20,000 gal.	5/1/2018	Gasohol	
004	B	10,000 gal.	5/1/2018	Diesel	

A handwritten signature in black ink, appearing to read "Sheila Dean", written over a horizontal line.

Sheila Dean
Section Head, Oil Control Program, Land and Materials Administration

Current information for UST(s) registered with the Department is available on the MDE website at:

mes-mde.mde.state.md.us/FacilitySummary/default.aspx

Page 1 of 1

Current UST Registration Certificate on display or available onsite: Each registered facility should have displayed or available onsite a copy of the *Underground Storage Tank Facility Certificate of Registration*.

Incorrect information listed on the certificate should be brought to owner's attention. The **owner** must submit an amended registration form (*Notification for Underground Storage Tanks*) to make updated changes and add or remove USTs.

MDE's UST Information Management System (USTIMS) database will be updated with data and information provided in the inspection report by the inspector and any amended registration form submitted by the owner.

All applicable tanks registered: Confirm that all regulated USTs are registered with MDE before continuing the inspection. If an unregistered UST is discovered, the owner must immediately submit a registration form (*Notification for Underground Storage Tanks*) to the MDE. A blank registration form is available on the OCP website at: [Application Forms \(maryland.gov\)](https://www.maryland.gov/ocp/forms). You may also contact OCP at (410) 537-3442 to receive copies of these documents.

Note: It is a violation of Maryland law and regulation to “sell, receive or dispense oil” from a UST facility or UST system not registered with the MDE. (Env. Art 4-411.1(b) and COMAR 26.10.03.09D).

High Risk Oil Storage Facilities (COMAR 26.10.07): (Fact sheet available on OCP website)

*High risk groundwater use area or “HRGUA” means an area with a new or existing gasoline UST system:

(a) In which an individual water supply system, as defined in COMAR 26.04.03.01-1B, serves as the water supply for the new or existing gasoline UST system facility, an adjoining property of the new or existing gasoline UST system facility, or both; and

(b) Located in:

(i) Baltimore, Carroll, Cecil, Frederick, or Harford County; and

(ii) Anne Arundel, Baltimore, Carroll, Cecil, Frederick, or Harford County for the purpose of notifying a property owner of groundwater contamination in accordance with Environment Article, §4-411.2, Annotated Code of Maryland.

** Well head protection area or “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:

(a) Community water system, as defined by COMAR 26.04.01.01B, or

(b) Public water system, as defined by COMAR 26.04.01.01B.

*** High Risk Underground Oil Storage Facility.

In accordance with COMAR 26.10.07.07 An oil storage facility is defined as a high risk underground oil storage facility under this chapter if the facility has:

- (a) An underground storage capacity that includes:
 - (i) One or more UST systems constructed with a single-walled UST or single-walled product piping; and
 - (ii) A total underground oil storage capacity of 80,000 gallons or greater, not including underground oil storage capacity used to store heating oil for onsite consumptive use; or
- (b) As determined by a throughput review conducted in accordance with COMAR 26.10.07.07§A(2) of this regulation, a combined monthly oil throughput for all products stored in UST systems of:
 - (i) 750,000 gallons or more when averaged over a rolling 12-month period; or
 - (ii) 1,000,000 gallons or more in any single month

Site is defined as a: Use the definitions above to determine if the facility is a HRGUA facility, WHPA facility, and/or a High Risk Underground Oil Storage Facility. A general definition for each type of facility is also provided at the top of page 2 of the inspection report. Check all that apply. A facility may be considered a High Risk Underground Oil Storage facility and a HRGUA or a WHPA. Section 10d-1 of the inspection report to determine if the facility is defined as a High Risk Underground Oil Storage Facility.

Site or neighbor (adjoining property) supplied by a potable well. Answer yes or no if the site or adjoining property has a drinking water supply well present.

Owner/Operator submitted evidence of FR to MDE annually in accordance with COMAR 26.10.11.04: Discuss financial responsibility (FR) with the owner or owner’s representative to confirm the owner has submitted the FR documentation to MDE annually to the following email address: UstAnnual.FinancialResponsibility@maryland.gov. The owner must also submit the “[Annual Financial Responsibility Form](#) (maryand.gov)” Inspector may request proof FR has been submitted (i.e., email, etc.). Effective June 13, 2022, UST owners are required to submit a copy of FR to MDE annually but not later than 90 days following initiation of coverage or the anniversary date of the existing coverage. MDE recognizes the same FR requirements described in the US EPA Code of Federal Regulations (40 CFR §§280, Subpart H), except that only the owner shall assume FR. The registered owner name must be the insured; however, the owner may add an endorsement that includes named or additional insureds. *COMAR 26.10.11.*

Proof of financial responsibility must be provided by the registered UST owner to include the properly worded document as required by 40 CFR 280, Subpart H. If the registered UST owner is using insurance or risk retention group to satisfy FR requirements, they must have an endorsement or certificate of insurance that includes a tank schedule listing the USTs covered under the policy (Figure 3), “Occurrence Coverage Amount” and “Pollution Legal Liability” with an effective and expiration date of the policy. The policy must be signed by the insurance company's authorized representative. If the facility has FR other than insurance and risk retention group coverage, submit the full document for review by OCP. **MDE requires that all proof of insurance, including insurance and risk retention group coverage, follow the templates provided by (40 CFR §§280, Subpart H).**

MINIMUM FINANCIAL RESPONSIBILITY REQUIREMENTS:

Facilities owned by Federal and state governments are exempt from and are not required to demonstrate FR. Local government facilities are not exempt and must demonstrate FR.

Per Occurrence Coverage: Minimum of \$1 million for petroleum marketer or non-marketer having annual throughput greater than 10,000 gallons per month. For a non-marketer having an annual throughput of 10,000 gallons or less per month, minimum of \$500,000 per occurrence coverage is required.

Aggregate Coverage: Minimum of \$1 million for an owner with 100 or fewer tanks or a minimum of \$2 million for an owner with more than 100 tanks. See Figure 2.

Figure 2

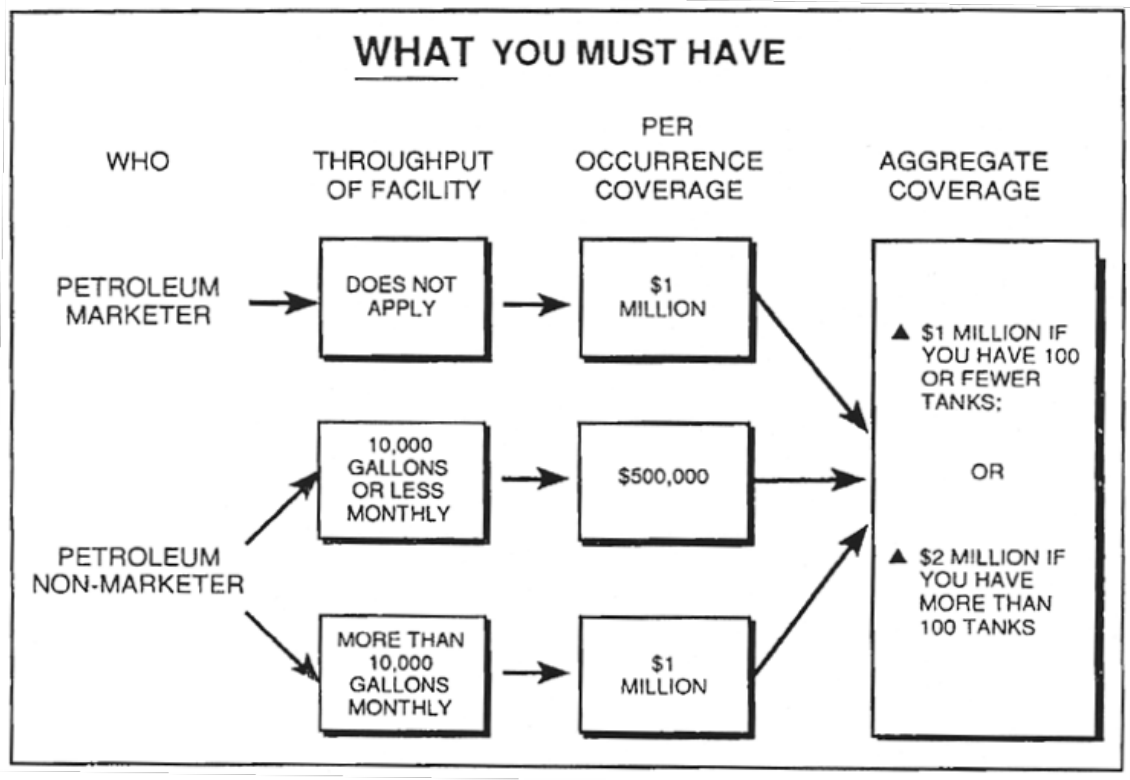


Figure 3

Endorsement

Name: See Attached Scheduled Locations and Scheduled Storage Tank(s) Systems

Address: See Attached Scheduled Locations and Scheduled Storage Tank(s) Systems

Policy Number: 12345

Period of Coverage: 8/1/22 to 8/1/25

Address of Insurer

Oil Insurance Company
123 Insurance Road
Derry Maine 04401

Name of Insured: State of Maryland

Address of Insured:

1800 Washington Blvd
Baltimore Maryland 21230

Endorsement:

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering the following underground storage tanks:

Per Attached Scheduled Locations and Scheduled Storage Tank(s) Systems

For taking corrective action and compensating third parties for bodily injury and property damage caused by accidental releases; in accordance with and subject to the limits of liability, exclusions, conditions, and other terms of the policy arising from operating the underground storage tank(s) identified above.

The limits of liability are \$1,000,000 each Occurrence and \$1,000,000 annual aggregate⁷ exclusive of legal defense costs, which are subject to a separate limit under the policy. This coverage is provided under 12345. The effective date of said policy is 8/1/22.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e);

a. Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

b. The Insurer is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in 40 CFR 280.95-280.102 and 280.104-280.107.

Figure 3 cont.

c. Whenever requested by the Secretary of the Environment, the Insurer agrees to furnish to the Secretary a signed duplicate original of the policy and all endorsements.

d. Cancellation or any other termination of the insurance by the Insurer, except for non-payment of premium or misrepresentation by the insured, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured. Cancellation for non-payment of premium or misrepresentation by the insured will be effective only upon written notice and only after expiration of a minimum of 10 days after a copy of such written notice is received by the insured.

e. The insurance covers claims otherwise covered by the policy that are reported to the Insurer within six months of the effective date of cancellation or non-renewal of the policy except where the new or renewed policy has the same retroactive date or a retroactive date earlier than that of the prior policy, and which arise out of any covered occurrence that commenced after the policy retroactive date, if applicable, and prior to such policy renewal or termination date. Claims reported during such extended reporting period are subject to the terms, conditions, limits, including limits of liability, and exclusions of the policy.

I hereby certify that the wording of this instrument is identical to the wording in 40 CFR 280.97(b)(1) and that the Insurer is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

Authorized Representative Signature

Authorized Representative Name

Authorized Representative of Oil Insurance Company 123

Insurance Road Derry Maine 04401

Figure 3 cont.

Certificate of Insurance

Name: Per Attached Scheduled Locations and Scheduled Storage Tank(s) Systems

Address: Per Attached Scheduled Locations and Scheduled Storage Tank(s) Systems

Policy No.	Period of Coverage
12345	8/1/2022 – 8/1/2025

Name of Insured: State of Maryland
Address of Insured: 1800 Washington
Blvd Baltimore MD 21230

Name of Insurer: Oil Insurance Company
Address of Insurer: 123 Insurance Road
Derry Maine 04401

Certification:

1. Oil Insurance Company, the Insurer, as identified above, hereby certifies that it has issued liability insurance covering the following underground storage tank(s):

Per Attached Scheduled Locations and Scheduled Storage Tank(s) Systems

for taking corrective action and compensating third parties for bodily injury and property damage caused by accidental releases; in accordance with and subject to the limits of liability, exclusions, conditions, and other terms of the policy; arising from operating the underground storage tank(s) identified above.

The limits of liability are \$1,000,000 each occurrence and \$2,000,000 annual aggregate limit exclusive of legal defense costs, which are subject to a separate limit under the policy. This coverage is provided under 12345. The effective date of said policy is 8/1/22.

2. The insurer further certifies the following with respect to the insurance described in Paragraph 1:

a. Bankruptcy or insolvency of the insured shall not relieve the insurer of its obligations under the policy to which this certificate applies.

b. The Insurer is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in 40 CFR 280.95-280.102 and 280.104-280.107.

c. Whenever requested by the Secretary of the Environment the Insurer agrees to furnish to the Secretary a signed duplicate original of the policy and all endorsements.

d. Cancellation or any other termination of the insurance by the Insurer, except for non-payment of premium or misrepresentation by the insured, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured. Cancellation for non-payment of premium or misrepresentation by the insured will be effective only upon written notice and only after expiration of a minimum of 10 days after a copy of such written notice is received by the insured.

e. The insurance covers claims otherwise covered by the policy that are reported to the Insurer within six months of the effective date of cancellation or non-renewal of the policy except

Figure 3 cont.

where the new or renewed policy has the same retroactive date or a retroactive date earlier than that of the

prior policy, and which arise out of any covered occurrence that commenced after the policy retroactive date, if applicable, and prior to such policy renewal or termination date. Claims reported during such extended reporting period are subject to the terms, conditions, limits, including limits of liability, and exclusions of the policy.

I hereby certify that the wording of this instrument is identical to the wording in 40 CFR 280.97(b)(2) and that the Insurer is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

Authorized Representative Signature

Authorized Representative Name

Authorized Representative of Oil Insurance Company

123 Insurance Road Derry Maine 04401

Sample

Figure 3 cont.

Owner Name: State of Maryland
 Address: 1800 Washington Blvd
 Baltimore MD 21230

Schedule of Locations and Storage Tanks
 Effective as of 08/01/2022
 Attached to and forming part of Policy 12345

Covered Storage Tank Systems									
Tank #	MDE Facility ID #	Facility Name and Address	City	State	Zip	Install Date	Capacity (gallons)	Tank SW or DW	Contents
1		Address		MD		04/1987	8000	SW	Gasohol
2		Address		MD		04/1987	8000	SW	Diesel
3		Address		MD		05/1999	3000	SW	Kero
4		Address		MD		07/2012	10000	DW	Gasohol
5		Address		MD		07/2012	10000	DW	Gasohol
6		Address		MD		07/2012	12000	DW	Diesel

1a. Inspection Summary

Inspection Summary section cannot be completed until the end of the inspection after the facility has been thoroughly inspected. Providing wrong or unsubstantiated information in this summary can lead to failure of the inspection evaluation and follow-up by the MDE for possible enforcement action against the inspector for violations of *COMAR 26.10.06.06 Standards of Performance*.

Inspection Summary section is where the inspector will record the overall results for each individual inspection report section, using these codes: (P)=Pass Inspection, (PC)=Pass Inspection with Corrections, (F)=Fail Inspection, and (NA)=Not Applicable. Use one of the four codes (P), (PC), (F), and (NA) in the appropriate block for each UST system. The inspection for each section must be completed before completing the Inspection Summary. At the end of each individual section (3, 4a, 4b.,5a., 5b, 6a., 7a., 7b., 8 tank, 8 pipe, 9, 10a., 10b., 10c., 10d., 11, 12 tank, 12 pipe, 14 and 15), the inspector must evaluate the inspection status of that section. If all items for the section passed the inspection, then enter a Pass (P) in the appropriate box. If any item listed in that section failed, but corrections were made before the inspection report is submitted to MDE, then it Passes Inspection with/Corrections (PC); if a section fails and is not corrected before the Report is submitted to MDE, then that section(s) Fails (F) inspection; or if a section(s) are Not Applicable then put (NA).

UST System ID Number as registered with MDE:

List the appropriate MDE tank identification number from the MDE UST registration form, *Underground Storage Tank Facility Certificate of Registration*, or from the *Facility Summary* report in the appropriate heading throughout the inspection report.

UST identification numbers are very important; they allow MDE to properly track each UST that is or was present at the facility. Care must be exercised during the inspection to use the appropriate UST numbers shown on the registration, registration certificate, or facility summary. Only use the UST number that MDE assigned. MDE tracks all USTs ever present at a facility (including USTs removed from the ground or closed in place), and numbers are assigned in the sequence of registration.

Owner UST ID # (if different): If the UST system owner is using a different number to identify the UST than the registered number assigned by MDE, enter it here. Many UST owners/operators in Maryland have their own identifying number system for their USTs. List the owner UST ID# if different than MDE's number.

Section No.: This column refers to the applicable Section in the inspection report for each summary heading.

Compartment ID: If the UST has two or more compartments, list each compartment in the UST No. box identifying each compartment with A, B, or C. (Example: UST No. 1 has two compartments, in the first and second UST No. boxes, enter 1A and 1B, respectively.) Refer to the UST facility summary for MDE assigned ID numbers. Compartment ID will be addressed further in **Section 2: UST System Information**.

Temporarily Closed UST System: (Section 3): This section only applies to USTs that are “temporarily closed” or UST systems that are “Taken-Out of Service” and the UST has been emptied. If the UST systems are in-use or contain 1” or great liquid level, enter NA in this box; otherwise, enter for each UST: **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable from the *Temporarily Closed UST(s) Systems passes inspection* evaluation box at the end of this section.

Containment Sump Inspection: (Section 4a): This section only applies to USTs that have Containment Sumps. If the UST system inspected does not have containment sump(s), enter NA in this box; otherwise, enter for each UST: **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable from the *Containment Sump passes inspection* evaluation box at the end of this section.

Dispenser Inspection: (Section 4b): Enter for each UST or for multiple product dispensers enter for the facility: **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable from the *Dispenser passes inspection* evaluation box at the end of this section.

Tank Top Components Inspection: (Section 5a): Enter for each UST: **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable from the *Tank Top Components passes inspection* evaluation box at the end of this section.

Vent Pipe Inspection: (Section 5b): Enter for each UST: **(P)** Pass, **(PC)** Pass with/Corrections, or **(F)** Fail from the *Vent passes inspection* evaluation box at the end of this section.

Spill Prevention Equipment: (Section 6a): Enter for each UST: **(P)** Pass, **(PC)** Pass with/Corrections, or **(F)** Fail from the *Spill device passes inspection* evaluation box at the end of this section.

Overfill Prevention Equipment: (Section 6b): Enter for each UST: **(P)** Pass, **(PC)** Pass with/Corrections, or **(F)** Fail from the *Overfill Device passes inspection* evaluation box at the end of this section.

Stage I Vapor Recovery: (Section 7a): If the UST system inspected does not have Stage I Vapor Recovery enter NA in this box; otherwise, for each UST, enter: **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable from the *Stage I passes inspection* evaluation box at the end of this section.

Stage II Vapor Recovery: (Section 7b): If the UST system inspected does not have Stage II Vapor Recovery, enter NA in this box; otherwise, for each UST, including Stage II that has been decommissioned, enter: **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable from the *Stage II passes inspection* evaluation box at the end of this section.

See Section 7c. for additional requirements regarding completing Stage I and Stage II vapor recovery forms that must be submitted to the MDE Air and Radiation Administration as part of this inspection.

UST Construction and Corrosion Protection: (Section 8): The inspector should closely evaluate this section for information pertaining to the UST system only. Enter in the box (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable from one of the 4 choices (i.e., non-metal, metal with galvanic corrosion protection, and impressed current corrosion protection and internal lined UST) for this section.

Piping Construction and Corrosion Protection: (Section 8): The inspector should closely evaluate this section for information pertaining to the piping system only. Enter in the box (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable from one of the 3 choices (i.e., non-metal, metal with galvanic corrosion protection and impressed current cathodic protection.) If all piping connected to the UST is above-ground, enter NA in the question 2 box.

NOTE: If a metallic UST or piping is in contact with the soil and has no cathodic protection, notify OCP at 410-537-3442 within 2 hours.

Tightness Testing: (Section 9): This section applies to testing of the UST and piping system(s). Enter for each system: (P) Pass, (PC) Pass with/Corrections, or (F) Fail from the *Tightness Testing passes inspection* evaluation box at the end of this section.

Facility Housekeeping: (Section 10a): Enter for the facility (P) Pass or (F) Fail from the *Housekeeping passes inspection* evaluation box at the end of this section.

Tank Field Monitoring Pipes: (Section 10b): Enter for the facility (P) Pass or (F) Fail from the *Monitoring Pipes Pass Inspection* evaluation box at the end of this section. A (P) Pass is considered when all the required questions are a (P) Pass, (PC) Pass w/Corrections, or NA. If any of the required questions are indicated as an (F) Fail, enter Fail in this box on the Inspection Summary.

Monitoring Wells for Facilities Located in High Risk Groundwater Use Areas (HRGUA) and Well Head Protection Areas (WHPA): (Section 10c): Enter for the facility (P) Pass or (F) Fail from the *HRGUA / WHPA Facilities Pass Inspection* evaluation box at the end of this section. A (P) Pass is considered when all the required questions are a (P) Pass, (PC) Pass w/Corrections, or NA. If any of the required questions are indicated as an (F) Fail, enter Fail in this box on the Inspection Summary.

High Risk Underground Oil Storage Facilities Compliance Monitoring Method: (Section 10d-2): Enter for each facility (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable from the *High Risk Underground Oil Storage Facility passes inspection* evaluation box at the end of this section.

Inventory Control: (Section 11): Enter for each UST (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable from the *Inventory Control passes inspection* evaluation box at the end of this section.

Release Detection - UST Method: (Section 12): Inspector must determine and evaluate the primary method of Release Detection for the UST(s) only. Proceed to the applicable Section (12.a.–f.) indicated in the right-hand column for the primary method chosen. Enter for each UST (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable from the *passes inspection* evaluation box at the end of the appropriate primary method section. (Methods: *ATG, Vapor Monitoring, Interstitial Monitoring, Statistical Inventory Reconciliation, Groundwater Monitoring, or Manual Tank Gauging*).

Release Detection - Piping Method: (Section 12): Inspector must determine and evaluate the primary method of Release Detection for the pressurized or suction product pipe(s) only. Proceed to the applicable Section (9, 11, 12.c.-e., 12.g., 12.h.), indicated in the right-hand column for the pipe primary method chosen. If the “Not Applicable” box in the top right corner of the primary method section 12.c.-e., 12.g. or 12.h. is checked (√), enter NA in this box. Enter in the box (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable from the *passes inspection* evaluation box at the end of the appropriate primary method section.

Operator Training: (Section 14): Inspector must review and document the operator instruction manual, training certificates, and list of Class A, Class B, and Class C operators available at the facility in Section 14 of the inspection report. Enter (P) Pass or (F) Fail from the *Operator Training passes inspection* evaluation box at the end of this section.

Walkthrough Inspection: (Section 15) Inspector must review the monthly and annual walkthrough inspection reports maintained for the past 12 months. Enter (P) Pass, (F) Fail, or (NA) Not Applicable from the *Walkthrough Inspection passes inspection* evaluation box at the end of this section.

Inspector and Owner/Operator has signed page 2 and initialed page 26: Answer Yes or No.

Additional Form(s) Used: Answer Yes or No if additional forms were used if the number of USTs or dispensers inspected exceeds the allowable space on the form.

Section 1. General Information (Cont'd)

Section 1 General Information (cont'd) must be completed, including signatures required by the inspector and owner/operator or designated representative to be considered a valid inspection report. In addition, Section 13, Suspected Release, must be initialed and dated.

Section 2. UST System Information

Regulation Reference: COMAR 26.10.03.01 & .02

Use the (√) box if the information is obtained from the MDE UST Facility Certificate of Registration form or UST Facility Summary report. Make every effort to field verify the information before using these check boxes. When you put a check mark in any of these boxes, it means you could not verify the information in the field and used the information provided on the Facility Certificate of Registration or UST Summary Report.

UST and Piping (MDE ID#): Write the UST # from the MDE UST registration form, UST Facility Summary report (Figure 4), or from the Underground Storage Tank Facility Certificate of Registration (Figure 1) on site. Only use the UST number assigned by MDE. Maintain the same MDE assigned UST number for each UST inspected in the applicable section(s) throughout the report.

Figure 4

Facility Summary for Facility ID #16218

Owner Name and Address:		State of Maryland (Demonstration only) 1800 Washington Boulevard, Suite 620 Baltimore, MD 21230 Oil Control Program (410) 537-3442			Owner Type: State Government			
Facility ID	County	Location Name	Location Street Address	Location City	Zip			
16218	Baltimore City	Maryland Department of the Environment (Demonstration Only)	1800 Washington Boulevard, Suite 620	Baltimore	21230			
Tank ID	Date Installed	Product	Tank Mat'l of Construction	Piping Material	Primary - Tank Release Detection	CP	RD	FR
Status	Age (yr)	Total Capacity	Secondary Option	Secondary Option	Primary - Piping Release Detection	Over	Spill	
Closure Status	Closure Date	Compartment		Piping Type	Sec - Interstitial Monitoring Tank/Piping	Mnfd	EG	B/H
1	3/1/1985	Diesel	Cathodically Protected Steel (Coating w/CP - Galvanic)	Flexible Plastic	R	Yes	No	No
Permanently Out Of Use			None	None	R	No	No	
				U.S. Suction	No/No	No	No	No
2A	8/1/2007	Gasohol	Composite (Steel w/ FRP)	Flexible Plastic	R	Yes	No	No
Permanently Out Of Use		20,000	Double-Walled	Double-Walled	R	No	No	
		12,000		Pressurized	No/No	No	No	No
2B	8/1/2007	Gasohol	Composite (Steel w/ FRP)	Fiberglass Reinforced Plastic	R	Yes	No	No
Permanently Out Of Use		20,000	Double-Walled	Double-Walled	R	No	No	
		8,000		Pressurized	No/No	No	No	No
Total Tanks: 2								

Tank/Piping Release Detection Codes

A Manual Tank Gauging	B Tank Tightness Testing	C Inventory Control	D ATG/Auto Line LD	E ATG 0.2 GPH Test	F Safe Suction
G Gravity Feed	H Elect ALLD Testing 0.2 GPH	I Line Tightness Annual	J Line Tightness Every 2 Yrs.	K Vapor monitoring	L Groundwater monitoring
M Inventory SIR	N Interstit. Dbl-wall Monitor	O Interstit. Sec. Con. Monitor	P Other method	Q Deferred	R Not listed
N/A Heating Oil/Emergency Generator					

Tank/Piping Codes

CP Corrosion Protection Met	Over Overfill Protected	Mnfd Manifold	FR Financial Responsibility Met
RD Release Detection Met	Spill Spill Protected	EG Emergency Power Generation	B/HO Bulk Heating Oil

Report Generation Date: 9/13/20

Page 1 of

Compartment ID: If the UST has two or more compartments, list each compartment as indicated on the UST Facility Certificate of Registration form or UST Facility Summary Report (as A, B, and C) in the UST No. block. Example: (UST No. 1 and 2 has two compartments, write UST No. 1A, 1B and 2A, 2B in the appropriate box. See Figure 5 example below.

Figure 5

USTs and Piping (MDE ID#)	(√)	UST # 1A	UST # 1B	UST # 2A	UST # 2B	UST # 3
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Owner UST ID # (if different): Enter owner UST ID number if different than MDE assigned UST numbers. **Do not use owner UST ID numbers in MDE UST # blocks.**

Status: Enter the appropriate code for each UST: **I**-in use or **TOS**-temporarily out of service.

(I)-in use means a storage system that stores a regulated substance of greater than 1 inch. All applicable sections of the inspection report must be completed for all USTs listed as “I.”

(TOS)- temporarily out-of-service means: a storage system that has been emptied of all liquids to 1 inch or less and is no longer dispensing or processing product through the tank system. Section 3 must be completed for all tanks listed as “TOS.”

Date of UST Installation: Write in the month (mm) / year (yyyy) (example 02/2022); the UST was installed for each UST. The installation date must be as accurate as possible to determine upgrade, release detection, and testing requirements. The owner’s UST installation records are the most accurate. The date may also be found on the Facility Summary Report (Sample Summary Report is provided in Fig 4). You may print a copy of the UST Facility Summary Report by going to the OCP UST web-site at: [MDE UST - Facility Summary \(state.md.us\)](http://MDE UST - Facility Summary (state.md.us))

Encourage the UST owner to research this information before you arrive at the site. If the owner is unable to provide an installation date, MDE will evaluate with the most stringent requirement based on the regulated substance stored.

Tank Capacity (gallons):

See Section 2 (Figure 6) example below. Write in the total capacity (gallons) of each UST. List the total gallons for each UST, even if it is a compartment UST. The total of all compartments should be listed for each UST. Compartment size will be addressed further in this Section.

Total capacity is the total gallons stored in each UST whether it is compartmented or not (example: UST 1 8,000 + 12,000 gallons = 20,000 gallons for a compartmented UST or UST 3 1,000 gallons for a non-compartmented UST; (see Figure 6 example below).

Fill out the UST number for each UST, but only use the MDE UST ID numbering system. Use (√) box if information is obtained from facility registration or summary form.

Figure 6

USTs and Piping (MDE ID#)	(√)	UST No. 1A	UST No. 1B	UST No. 2A	UST No. 2B	UST No. 3
Owner UST ID # (if different)						
Status (I-in use or TOS-temporarily out of service). If TOS complete Section 3						
Date of UST Installation (mm/yyyy)						
Capacity (gallons)		20,000		10,000		1,000
Compartment UST?		Yes	Yes	Yes	Yes	No
(If Yes, list capacity of each compartment separately):		12,000	8,000	2,000	8,000	

Compartment UST: Mark **Y**(yes) or **N**(no) in the box for each UST if the UST is compartmented.

Enter Compartment Gallons: Enter the gallons of each compartment in the box under the correct Compartment ID column. Example: UST 1 is a 20,000-gallon UST with two compartments. Compartment “A” is 12,000-gallon capacity, and compartment “B” is 8,000-gallon capacity. Enter 12,000 gallons in the appropriate box under UST ID “1A” column, and 8,000 gallons in the box under UST ID “1B” column. (See Figure 6)

Product: Enter the product code for each UST from Chart A (Figure 7). If the UST is a compartment tank, list each product code separately for each compartment.

Special Instructions:

- ❖ Different percentages of the mixture of alcohol with gasoline, Code #2 (E-10) and #2a (E-85). If different mixture percentages, list the percentage.
- ❖ If a car wash facility is using an UST connected to an oil/water separator for car wash water **only** and not using as storage for used oil also, enter code #9 for car wash O/W separator UST.
- ❖ You must confirm the type of oil being used for heating. It could be used oil, kerosene, diesel, or specific grade heating oil.

Figure 7

CHART A

CODE	PRODUCT DESCRIPTION
1	Diesel
2	Gasohol E-10
2a	Ethanol E-85
2b	Methanol
3	Gasoline
4	Hazardous Substance (Must Describe)
5	Heating Oil # 2
5a	Heating Oil # 4
5b	Heating Oil # 5
5c	Heating Oil # 6
6	Kerosene
7	Mixture (two or more types of liquids) (specify)
8	Used Oil
9	Car Wash O/W Separator UST
10	Other (Must Describe)

UST Construction Material. Enter the UST material description code for each UST from Chart B (Figure 8).

Figure 8

CHART B

CODE	UST MATERIAL DESCRIPTION
1	Asphalt Coated or Bare Steel
2	Cathodically Protected Steel (Coating w/CP – Galvanic)
3	Cathodically Protected Steel (Galvanic Supplemented Anodes Added)
4	Cathodically Protected Steel (CP Steel – Impressed Current)
5	Composite/Clad Steel (Steel w/FRP)
6	Fiberglass Reinforced Plastic (FRP)
7	Polyethylene Tank Jacket
8	Other (Must Describe)

Note: If a UST is a steel with urethane constructed coating, choose Code 5 — Composite/Clad Steel (Steel w/FRP).

Double-walled UST: Is the UST being inspected double-walled? Mark **Y**(yes) or **N**(no) in the box for each UST. A double-walled UST must have an access or monitoring point to the

interstitial space. **NOTE:** All USTs installed or replaced on or after January 12, 2009, must be double-walled (COMAR 26.10.03.01B).

Manifolded UST: Enter **(PR)** for the primary UST, **(SL)** for the slave UST manifolded to the primary UST, or **(NA)** if not applicable.

Date of Piping Installation (mm/dd/yyyy): Write in the month (mm) / day (dd) / year (yyyy) (example 09/01/2012); the piping was installed for each UST. **If the piping has been replaced or upgraded, the date will be different from the UST installation date.** The installation date for the UST and piping system must be as accurate as possible to determine upgrade, release detection, and testing requirements. The owner's UST installation records are the most accurate. The date may also be found on the UST Facility Summary Report (Sample Summary Report is provided above). You may print a copy of the UST Facility Summary Report by going to the OCP UST web site at: [MDE UST - Facility Summary \(state.md.us\)](http://MDE.UST-FacilitySummary.state.md.us)

Piping Type: The inspector can identify the piping type by the location of the pump. A pump located under a dispenser, at a generator, or furnace (boiler) is a suction piping system. A submersible turbine pump mounted in a riser pipe on the underground storage tank is a pressurized piping system.

- ❖ Write **(SS)** for safe suction piping system (piping sloped back to the UST from the dispenser and check valve is located under suction pump or dispenser **(not at tank top)**).
- ❖ Write **(US)** for unsafe suction piping system (check valve at tank top or foot valve inside the UST and/ or piping not sloped from dispenser to tank top).
- ❖ Write **(G)** for gravity piping system (direct fill or remote fill in which the product would gravity flow into the UST (Example: used oil UST)).
- ❖ Write **(P)** for pressurized piping system (product in piping system pumped from UST to dispenser under pressure).

Piping Construction Material. Enter the material description code for each pipe from Chart C (Figure 9). Mill wrapped, painted, or tape wrapped pipes and fittings are considered bare steel.

When more than one type of piping is present, list the most prevalent section of piping for each UST. (Example: the majority of the piping material is flexible double-walled for a gasoline UST, but the vent pipe has double-walled fiberglass reinforced plastic (FRP) piping. The most prevalent section of piping, in this case, would be flexible double-walled because it is the majority of the piping system). Describe the complete piping details in the comment section. When multiple types of product pipes are connected to a single UST, each piping system must be compliant with corrosion and release detection requirements.

Figure 9

CHART C

CODE	PIPING MATERIAL DESCRIPTION
1	Aboveground Piping
2	Bare or Galvanized Steel
2a	Bare or Galvanized Steel–sleeved in PVC, FRP, or Plastic
3	Copper
3a	Copper (CP Protected)
3b	Copper–sleeved in PVC, FRP, or Plastic
4	CP Steel – (Galvanic)
4a	CP Steel – (Impressed Current)
5	Fiberglass Reinforced Plastic (FRP)
6	Flexible Plastic
7	No Piping
8	Other (Must Describe)

Double-Walled Piping: Mark **Y**(yes) or **N**(no) for each UST if the primary product piping system is double-walled. **Note:** All piping systems (i.e., product, vent, vapor recovery, remote fill pipes, manifold bars, etc.) installed after January 26, 2005, shall be installed in a UL listed or Department approved secondary containment system.

Outer Wall Pipe Construction Material: For double-walled piping systems, list the piping outer wall material code for each piping system using the code in Chart C (Figure 9) for each UST.

Emergency Power Generator UST: Does the underground storage tank being inspected store oil used to supply an emergency power generator? Mark **Y**(yes) or **N**(no) for each UST.

Unattended (unmanned) Facility: Mark **Y**(yes) or **N**(no) for each UST. A facility must have MDE written approval to operate unattended. MDE will not approve an unattended facility to operate dispensing to the general public (see fact sheet [Unmanned UST Fuel Dispensing Facility](#) on the MDE web site). Marinas may not operate unattended.

Section 2. UST System Information (cont'd)

Diagram: Show the layout of the site and all UST systems. (Figure 10)

Draw a site sketch of the facility identifying all pertinent structures and UST features using the Key/Legend on the inspection form for buildings, UST(s) and/or tank field locations, product piping runs if known, piping sump(s), dispenser(s), vent pipes(s), tank field monitoring pipe(s) locations, emergency shutoff switch, cathodic protection test station(s), north arrow, roads bordering the property, dry break/Stage I vapor recovery riser, submersible turbine pump sump, automatic tank gauge riser, fill pipe riser, any impressed current anodes, and any other items or devices that would be useful to show. **If using any key/legend other than what's described below, please provide an explanation or description. YOU MUST LABEL EACH UST WITH THE CORRECT MDE UST NUMBER.** Please show the approximate location of any on-site potable or monitor well(s) in the drawing.

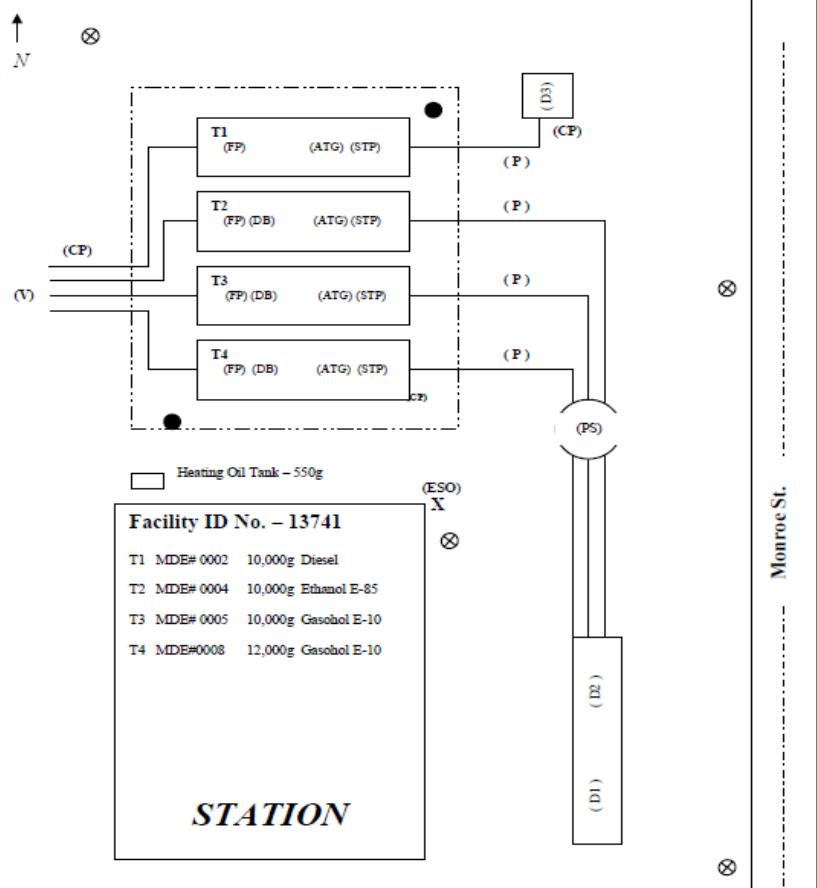
Figure 10

Section 2: Tank Srtion (cont'd.)

Diagram: Show lavout of site and all UST systems.

NOT TO SCALE

KEY / LEGEND (Include symbols/features if applicable)			
Symbol	Description	Symbol	Description
(I)	Interstice	○	Bollard
(BLD)	Building Location	(●)	Tank Field Monitoring Pipe
(TF)	Tank Field	⊗	Monitoring Well
(T #)	UST with MDE UST ID # (Include each compartment)	(CP)	Cathodic Protection Test Station
(P)	Product Piping	↑	North Arrow
(PS)	Piping Sump	≡	Roads Bordering Property
(D)	Dispenser	(DB)	Dry Break / Stage I Vapor Recovery
(V)	Vent Pipe	(STP Sump)	Submersible Turbine Pump
(FP)	Fill Pipe	(ATG Probe)	Automatic Tank Gauge



Section 3. Temporarily Closed UST System

Regulation Reference: COMAR 26.10.10 and 26.10.06

The inspector must evaluate each UST system to determine if the UST is in-use, temporarily closed, or taken out-of-service (e.g., empty, out of use) in accordance with *COMAR 26.10.10.01*. If all UST systems at the facility are in-use, check (√) “Not Applicable” in the top right corner of the form and proceed to Section 4. For each UST system “temporarily closed” or “taken out of service,” complete Section 3 by entering in the boxes (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable for each UST.

Temporary Closure: When an UST system is temporarily closed, owners and operators shall continue the operation and maintenance of corrosion protection system in accordance with *COMAR 26.10.04.02*, and any release detection method in accordance with *COMAR 26.10.05*. However, release detection is not required if the UST system is empty. The UST system is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (approximately 1 inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system. *COMAR 26.10.08* and *26.10.09* shall be complied with if a release is suspected or confirmed.

An UST system that has not been upgraded or is not in operational compliance with Release Detection and Corrosion Protection in accordance with *COMAR 26.10.04.02* and *26.10.05*, respectively, may not be temporarily out-of-service for a period exceeding 180 days. For an UST system that meets upgrade requirements, the UST system may not be temporarily out-of-service for a period exceeding one-year. The UST system owner may request an extension to the required time periods provided they submit a site assessment report to MDE, and MDE provides written approval granting an extension.

For any temporarily out-of-service USTs exceeding these time periods, MDE must receive written notice thirty (30) days prior to a removal of an UST system. UST removals must be performed in the continuous on-site presence and under the direction of a Maryland certified underground storage system technician or remover.

A complete inspection of the UST(s) **may not be required**. Question #1: If the UST contains less than one inch (1”) of product, this question (P) Passes. If questions #2 and #4 (P) Passes, then this Section passes the inspection, **proceed only to Section 8 (Corrosion Protection) and Section 14 (Operator Training) and complete**. If the UST(s) contains more than 1” of product, the UST(s) are considered “In Use;” therefore, Question #1 (F) Fails. Mark temporarily out of service (**T-temp. out of service**) in **Section 2: Tank System Information — Status**. Try to obtain the date the UST(s) were taken out of service. Note: Financial responsibility is required on all currently in use and temporary out of service USTs.

This section does not apply to a UST that is currently in use or permanently out of use.

Question 1 - Confirm the UST contains less than 1 inch of liquid using a rigid gauging stick capable of determining the liquid level to the nearest 1/8 inch.

Question 2 - Even though a UST is Temporarily Closed or Taken Out-of-Service, it must still have an operating vent pipe and a fill pipe that is capped and locked.

Question 3 - As accurately as possible, enter the month (mm) / day (dd) / year (yyyy) the UST system was taken out of service (example: 09/01/2022). If the owner cannot provide a date the system was taken out of service, a date of six-months prior to your inspection must be listed, and the owner will be required to properly abandon the UST system.

Question 4 - Inspector must evaluate if the UST system(s) has been temporarily closed for 3 months or more. If the answer is yes, the product lines must be drained and capped; other lines except for the vent must be secured and capped; pumps, dispensers, manways and ancillary equipment must be secured; and vent pipes shall remain open and operating.

(COMAR 26.10.10.01B)—When an UST system is temporarily closed for 3 months or more, owners and operators shall also comply with the following requirements:

- (1) Leave the vent line open and functioning, and
- (2) Cap and secure all other lines, pumps, manways, and ancillary equipment.

Section 4. Containment Sump and Dispenser

Regulation reference: COMAR 26.10.03.02,.03,.04, .06 and 26.10.05.01

4a. Containment Sump

Inspector must inspect each UST system to determine if containment sumps are present at locations of the tank top (normally found to house STP), under dispensers, at the vent pipe risers, Stage II condensate pods, or other areas of the system (marina's require containment sumps near the approach to the fueling pier). If a containment sump is present, complete this section. If the site does not have or required to have any containment sumps, check (√) "Not Applicable" and proceed to Section 4b. To complete the section, enter in the boxes (P) Pass, (PC) Pass with/Corrections, (F) Fail, or (NA) Not Applicable for each UST.

Do not confuse containment sumps with spill catchment basins/spill buckets on the fill pipe and Stage I vapor recovery connections covered in Section 6 or construction sumps that are used for manway foundations or backfill control. Containment Sumps can be used in many areas of the UST system to provide access to UST components and are typically found in the following areas of a UST system: below a dispenser, tank top riser pipe, housing the submersible turbine pump, vent riser, Stage II vapor recovery condensate pod, and for marina applications, to house and provide immediate access to the emergency shut-off valves near the approach to the wharf, pier, dock, or outside any dike area.

Containment sumps are required to be tested within 30 days of installation, upon repair, and within 1 year of July 26, 2005, and every 5 years until June 13, 2022. Effective June 13, 2022, the required containment sump testing schedule changed to every three (3) years. Note: UST systems installed or upgraded after January 26, 2005, must have double-walled piping connected to the UST and under the dispenser in liquid tight containment sumps.

Question 1 - Under each UST # in the appropriate box, identify the location of all containment sump(s) present on the UST system(s). If no sumps are present on the UST system, check Not Applicable in the top right corner of Section 4a. Section 4b. must be completed for UST systems with dispensers.

Question 2 - Containment sumps are to be clean with no debris or liquid (Dispenser Sumps complete 4.b.). The sump must be visually inspected, and if liquid or debris is detected, the sump being inspected (F) Fails the inspection. If corrections are made (i.e., water/debris is removed from the containment sump), the sump should then receive a (PC) Pass with/Correction. Explain in detail in the comment section on the inspection report the failure and any corrections made. **Include in the comment section if the liquid is in contact with metallic components. If the liquid is in contact with any metallic component, (F) Fail in section 8.**

Question 3 - Manway cover(s) and containment sump lid(s) must fit properly and be installed in accordance with manufacturers' specifications. Sump lids may not be in contact with riser pipes, caps, or any pump. A manway cover may not be installed upside down to compensate for riser pipes being too high.

Question 4 - Visually inspect the containment sumps for cracks, holes, sediment stains, bathtub rings (signs of water intrusion) or any openings that would cause the sump to not be liquid tight. Any signs of cracks, holes, or openings **(F)** Fails the inspection. Inspector should carefully inspect entry fittings and containment boots for signs of deterioration and openings. Any indication of an improper repair to a containment sump or sump entry boot must be noted in the comment section.

Question 5 - If the sump is equipped with liquid sensors, the sensors must be positioned within 1 inch from the bottom of the sump or installed in accordance with manufacturers' specifications. If the sensor is greater than 1 inch from the sump bottom, is not installed per the manufacturers' installation specifications, or the sensor is not properly secured in place using appropriate hardware, indicate **(F)** Fail for the inspection. You must fail any sensor hanging by its electric wire(s).

In accordance with COMAR 26.10.03.02A.(1)(c) With the exception of a vent riser, beginning June 13, 2022, pipes installed must terminate or connect in a liquid tight containment sump with a sensor.

Question 6 - If equipped with double-walled piping, make sure the test boot is present and open to allow leaked product to flow from the secondary pipe into the sump. The Schrader valve or fitting on the test boot must be removed from the test valve, and the test valve must be turned down toward the bottom of the sump, or the test boot must be un-clamped and open to allow product flow into the sump. If the test boot is missing or improperly installed to **not** allow product flow into the sump from the secondary containment pipe, this **(F)** Fails the inspection.

Question 7 - Review the testing data records for each UST to determine if each containment sump has been tested in accordance with Maryland Containment System Testing Protocol, Petroleum Equipment Institute (PEI) RP-1200 guidelines, or other MDE approved method, within thirty days of installation, upon repair, and every five years thereafter until June 13, 2022 (see below example). Effective June 13, 2022, containment sump testing frequency changed from 5 years to 3 years. Ensure double-walled containment sumps are tested per manufacturer specifications or follow PEI RP-1200 guidelines. If a double-walled containment sump test does not meet the above requirements, this question **(F)** Fails the inspection. If the most recent test data is available and within the required time period with passing results, this question **(P)** Passes the inspection. No testing data, testing data shows a failure, or if the failure has not been corrected, or failure is corrected, but no passing testing data is provided, **(F)** Fails the inspection.

Containment sump test schedule: COMAR 26.10.03.03A.(3)(c)

(iv) If the most recent test conducted on the containment sump occurred before the effective date of this chapter (June 13, 2022), within 5 years of the most recent test, and

(v) At least every 3 years after the most recent test was conducted.

Example: The containment sump test was performed on April 20, 2021. The next test is April 20, 2026, and every 3 years thereafter.

Question 8 - Enter the date (month (mm)/day (dd)/year (yyyy)) of the last containment sump test (example: 09/01/2021) for each UST. If the sumps were not tested in question 7, enter NA.

4b. Dispenser

Regulation reference: COMAR 26.10.03.02, .06

If the UST system being inspected does not have a dispenser, indicate Not Applicable in the box in the top right corner of the Section 4b.

When more than 5 dispensers are present, add additional copies of Section 4.b.

Complete Section 4.b. by entering in the boxes **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable for each dispenser.

Every dispenser must be inspected by opening the dispenser panels and inspecting the general condition of the dispenser. Look for any product weeping or dripping from any piping or connecting joints. Inspect to determine if a dispenser pan or containment sump is present under the dispenser. If a sump/pan is present, inspect for product, debris, and sump sensor and note in the comments section any abnormal condition and the location of sensors. If water, debris, or product is in the sump and is removed before ending your facility inspection, enter **(PC)** Pass with Corrections. If water or product is present, an investigation by the owner/operator must be initiated to determine the cause of the intrusion and noted in comments.

Question 1 - If a new dispenser system is installed in accordance with COMAR 26.10.03.03B (a dispenser system is considered new when both the dispenser and the equipment needed to connect the dispenser to the UST system are installed), an under-dispenser containment sump must be present or installed.

Question 2 - Is the dispenser in good condition and properly anchored to the pump island according to the manufacturer's specifications and the most current edition of NFPA 30A *Code for Motor Fuel Dispensing Facilities and Repair Garages*, Chapter 6 - Fuel Dispensing Systems (6.3.4). Check the dispenser for movement and missing anchor bolts or bars. If anchors are not present or are loose, or there is movement in the dispenser base (base rocking while pushing on the dispenser), this question **(F)** Fails the inspection. There should be no adverse stress on the piping or shear valve system.

Question 3 - The dispenser sumps must be clean and free of debris, product, and water. Every containment sump must be visually inspected. If debris or liquid is observed, the owner/operator must have the debris and/or liquid removed and properly disposed of. If liquid and/or debris can be removed while at the facility, enter **(PC)** Pass with/Correction for this question; if not, then this question **(F)** Fails the inspection. **Include in the comment section if the liquid is in contact with metallic components. If the liquid is in contact with any metallic component, (F) Fail in section 8.**

Question 3a - Inspect the containment sumps for visible cracks, holes, or openings. Any indication of an improper repair to a containment sump or sump entry boot must be noted in the comment section.

Question 3b - If the sump is equipped with liquid sensor, the sensor must be positioned within 1 inch from the bottom of the sump or installed in accordance with manufacturers' specifications. If the sensor is greater than 1 inch from the sump bottom, is not installed per the manufacturer's installation specifications, or the sensor is not properly secured in place using appropriate hardware, indicate **(F)** Fail for the inspection. You must fail any sensor hanging by its electric wire(s).

In accordance with COMAR 26.10.03.02A.(1)(c) With the exception of a vent riser, beginning June 13, 2022, pipes installed must terminate or connect in a liquid tight containment sump with a sensor.

Question 3c - If equipped with double-walled piping, make sure the test boot is present and open to allow leaked product to flow from the secondary pipe into the sump. The Schrader valve or fitting on the test boot must be removed from the test valve, and the test valve must be turned down toward the bottom of the sump, or the test boot must be un-clamped and open to allow product flow into the sump. If the test boot is missing or improperly installed to **not** allow product flow into the sump from the secondary containment pipe, this **(F)** Fails the inspection.

Question 3d - Review the testing data records for each UST to determine if each containment sump has been tested in accordance with Maryland Containment System Testing Protocol, Petroleum Equipment Institute (PEI) RP-1200 guidelines, or other MDE approved method, within 30 days of installation, upon repair, within 1 year of January 26, 2005, and every 5 years thereafter. Effective June 13, 2022, containment sump testing frequency changed from 5 years to 3 years. Ensure double-walled containment sumps are tested per manufacturer specifications or follow PEI RP-1200 guidelines. If a double-walled containment sump test does not meet the above requirements, this question **(F)** Fails the inspection. If the most recent test data is available and within the required time period with passing results, this question **(P)** Passes the inspection. No testing data, testing data shows a failure, if the failure has not been corrected, or failure is corrected, but no passing testing data, **(F)** Fails the inspection.

Containment sump test schedule: COMAR 26.10.03.03A.(3)(c)

(iv) If the most recent test conducted on the containment sump occurred before the effective date of this chapter (June 13, 2022), within 5 years of the most recent test, and

(v) At least every 3 years after the most recent test was conducted.

Example: Containment sump test was performed on April 20, 2021. Next test is April 20, 2026, and every 3 years thereafter.

Question 3e - Enter the date (month (mm)/day (dd)/year (yyyy)) of the last containment sump test (example: 09/01/2021) for each UST. If the sumps were not tested in question 3d, enter NA.

Question 4 - Pressure Piping System - Inspect the overall condition, proper height, and proper anchorage of the shear valve (also known as a crash valve), according to the most current edition of NFPA 30A *Code for Motor Fuel Dispensing Facilities and Repair Garages*, Chapter 6 - Fuel Dispensing Systems (6.3.9 through 6.3.10); most current edition and or most recent reaffirmed date of API 1615 *Installation of Underground Petroleum Storage Systems*, Section 11 — Other Equipment (11.1.3 Remote Pumping Systems); most current edition of PEI-PEI/RP 100 *Recommended Practices for Installation of Underground Liquid Storage Systems*, Figure 10-4 Emergency shutoff valve, and/or manufacturers' specifications. The shear section of the valve should be level (within ½ inch) with the top of the dispenser island or within the manufacturers' specifications.

Pressurized piping systems with a Stage II piping system must have a shear valve or flexible connector present below the dispenser. Inspect the general condition, height, and proper anchorage of the shear valve to the dispenser island and/or verify in accordance with the manufacturers' specifications. Also, inspect the condition of the flexible connector if present; look for deterioration of the stainless-steel braiding and twisting and or bending greater than 90 degrees (NFPA 30A, Chapter 5 - Piping for Liquids (5.7)). If the shear valve is not installed to the proper height, properly secured, or the flex connector has signs of deterioration or exceeds the bend radius, enter **(F)** Fail for question 4.

The proper height and anchoring of the shear valve are extremely vital to the operation of the shear section to operate properly in the event of an emergency. Inspect the general condition, height, and anchor bracket that holds the shear valve to the dispenser island. Many times, the bolts are loose or missing, or the entire bracket is not present. If the shear valve is not to the proper height or properly secured, the shear valve **(F)** Fails the inspection.

Question 4a - Inspect the hold-open latch or over-temperature arm on the shear valve to determine if it is properly connected and no illegal device (e.g., a piece of wood or a metal or plastic wire) is holding open the fusible-link latch/arm. NFPA 30A, Chapter 6 - Fuel Dispensing Systems (6.3.9.1) states: "the automatic-closing feature of this valve shall be tested at the time of installation and at least once every year thereafter by manually tripping the hold-open linkage. Records of such tests shall be kept at the premises or shall be made available for inspection by the authority having jurisdiction within 24 hours of a verbal or written request." Question 4a **(F)** Fails the inspection if the device has been altered or the fusible link is not used to hold the device in the open position.

NOTE: Inspector may also detect containment sump float devices that are connected to the shear valve-actuating arm that will trip the shear valve and prevent dispensing product if liquid is detected in a sump.

Question 4b - Inspect the product pipes in the dispenser to determine if any product pipes are manifolded above the shear valves. Product pipe manifolds above the shear valves is an improper installation and may cause a safety and fire hazard. In the event of a break in one shear valve, the product flow would not shut-off on the other pipe.

Question 5 – Stage II piping – Shear valves used for Stage II piping must be installed and tested in accordance with NFPA 30A, Chapter 6 - Fuel Dispensing Systems (6.3.9 & 6.3.9.1) and/or manufacturers' specifications or a flex connector is installed. If no Stage II piping is installed, enter NA.

Question 6 - Listed hose assemblies shall be used to dispense fuel. Hose length at automotive motor fuel dispensing facilities shall not exceed 18 feet (NFPA 30A Chapter 6 - Fuel Dispensing Systems (6.5.1)).

Inspect the hose and evaluate its condition to ensure there are no cuts, abrasions, or cracks in the hose cover that penetrates to the reinforcement; blisters or loose covers; soft spots in the hose, particularly adjacent to the coupling, which is an indication of coupling slippage or irregular coupling alignment; and flattened or kinked hose resulting in permanent deformation.

A listed emergency breakaway device is required for Class I liquids (e.g., gasoline) and Class II liquids (e.g., diesel fuel, fuel oil, and kerosene). This device shall be installed and maintained in accordance with the manufacturers' specifications. NFPA 30A, Chapter 6 - *Fuel Dispensing Systems* (6.5.2).

Where hoses are attached to a hose-retrieving mechanism, the listed emergency breakaway device shall be installed between the point of attachment of the hose-retrieving mechanism to the hose and the hose nozzle valve (NFPA30A, Chapter 6 - Fuel Dispensing Systems (6.5.3)).

Exception: An emergency breakaway device is not required at marina motor fuel dispensing facilities.

Question 7 - Inspect dispenser hoses to ensure the hose is protected from vehicle damage. If equipped with a hose retractor, is the retractor in operating condition? Test the retractor by pulling out the hose to the end, then allowing the retractor to reel the hose back in. If the hose is not lying on the ground and not subject to damage by vehicle traffic, question #8 (P) Passes the inspection.

Question 8 - Verify that there is an emergency shut-off switch or electrical disconnect present, installed in approved locations not less than 20 feet and not more than 100 feet from the fuel dispensing devices they serve (NFPA 30A (6.7)). Each emergency shutoff device or electrical disconnect shall be **clearly** identified. If the emergency power shut-off is not present, is not located in the proper location, or is not easily identified, this question (F) Fails the inspection.

Question 9 - After removing the dispenser panels, carefully examine all of the piping, connecting components, and filters for leaks, weeping or dripping of product. If leaks are observed, inspect the dispenser sump (if present) for product; if no sump is present, evaluate if soil saturation is present. MDE prefers the collection of vapor readings of the soils or backfill materials using a calibrated field monitoring/testing instrument, such as a photoionization detector (PID), flame ionization detector (FID), or Combustible Gas Meter (LEL). Record the vapor reading in the comments section and notify the owner/operator immediately of the leak. If a sump is present and it contains product, the owner/operator must have the product removed and properly disposed of. If dispenser weeps, drips, or leakage can be corrected while at the facility,

enter **(PC)** Pass with/Correction for questions # 3 and #9; if not, then immediately inform the owner the dispenser must be shut down, and this question **(F)** Fails the inspection.

Question 10 - Evaluate the piping below each dispenser for the presence of a flexible connector. If a flexible connector is observed or the owner or operator has photographs, written, or other documentation to show the presence of a flexible connector, answer (Y) Yes for this question for each dispenser confirmed. **MDE does not require concrete to be removed to verify the presence of a flexible connector.**

If the flex connector under the dispenser is visible inside a dispenser pan or containment sump, inspect the condition for wear, tight connection, twisting, and or bending greater than 90 degrees. If there is no dispenser pan or containment sump, the Maryland certified UST technician or Maryland certified inspector must make every effort to verify the flex connector is coated or wrapped or has an isolation boot **and** has corrosion protection.

COMAR 26.10.03.02B(1)(b) and (c) states: “Corrosion Protection Standards for Piping:

(1)(b) The piping is constructed of steel, is coated with a suitable dielectric material, and has a cathodic protection system designed by a corrosion expert, or

(2)(b) If the piping cathodic protection system is an impressed current system, ensure the impress current system is designed to allow for the determination of the current operating status as required in COMAR 26.10.04.02.

Piping carrying a regulated substance shall be connected to the tank and the dispensing equipment at the end of the piping run by an Underwriters Laboratory Inc. (UL)-listed flexible connector, installed in accordance with manufacturers’ specifications. Flexible connectors may not be used at any other point in the piping.

If the flex connector is buried or in contact with soil or water, complete Section 8 – Corrosion Protection.

Question 11 - When inspecting a marina, determine if each nozzle is manufactured without a hold open device or the hold open device has been removed. If any nozzle has a hold open device, enter **(F)** Fail for this question, or remove the hold open device and enter **(PC)** Pass with/Correction and describe in the comments.

Section 5. Tank Top Components and Vent Pipe

Regulation Reference: COMAR 26.10.03. 02, .04 & .06

5a. Tank Top Components

Question 1 - Answer **Y** (yes) or **N** (no). Is the storage system equipped with an Automatic Tank Gauge (ATG) system? If Yes, complete Questions 1a. and 1b. Inspectors will be required to inspect other areas of the tank top when ATG systems are used.

Question 1a - Inspect the sensor wire grommet or other material used to seal the electrical connection to ensure the material is not cracked, deteriorated, or missing. Any signs of deterioration or wires that are not sealed are considered a **(F)** Fail. ATG riser pipes and leaking connector fittings are a source area for UST system vapor leaks resulting in soil and groundwater contamination. ATG wire electrical connections, including seal packs, must be installed in weatherproof junction boxes.

Question 1b - ATG riser manway cover must fit properly in the manway ring. Covers cannot be turned upside down to compensate for riser pipes that are installed too high. Manway covers must not be in contact with electrical wires or riser. Broken or missing manway covers are considered a **(F)** Fail.

Question 2 - Answer **Y** (yes) or **N** (no). Is there a flexible connector or flexible piping present connecting product pipe to the UST or STP? If the metallic flexible connector or metal fittings are in contact with soils, water, or buried, complete Section 8 Corrosion Protection. This must be answered **Y** (yes) or **N** (no) and will not be NA.

COMAR 26.10.03.06 Piping Installation

G. In accordance with manufacture specifications, use a UL-listed flexible connector to connect piping as follows:

- (1) Except for a direct fill line to connect a pipe carrying a regulated substance to a UST at the end of a piping run; and
- (2) To connect a pipe carrying a regulated substance to a dispenser system.

Question 3 - Answer **Y** (yes) or **N** (no) for each double-walled UST if an interstice monitoring or inspection station is present. All double-walled USTs must have access for checking the interstice. The interstice opening must be properly capped. Manway covers must be properly installed and not in contact with the interstice risers and caps. Explain any concerns or problems detected in the “Comments” section.

Question 4 - Inspect all UST openings. All UST riser pipes, including the ball float valve riser (if present), must be fitted with proper caps that are liquid and vapor tight. Manway covers and manhole lids must be properly installed in a manhole ring, and the lid may not be turned upside down. Riser pipes installed too high and in contact with the lid, cracked lids, or missing lids are considered an **(F)** Fail.

Question 5 - Record a **(P)** Pass if no petroleum vapors are detected when the sump cover(s) is removed on ATG, ball float valve riser, vent riser, or STP without a containment sump. If petroleum vapors are detected, the component **(F)** Fails the inspection. MDE recommends inspectors collect vapor readings on all openings to assist with evaluating if the UST systems have petroleum or vapor leaks. Vapor readings should be collected following the procedures outlined in Question 6.

Question 6 - Readings shall be collected using a calibrated field instrument (e.g., photoionization detector (PID), combustible gas meter (LEL–lower explosive limit), or other field instrument). Have the calibrated instrument turned on, in hand, and ready to read; lift the manway cover just enough to place the probe of the field instrument into the manway (ensure the probe is not in water); take the reading, and record. Record in the Comments section all vapor field readings from soils in or around the ATG, ball float valve, vent riser pipe, and inside the manway for STPs (without containment sumps.). Record the maximum reading for each UST in the appropriate block and clearly identify the location in the Comments section.

Question 7 - Marinas must have shut-off valves for all product piping grouped in one location on the shore near the approach to a pier or dock and properly marked: “Emergency Shut-Off.” The valve(s) must be protected from damage with a cover that is not bolted or locked and is readily accessible in the event of an emergency. Shut-off valves that are not readily accessible, not located at the approach to the pier or dock, or not properly identified **(F)** Fail the inspection.

Note: Where a UST is at an elevation that produces a gravity head on the dispensing device, the UST outlet shall be equipped with a device, such as a normally closed solenoid valve, that will prevent flow from the UST to the dispenser when the dispenser is not in use. This device shall be located adjacent to and down-stream of the outlet valve specified in NFPA 30 2.3.2.5.1. The device shall be installed and adjusted so that liquid cannot flow by gravity from the tank to the dispenser if the piping or hose fails when the dispenser is not in use.

5b. Vent Pipe

Question 1 - Aboveground vent pipe risers must be constructed of schedule 40 steel. Fiberglass-reinforced plastic, flexible plastic, or PVC piping may not be used for aboveground vent lines. **Fernco rubber couplings are not allowed anywhere on the vent riser pipe.**

Question 2 - Vent pipes must be properly anchored to secure the vent riser in a vertical position. The riser must be secured in concrete and/or supported with metal bracing. Vent pipes must be protected from damage using bollards or must be set back from a curb line and protected from vehicle traffic. Vent pipes cannot be located in a vehicle traffic area.

Question 3 - If the vent pipes are not installed to the required height, the inspector must **(F)** Fail this question. Facilities may change product usage in an UST (Example: a diesel UST is now a gasoline UST), and inspectors must evaluate each UST vent to ensure proper vent height is present:

- Vents pipes for UST systems storing flammable liquids shall terminate 12 feet above the ground surface and 2 feet above any attached building.
- Vents Pipes for UST systems storing combustible liquids shall terminate at least 3 feet above the ground surface.

Question 4 - All vent pipes must be equipped with vent caps. Gooseneck elbows are not acceptable vent caps. Flammable liquid USTs with Stage I vapor recovery must have pressure/vacuum (P/V) relief vent cap. Some P/V vent valves are difficult to identify. Valves can be identified by the shape, design, and labels located on the valve. A stepladder may be necessary to confirm the presence of a P/V valve.

Open atmospheric vent caps must have an internal wire screen to protect the vent pipe from debris and insects.

Section 6. Spill and Overfill Prevention Equipment

Regulation Reference: *COMAR 26.10.03.03, .04, & 26.10.04.01*

6a. Spill Prevention Equipment

Spill Catchment Basin (Spill Bucket) Present: Complete Questions 1 through 7a
Spill Bucket Not Required: Complete Questions 4 through 6 and 8.

Question 1 - Is the direct and remote (if present) fill pipe equipped with a minimum 5-gallon catchment basin?

Spill device required:

- All motor fuel and bulk heating oil UST(s).
- Used oil UST(s) installed, upgraded, or replaced on or after 11-4-96.
- Heating oil UST(s) for on-site consumptive use installed, upgraded, or replaced on or after 11-4-96.
- Stage I connection installed on or after 7-1-98. (See Section 7a. to record inspection for Stage I)

Spill device not required:

- UST(s) receives less than 25 gallons of oil per delivery.
- Heating oil UST(s) for on-site consumptive use installed, upgraded, or repaired before 11-4-96.
- Stage I fitting installed before 7-1-98.

If not required and is not installed, indicate (NA).

If petroleum contaminated soil is present around the fill or Stage I vapor recovery connections without catchment basins; MDE will require corrective actions and the installation of spill catchment basins. Document your findings in the Comments section. Notify MDE no later than 2-hours after discovery and notify the UST owner of contaminated soils.

Question 1a - For each UST, identify if a spill catchment basin is single-walled (SW), double-walled (DW), or not applicable (NA).

Question 2 - All catchment basins shall be kept clean and dry with no free-standing liquid and debris. If the inspector removed liquid or debris at the time of inspection, indicate (PC) Pass with Correction in the answer box. All liquids removed from a catchment basin must be properly stored in an approved container and disposed in an approved manner.

Questions 3 and 4 - Inspect catchment basins and fill pipes for any cracks, holes, or abnormalities. Inspector should evaluate if the integrity of a completely dry catchment basin is good. Catchment basin equipped with a spring-loaded drain valve opening must have an

operating plunger or properly installed plug. Fill pipes must be vertical and drop tubes are not bent.

Question 5 - Basin lid must be properly fitted in the manway ring and not in contact with the riser pipe or fill pipe cap. Any contact may cause damage to the tank or riser pipe. Covers cannot be turned upside down to compensate for riser pipes that are installed too high. Broken or missing manway covers are considered a **(F)** Fail.

Question 6 - Fill pipe must be marked to indicate the size of the UST and the type of product stored in that UST or the lid contains the proper API color symbol. The marking can either be a tag around the fill pipe or a sign, in plain view of the driver from the fill pipe receptacle area, indicating the UST size and type of product stored. Signs shall not be less than 8 x10 inches with letters not less than 5/16 inch high.

Question 7 - All spill catchment basins (fill pipe and Stage I vapor recovery connections) must have a minimum 5-gallon capacity. The catchment basins must be tested in accordance with Maryland Containment System Testing Protocol or another MDE approved method within 30 days of installation, upon repair, or within 180 days of January 26, 2005, and annually thereafter. Catchment basins that have not been tested within the past year from the inspection date, or have failed the test, are considered a **(F)** Fail for the inspection. Ensure double-walled spill catchment basins (primary and secondary) are tested per manufacturer specifications or follow Petroleum Equipment Institute (PEI) RP-1200 guidelines. If a double-walled spill catchment basin test does not meet the above requirements, this question fails the inspection.

Question 7a - Indicate the date of the last test, month (mm)/day (dd)/year (yyyy) (example: 02/01/2022), for each UST spill catchment basin.

Question 8 - Spill device not required (See above for requirements under Question 1). Indicate a Pass (P).

6b. Overfill Prevention Equipment

Since December 1998, all gasoline, gasohol, diesel, used oil, and bulk heating oil UST systems must be upgraded with overfill prevention device if more than 25 gallons of petroleum is entering UST at one time. **USTs that receive 25-gallons or less of petroleum per delivery or heating oil UST for on-site consumptive use installed prior to November 4, 1996, are not required to have overfill protection.**

Overfill prevention equipment shall: Automatically shut off flow into the UST when the UST is 95 percent full or alert the transfer operator when the UST is 90 percent full by restricting the flow into the UST or triggering a high level alarm or alerting the operator with an alarm 1 minute before overfilling. **The type of overfill device that can be used on a UST depends on how the product is delivered to the UST (gravity or pump flow under pressure) and the type of UST system (see below for restrictions).**

Question 1 - Visually inspect inside the fill pipe riser to determine if a drop tube is present and required.

Any UST system that stores flammable products **or** an UST system with a capacity over 1,100 gallons that stores combustible products shall have a drop-tube installed in the fill pipe.

Question 2 - Overfill UST devices include: flapper valve pressure fill (**FV-P**) or flapper valve pressure gravity fill (**FV-G**) in the drop tube; ball float valve (**BFV**); high-level alarm (**HLA**); **Other** (must describe in Comments); or (**NA**). If more than one overfill device is present, list each one. Inspector must visually observe the device indicated, or the owner must provide to the inspector written documentation confirming the presence of the device (, i.e., precision test report confirming the presence of an operating over fill device).

Note: In accordance with COMAR 26.10.03.03A.(2)(b) A flow restrictor in a vent (ball float valve) may not be installed or replaced after June 13, 2022.

Flapper valve overfill device: Evaluate the type of flapper valve to ensure the flapper valve is compatible with the type of fuel delivery (i.e., for pressure delivery or gravity drop delivery).

Question 3 - Indicate the method used to deliver the product to the UST (i.e., gravity drop (**G**) or pump flow (**PF**) delivered under pressure).

Question 4 - “Owners and operators shall ensure that releases due to spilling or overfilling do not occur. The owner and operator shall ensure that the ullage volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.” Answer Yes or No for each UST.

Question 5 - An inspection of the overfill device has been performed within the past 3 years to confirm the device is set to the proper level and functional test has been performed in accordance with the manufacture test requirement or PEI/RP1200. The UST owner must have a written record of the inspection and functional test. The inspection and functional test can be performed by a Maryland certified UST technician, certified precision tightness tester, or a properly trained Maryland certified UST inspector.

Question 5a - Enter the date (mm/dd/yyyy) of the last overfill device functional operability test. (example: 02/01/2022)

Question 6 - If the UST receives less than 25 gallons of petroleum per delivery or a heating oil system for on-site consumptive use was installed prior to November 4, 1996, the overfill device is not required, and the answer is (**P**) Pass. If the overfill device is installed, it must be in full compliance with COMAR.

Select the below overfill device(s) used on the UST and complete questions 7 through 9 as applicable.

Question 7 - Drop Tube Flapper Valve: Visually inspect inside the drop tube to verify nothing is present to prevent the proper operation of the flapper valve (e.g., a gauging stick that holds the valve open) and confirm the correct type of drop tube flapper valve for the type of delivery being made (i.e., gravity drop (**G**) or pump flow (**PF**) delivered under pressure). A flapper valve can only be used on USTs that receive gravity drop deliveries unless a drop tube flapper valve that is specifically designed for pump flow deliveries.

Question 8 - Ball Float Valve / Vent Restrictor: These devices are approved on tanks that receive gravity drop deliveries only. Ball floats cannot be visually inspected unless fittings, caps, and extractor valves are removed. The owner or operator must provide written documentation verifying the presence of a ball float or vent restrictor. Many UST testers document overfill devices during the testing of storage systems. If proof is not available, the owner must have the device inspected by a Maryland certified UST technician, certified precision tightness tester, or Maryland certified UST inspector for proper operation.

*** Effective 6/13/2022, ball floats and/or flow restrictor device may not be installed or replaced in vent line. If a UST system has one or more of the following, the owner or operator of the system shall not use a ball float valve on that system: (1) a tank that receives a pumped delivery; (2) suction piping and air eliminator; (3) remote fill pipes and gauge openings; (4) an emergency power generator UST; or (5) fill pipe riser with a coaxial drop fill adapter.*

Question 9 - Audible External High Level Alarm Only: Alarm tested and functioning properly. The delivery driver must be able to see the visual alarm and/or hear the audible alarm at the fill receptacle. If the alarm system is equipped with a test mode button, the unit must be tested during the inspection for proper operation to make sure the visual signal or horn is clearly audible to someone standing at the fill receptacle. The alarm box must be clearly labeled as a “tank overfill alarm” so that delivery personnel will recognize the device as an overfill alarm.

Section 7. Stage I and II Vapor Recovery

Regulation Reference: COMAR 26.10.03.03A & 26.10.04.01

7a. Stage I Vapor Recovery

Stage I vapor recovery is **ONLY** required on **Gasoline** UST with a capacity of **2,000 gallons or more**. Stage I vapor recovery **is** required statewide on each UST system that qualifies, no matter what County the facility is located in or whether the facility is equipped with Stage II vapor recovery. **Reminder:** If Stage I is present, the vent pipe must have a Pressure/Vacuum vent cap present and be a minimum of 12 feet above grade. If the UST system(s) at the facility are not required, and do not have Stage I vapor recovery, check (√) “Not Applicable” in the top right corner of the form and proceed to Section 8. If an UST system is required or has Stage I vapor recovery, complete Section 7.a. questions 1, 2, answer questions 3—6d for each UST (**P**) Pass, (**PC**) Pass with/Corrections, (**F**) Fail, or (**NA**) Not Applicable, and enter the last test date into the appropriate UST box in 6.a. Questions regarding Stage I or II vapor recovery systems and requirements can be directed to MDE Air and Radiation Administration (ARA) at 410-537-3231.

Question 1 - Is the UST equipped with Stage I vapor recovery? Answer **Y**(Yes), **N**(No), or **NA** (Not Applicable). If yes for any UST, complete questions 2 through 6.d. and Section 7.c.

Note: 7.c. forms must be submitted to MDE ARA at the address listed on the form.

Question 2 - There are two methods to comply with Stage I vapor recovery: Enter **A**-(Coaxial) or **B**-(2 Point System).

- **Coaxial Fill Adapter** - A tube inside a tube located at the fill pipe riser for the UST. **Reminder:** If a Coaxial Fill Adapter is used for Stage I vapor recovery, the UST must use either a **Flapper Valve** or a **High Level Audible Alarm** for overfill protection.
- **Two Point System (Dry Break)** - The delivery driver must connect a hose to another location (the Dry Break) other than the fill pipe to achieve Stage I vapor recovery. **Reminder:** Stage I vapor recovery can be achieved on multiple USTs with only one Dry Break at a facility as long as the venting system for the USTs is manifolded either above grade (which you can visually see) or below grade. A Dry Break cannot be present on the vertical portion of the vent riser. The Dry Break lid must be painted orange in accordance with API 1637 color symbol standards.

Question 3 - Inspect the dust cap for the Stage I vapor recovery Dry Break. Make sure the cap is present, and the gasket inside is in good condition (no cracks, tears, etc.).

Question 4 - The Dry Break poppet must move easily, be in an operable condition (not stuck open), and close tight. To check the poppet operation, push down on the poppet using your fingers or screwdriver, and it must open and close freely.

Question 5 - If the station was constructed on or after July 1, 1998, a 5-gallon catchment basin (spill bucket) is required around the Stage I vapor recovery Dry Break. **Reminder:** Check the UST registration or facility summary form to determine the UST system installation date. Enter **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable for each UST, and complete question 5a. If question 5 is NA, complete questions 5.b. and 5.c.

Question 5a - For each spill catchment basin, identify if it is single-walled (SW), double-walled (DW), or not applicable (NA).

Question 5b - Did you observe staining or smell petroleum vapors in the backfill material surrounding a Dry Break riser pipe without a catchment basin? If your answer is yes, mark this section as a **(F)** Fail.

Question 5c - If a field-screening instrument was used, list in the box the maximum reading obtained. In the comments section, list the instrument used (for example PID; flame ionization detector (FID)), the manufacturer and model of the instrument, and any additional readings taken. MDE does not set an acceptable vapor level for field screening.

Question 6 - Has the catchment basin been tested in accordance with the Maryland Containment System Testing Protocol or another MDE approved test method within the past year with passing results? Answer **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable for each UST. The owner or operator must have a testing record. A test certificate indicating “Pass” without a test data sheet is not an acceptable testing record, and this section would **(F)** Fail the evaluation. Ensure double-walled spill catchment basins are tested per manufacturer specifications or follow PEI RP-1200 guidelines. If a double-walled spill catchment basin test does not meet the above requirements, this question **(F)** Fails the inspection.

If a coaxial vapor recovery connection is used, answer NA for questions 6 through 6d.

Question 6a - Enter the date of the last test (month (mm)/ day (dd)/ year (yyyy)).

Question 6b - Inspect each catchment basin for any cracks, holes, or abnormalities. The inspector should evaluate a completely dry catchment basin for leakage. A catchment basin equipped with a spring-loaded drain valve opening must have an operating plunger or properly installed plug.

Question 6c - All catchment basins shall be kept clean and dry with no free-standing liquid and debris. If the inspector removed liquid or debris at the time of inspection, indicate **(PC)** Pass with Correction in the answer box.

Question 6d - Catchment basin lid must be properly fitted and not in contact with the riser pipe or pipe cap. Any contact may cause damage to the tank or riser pipe. Cover must fit properly in the manway ring and cannot be turned upside down to compensate for riser pipes that are installed too high. Broken or missing manway covers are considered a **(F)** Fail. Stage I catchment basin lid must be properly marked in accordance with API 1637 color symbol.

7b. Stage II Vapor Recovery

If the UST system(s) do not have Stage II vapor recovery (i.e., diesel, kerosene, heating oil, etc.), check (√) “Not Applicable” in the top right corner of Section 7.b. and proceed to Section 8. Stage II vapor recovery systems capture gasoline vapors lost during vehicle refueling at the pump. **Note:** If Stage II vapor recovery is present, there must be either a Stage II shear valve or flexible connector properly installed below the dispenser, only on a pressurized piping system. Facilities that do have Stage II vapor recovery (previously required in the following counties of Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard; Montgomery; Prince George’s; and Baltimore City) may submit a written request to decommission the Stage II system. ARA may be contacted at 410-537-3231 to confirm if a facility is exempt from Stage II requirements. If the site had Stage II vapor recovery but has decommissioned it, complete questions 1, 4-4b and Section 7c.

Question 1 - Does the storage system have Stage II vapor recovery? Answer (Y) Yes or (N) No. If Yes, complete questions 2 and 3 and Section 7c. If No and Stage II is decommissioned, complete questions 4 - 4.b and Section 7c.

Question 2 - There are two types of Stage II vapor recovery systems: Balance System (BS) and Vacuum Assist (VA) System. Enter BS or VA in the block for each tank system. The type of vapor recovery system can be identified as follows:

Balance System - (One type only) Uses a bellows nozzle (Boot) and coaxial hose (a hose within a hose). The nozzle spout is fitted with an accordion-like bellows that presses snugly against the vehicle fill pipe opening. Balance systems are designed with controls that prevent fuel from flowing into the vehicle fuel tank unless there is a tight connection between the bellows and the vehicle fill pipe. When fuel delivery begins, gasoline flows from the dispenser into the vehicle fuel tank. Vapors displaced by the rising liquid seek an escape route through an open port in the nozzle bellows. From this port, the vapors flow through the coaxial dispenser hose to the vapor-return piping of the gasoline UST. This recovery of the vapors is accomplished without the employment of external force. The withdrawal of vapors from the vehicle tank is balanced by the simultaneous addition of the vapors to the UST from which the gasoline is being dispensed - hence the name, *balance* system.

Vacuum Assist System - (Several types exist). The concept is to pump or pull the collected vapors from the car’s fuel tank back to the UST. Several names that you may come across: are Gilbarco/Veeder-Root VaporVac®, Dresser Wayne® Vac, Tokheim® MaxVac, Hastech Inc., and Healy. Some obvious signs a vacuum assist system exists are multiple holes at the end of the dispenser nozzles, a vacuum pump either below or above the dispenser; or a Healy pump present in the Regular (lowest grade) Unleaded STP sump. The vacuum can be generated by either an electric vane pump or a venturi device such as the Healy Mini-Jet that uses pressurized gasoline to produce a vacuum. Vacuum assist most commonly uses the electric vane pumps, typically painted blue, and is located in the dispenser housing. They operate during a fuel delivery to a vehicle and pull the gasoline vapors from the vehicle tank and through piping routes the vapors to the underground tank. The vacuum assist dispenser

hose is smooth on the outside, not corrugated like the balance system hose. There are several holes in the nozzle end, while balance systems use only a single hole.

Question 3 - A pressure control system may be used on gasoline UST systems anywhere in the State, usually in conjunction with Stage II vapor recovery systems. It is also a method that may be used to comply with HGRUA regulations. Two known CARB approved systems that are actively being used in the State are the “Permeator™” by Arid Technologies® and the OPW “Vaporsavor™.” The units look like an air conditioning unit next to or in the area of the vent pipe risers. These systems are not required to be inspected, but the inspector is being asked to answer (Y) Yes or (N) No if a system is present. **If the pressure control system piping is buried and not corrosion protected, write your findings in the comments section under Stage II Vapor Recovery and in comments in Section 8, Corrosion Protection.**

Question 4 - If the Stage II Vapor Recovery system has been decommissioned on all gasoline USTs at the facility, indicate yes. A partial decommissioning (i.e., cap one dispenser) is not considered an acceptable or proper decommissioning of Stage II Vapor Recovery system.

Question 4a - If the Stage II Vapor Recovery system has been decommissioned, the owner was required to submit a completed form titled “Notification of Intent to Decommission, or to Not Install Stage II Vapor Recovery System” and MDE would provide the UST owner with a conditional approval letter to decommission the Stage II system. The inspector must request to review the MDE Stage II decommissioning approval letter and answer Y (yes) if the letter is available.

Question 4b - Inspector must record the date (month (mm)/ day (dd)/ year (yyyy)) the Stage II Vapor Recovery system was decommissioned.

7c. Air and Radiation Administration Inspection Report

(COMAR 26.11.24)

STAGE I AND II VAPOR RECOVERY SYSTEMS INSPECTION REPORT

Owner – Enter the name, address, and telephone number of the person or entity that owns the UST system. Stage II regulations assign certain responsibilities to the owner, so the owner’s contact information is needed in case issues arise as a result of an inspection.

Operator / Lessee – Enter the name of the operator, the address and telephone number of the facility. Like the owner, the operator is assigned certain responsibilities. The operator may not always be the person interviewed at the station.

Stage I Vapor Recovery System

Condition of Fill – Evaluate the condition of the UST product fill pipe and Stage I vapor recovery connection fills. Inspect for product in the spill bucket, ensure the dust caps are on, and ensure the poppet on the Stage I vapor recovery connection is closed and seals.

Witness Fuel Drop – Note if you observe fuel delivery during the inspection. If so, note in the comments if a vapor balance line was in use and if there were any leaks or spills observed; answer Yes or No.

Tank Vent Condition – Locate the tank vent lines and ensure they are protected from traffic, weather, and are the proper height; answer Yes or No. Also, verify pressure/vacuum vent valves are installed on the gasoline UST vent lines and that no rubber Fernco fittings are present.

Fill and Vapor Swivel Adaptors Installed – Ensure that product and vapor swivel adaptors are installed on the product fill pipe, and vapor recovery connection fills; answer Yes or No. Locking clamps are permitted to be used in lieu of swivel adaptors.

Stage II Vapor Recovery System – Indicate which type of vapor recovery system (**vapor balance or vacuum assist**) is installed at the facility (**Circle One**). Approximately 95% of the facilities in Maryland have vacuum assist systems. Note: See Section 7.b. Question 2 above for a description of the vapor balance and vacuum assist systems.

Equipment – Indicate the quantity, the manufacturer, and the model number of the nozzles, hoses, and dispensers. Stage II Vapor Recovery systems are certified for use with certain pieces of equipment, so this information is necessary to determine if the facility is operating an approved system. Also, enter the date (month (mm)/ day (dd)/ year (yy)) the Stage II Vapor Recovery System was installed. This date may be different from the UST installation date.

Test Requirements/Results – Review the most recent test results. The liquid blockage test is required to be performed every five years, while the other tests are required annually. Check (√) Pass or Fail and enter the most recent test date (month (mm)/ day (dd)/ year (yy)).

Test Frequency –

Liquid Blockage: Balance and Vacuum Assist System — Every 5 years

Leak Test: Balance and Vacuum Assist System — Annually

Dynamic Backpressure: Balance System — Annually

Air to Liquid Ratio: Vacuum System — Annually

Equipment Inspection – Visually inspect each dispenser and note whether the equipment is in good condition or if there are any deficiencies. Examples of deficiencies are leaking nozzles, hoses and breakaways, crimped or cracked hoses, and missing hoses or nozzles.

Record Keeping – Review the records required to be kept at the station. These records include daily inspection logs, Stage II testing results, Stage II training certificates, and maintenance records. The maintenance records are required to be kept for two years, while the other records are required to be kept for five years. Select Complete or Incomplete based on your record review.

Instructional Signs – Signs or stickers must be posted on each dispenser that state “Do Not Top Off” and provide the customer with the MDE Toll Free Number (1-800-633-6101 or 866 MDE GO TO (633-4676)) to call if they experience any problems with the Stage II system that cannot be resolved at the facility.

Training Certificate – One current employee at each facility must have a Stage II training certificate. This employee can assist in the training of others, and a log of the training provided to other employees should be kept. Include the name of the employee on the Stage II training certificate in the comments section.

Stage II Decommissioning – Indicate Yes or No if the Stage II Vapor Recovery system has been decommissioned on all gasoline USTs at the facility. A partial decommissioning (i.e., cap one dispenser) is not considered an acceptable or proper decommissioning of Stage II Vapor Recovery system. If the Stage II Vapor Recovery system has been decommissioned, indicate the date of decommissioning, and the test date month (mm) / day (dd) / year (yyyy) for the following:

- Pressure Decay Test
- Vapor Tie-In Test
- P/V Vent Valve Test

Follow-up Required / General Comments – the inspector should use this Section to describe any unusual condition and to list corrections that were performed.

The MDE Certified Inspector **must** sign and date the **Air and Radiation Administration’s** (ARA)’s two-page inspection report at the end of page two. You must send a copy of the 2-pages (12 & 13) of the Air and Radiation Administration’s Inspection Report to ARA, address below. Do not send it to OCP.

MDE Air and Radiation Administration
Suite 715, 1800 Washington Boulevard
Baltimore, MD 21230

Section 8. Construction and Corrosion Protection

Regulation Reference: COMAR 26.10.03.08 & COMAR 26.10.04.02

This section must be completed for all USTs and piping systems regardless of the construction material, even if they are listed as Non-Metal or Cathodically Protected.

Note: Heating oil tanks for on-site consumptive use installed prior to 3/15/1985 are not required to have corrosion protection.

If a buried metal UST and/or pipe (including fittings, flexible connectors, copper piping, etc.) is in contact with the soil and/or water, the metal portion must be isolated from the soil and cathodically protected. Answer **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable for each of the applicable UST and pipe sections.

Know the installation date of the UST system. Regulated UST systems (UST and Piping) containing gasoline, diesel, kerosene, lube oil, waste oil, bulk oil for sale, and commercial heating oil (installed on or after March 15, 1985) must meet corrosion protection requirements. Most noteworthy is that the entire system (fittings, flex-connectors, STP pump head, etc.) in contact with soil or water must meet the corrosion protection requirements.

COMAR 26.10.03.08D.

D. Upgrade Requirements.

(1) Not later than December 22, 1998, an owner and an operator of an existing UST system with a steel UST shall implement one of the following corrosion protection methods under §D(2) or (3) of this regulation.

(2) Cathodic Protection System. Not later than December 22, 1998, an owner and an operator of an existing UST system with a steel UST shall upgrade the UST by installing a cathodic protection system meeting the performance standards in Regulation .01B(1)(b)(i) and (3) of this chapter, and ensuring the integrity of the UST through one of the following methods:

(a) Internally inspect and assess the UST to ensure the storage tank is structurally sound and free of corrosion holes;

(b) Demonstrate the UST was not installed before December 22, 1988, and the UST has been monitored monthly for releases in accordance with COMAR 26.10.05.05E—H;

(c) Demonstrate the UST was not installed before December 22, 1988, and the UST has been assessed by conducting two precision tightness tests meeting requirements of Regulation .05A—C of this chapter and the following testing schedule:

(i) The first precision tightness test was conducted before installing the cathodic protection system; and

(ii) The second precision tightness test was conducted between 3 and 6 months following the first operation of the cathodic protection system; or

(d) Demonstrate that the UST was assessed for corrosion holes using a method determined by the Department to prevent spills, releases, and discharges in a manner that is not less protective of public health, safety, and welfare and the environment than the methods specified under §D(2)(a)—(c) of this regulation.

8a. UST System Outer Wall Construction Material

Question 1 - The UST may be constructed of fiberglass, steel with a plastic jacket (Glasteel II™); steel with a clad coating (FRP, Urethane; ACT-100U™); or coated steel with cathodic protection (STI-P₃®; Ureglas Clad). No metallic portion of the entire UST system is in direct contact with the ground. Need visual proof of tank construction material either by witnessing the tank material or a photograph of the tanks installed, a receipt of the tank purchased, or other MDE approved documentation. If the UST has cathodic protection, then mark question 1 “NA” and complete section 8b or 8c.

Question 2 - The **Piping** may be constructed of fiberglass, flexible plastic, coated or wrapped steel with cathodic protection; or the primary piping may be installed inside a plastic conduit or chase pipe that is properly constructed and prevents direct contact with the ground. All associated components with the piping system (fittings, flex-connectors, risers, etc.) must also be protected from corrosion, or not in direct contact with the surrounding soils or water. Achieve visual proof of piping construction material either by witnessing the piping, a photograph of the piping installed, or written documentation such as a receipt from a Maryland Certified UST System Technician. If containment sumps or dispenser pans are present, in many instances, a visual inspection of the piping inside the sumps or pans identify the type of pipe and fittings. If the piping has cathodic protection, then mark question 2 “NA” and complete section 8b or 8c.

Metallic Construction Material - CP Required:

There are two types of corrosion protection systems, galvanic or impressed current for metal USTs and piping systems buried and in direct contact with the soil. The inspector must complete either the galvanic or impressed current cathodic protection sections for each metal UST system or steel that is coated or wrapped with cathodic protection.

Check (✓) the appropriate box for 8b. Galvanic Cathodic Protection (UST and Piping) or 8c. Impressed Current Cathodic Protection (UST and Piping)

8b. CP – Galvanic Cathodic Protection (UST and Piping)

Question 3 - UST - A **factory** fabricated galvanic cathodically protected **Steel Tank** (STI-P₃™, Ureglas Clad, etc.) must be tested within **6** months of installation and every **3** years thereafter by a qualified cathodic protection tester using NACE Code of Practice Standards. Inspector must evaluate documentation to confirm the UST CP has been tested on schedule and with passing results. If supplemental anodes were installed or added, complete question 3a. on the inspection form.

Question 3a - Testing increases to a **yearly** requirement once a modification has been made to a factory-designed tank (i.e., adding anode bags). The CP system is now considered **field** installed.

Question 4 - Pipe - Galvanic cathodic protection designs that are **field installed** must be tested by a qualified cathodic protection tester within **6** months of installation and **yearly** thereafter. Inspector must evaluate documentation to confirm the piping has been tested within the scheduled time and with passing results.

Question 5 - Inspector must visually confirm the owner/operator has records of the last two CP test results for each UST and pipe as applicable.

Question 6 - If a review of the records indicates a failure occurred during the CP test, the inspector must verify corrections were made to the CP system within 60 days of the test failure, and that the system has been retested with passing results. If the test results do not indicate a Fail requiring corrective actions, enter **(NA)**.

8c. Impressed Current Cathodic Protection (UST and Piping)

Question 7 - Inspector must evaluate the impressed current CP design document that was written by a corrosion expert, which should indicate the date the system was installed and the system operating parameters (where the rectifier should be set). Enter the (month (mm) / year (yyyy)).

Question 8 - Impressed current CP systems are required to have an assessment performed by a corrosion expert on the design of the system every 5 years to make sure the CP system is still compatible with the site. The inspector is to confirm the CP assessment document was completed at the 5-year interval.

Question 9 - Verify the rectifier box has power and is turned on. The power on can be verified by a light, a display, or the use of an hour meter.

Question 10 - Answer **(Y)** Yes or **(N)** No. Is an hour meter present? The meter can be observed at the rectifier box. If yes, complete question 11.

Question 11 - Record in the box the hours observed on the meter.

Question 12 - Review the inspection log maintained on site and confirm the system was checked for proper operation every 60 days. See Figure 11 for a sample inspection log. The inspector should also observe if the rectifier is operating within the required parameters as specified in the CP system design. If it is not, a qualified corrosion expert should make the appropriate adjustments.

8d. Internally Lined UST

Note: A tank may not be repaired by installing an internal liner unless written approval is received from MDE.

Question 17 - Inspector must review and evaluate the documentation for “Cathodic Protection” in Sections 8b and 8c to confirm the UST meets the CP requirements and must review the UST installation date in Section 2 to confirm the tank was less than 10 years old prior to installing the liner. If the information is available, a **(P)** Pass is acceptable. If the information is not available, question 17 **(F)** Fails the inspection.

Question 18 - Internal Lining combined with Cathodic Protection can be used if the requirements of *COMAR 26.10.03.08D(3)*, “*Internal Lining Combined With Cathodic Protection*,” are met. These requirements are:

- (a) Before applying the interior lining, determine if there is evidence of a spill, release, or discharge from the UST system where a spill, release, or discharge is most likely to be present;*
- (b) Apply the interior lining:*
 - (i) In compliance with the repair standards in COMAR 26.10.04.04; and*
 - (ii) In accordance with the requirements in API Standard 1631 “Interior Lining and Periodic Inspection of Underground Storage Tanks”;*
- (c) Install a cathodic protection system that meets the performance standards for cathodic protection under Regulation .01B(1)(b)(i) and (3);*
- (d) Conduct a precision tightness test on the UST system in accordance with Regulation .05A—C of this chapter before placing the UST system back into service;*
- (e) Maintain, and make available for inspection by the Department upon request, a written certification from the contractors that performed the work required under §D(3)(a)—(d) of this regulation that states all work was performed in accordance with the requirements of this regulation; and*
- (f) Internally inspect the lined UST within the first 10 years after applying the lining and at least every 5 years thereafter, with the results of each inspection finding that the lining is structurally sound and performing in accordance with the original design specifications.*

The inspector must evaluate the documentation for the internal inspection, if available, and verify the inspection was performed prior to the installation of the impressed current cathodic protection system and UST liner. If the information is available, a **(P)** Pass is acceptable. If the information is not available, question 18 **(F)** Fails the inspection.

Question 19 - Was an environmental site assessment (to include sampling of soil and/or groundwater) performed **before** the internal liner was installed? Answer **(P)** Pass or **(F)** Fail.

Question 20 - Enter the date (month (mm) / year (yyyy)) the internal liner was installed. Inspector must verify the written certification of the liner installation. If written proof is not available, this question **(F)** Fails the inspection.

Question 21 - Enter the date (month (mm)/ year (yyyy)) of the last internal inspection. If written documentation is not available, this question **(F)** Fails the inspection.

Question 22 - Written documentation must be available that an internal inspection has been performed within 10 years of the installation and every 5 years thereafter. The inspector must confirm the inspections have been performed within the required times. If the schedule has been met, question 22 (P) Passes the inspection. If the documentation is not available or does not meet the required schedule, question 22 **(F)** Fails the inspection.

If a Metallic UST or Pipe has been confirmed not to have CP (or no documentation is available to confirm), notify MDE within 2 hours upon completion of this inspection by calling 410-537-3442 during normal business hours or after hours call MDE 24 hour number at 1-866-633-4686.

Section 9. Tightness Testing

Regulation Reference: COMAR 26.10.03.05, 26.10.05.02, 26.10.05.05D & 26.10.07.03 and .04

All UST systems (UST and piping) must have had a precision tightness test after installation. An UST system installed, replaced, or an existing UST system repaired or upgraded shall be tested for tightness by the “precision tightness test” as defined in COMAR 26.10.02.02 upon completion and before operation of the UST system. If the UST system owner/operator uses any of the following: periodic testing of the UST and piping system to comply with *COMAR 26.10.03.05*; Release Detection requirements of *COMAR 26.10.05.02D*; or the UST has pressurized piping system(s), answer for each UST and piping system **(P)** Pass, **(PC)** Pass with/Corrections, or **(F)** Fail.

Question 1 - Inspector must review the Precision Test report to determine the test method. Verify and enter the precision tightness test method name for the **UST** and **Piping** (may be found on the National Work Group Leak Detection Evaluation (**NWGLDE**) website at www.nwglde.org). If the method is not present on NWGLDE, or is no longer approved, the question **(F)** Fails the inspection. If the test method is listed and approved, enter the name of the test method and enter **(P)** Pass.

Question 2 - Inspector must review the most recent precision tightness test results for the UST and piping. Verify the precision tightness test was performed with passing results. If the testing data is not available or a failure was reported, the question **(F)** Fails the inspection. A test certificate indicating “PASS” without supporting test data **(F)** Fails the inspection.

Question 2a - Enter the date of the last UST precision tightness test (month (mm)/ day (dd)/ year (yyyy)). USTs with release detection may only have a tank test report for the period the UST(s) were installed.

Question 2b - Enter the date of the last interstice test for double-walled UST (month (mm)/ day (dd)/ year (yyyy)). The test report may be from the date of installation. If no interstice test report is available for the UST, enter **(F)** Fail. If the UST is a single wall, enter **NA**.

Note: Brine filled interstice that is monitored does not require a test.

Question 2c - Enter the date of the last product pipe precision tightness test (month (mm)/ day, (dd)/ year (yyyy)). Inspector must evaluate if the owner/operator is using an annual precision tightness test for release detection (Section 12).

Question 2d - Enter the date of the last interstice test for double-walled piping (month (mm)/ day (dd)/ year (yyyy)). Secondary containment pipes (interstitial space) shall be tested in accordance with the pipe manufacture test procedures, PEI RP-1200 or NFPA 30. All double-walled piping must have an initial test after installation, repair, or upgrade. Piping systems installed on or after 1/12/2009 must have an initial test of the pipe at installation, and the

secondary pipe must be tested every 5 years thereafter in accordance with COMAR 26.10.05.02D.(4).

Inspector must review the secondary test report to confirm the test is performed at 5-year intervals and the test indicates a pass. If the testing data is not available or a failure was reported, the question (F) Fails the inspection. A test certificate indicating "PASS" without supporting test data (F) Fails the inspection. Single-walled pipe enter NA.

Question 3 - Based on the type of UST system in use, verify the tightness test was performed in accordance with the schedule listed below. If the testing schedule has been met, this question (P) Passes the inspection.

All UST Systems (UST and piping systems) must be precision tightness tested upon installation, replacement, repair and upgrade. If the UST owner or operator does not have a copy of a precision tightness test record, a precision test is required to be conducted.

Heating Oil UST for Consumptive On-Site Use - Are required to perform release detection through tightness testing at the time of installation, at 15 years of age, and every 5 years thereafter. If a heating oil onsite consumptive use UST system has corrosion protection and approved release detection method, precision tightness testing at 15 years and every 5 years is not required.

Emergency Generator Tank - UST owners and operators, must have a precision tightness test report for the UST and piping upon installation, repair, and upgrade of the storage system.

Effective June 13, 2022, all emergency generator systems are required to have monthly release detection. Emergency generator UST systems installed on or after March 1, 2008, were required to implement monthly release detection. Prior to March 1, 2008, emergency generator systems without monthly release detection were required to conduct precision tests at 15 years of age, and every 5 years thereafter.

UST Interstice testing - A test must be performed in accordance with the manufacturer test procedure or PEI_RP-1200 test protocol upon installation, repair and upgrade. The UST owner or operator must have a test record that includes data collected during the test.

Primary Piping:

Pressurized Product Line Piping - Must be tested annually or meet the Release Detection requirements in Section 12c. or 12d. and 12h.

Suction Piping - Unsafe suction pipe (check valve at the tank) must be precision tightness tested every 2 years or meet the Safe Suction Release Detection requirements in Section 12g., or piping is monitored monthly by an approved leak detection method.

Piping Interstice - The piping interstice must be tested in accordance with the manufacturer test procedure or PEI RP-1200 test protocol at installation and every 5 years thereafter if installation

occurred on or after 1/12/2009. The UST owner or operator must have a test record that includes data collected during the test.

Question 4 - If a gasoline UST system is located in Baltimore, Carroll, Cecil, Frederick, or Harford Counties, specific installation, monitoring, and testing requirements may apply. See fact sheet for High Risk Groundwater Use Area (HRGUA) and Well Head Protection Area (WHPA) (available on OCP website) to determine the requirements to comply with HRGUA and WHPA regulations. If the facility is in a HRGUA or WHPA, the inspector must review the helium test has been conducted within the past 2 years (storage tank installed on or after 1/12/2009 must conduct helium test after installation) with passing results. If the records are available, and within 2 years with passing results, enter **(P)** Pass.

Note: A gasoline UST system that has decommissioned the Stage II system is not required to conduct helium testing.

Question 4a - Enter the date of the last helium test performed on the tank system (month (mm)/ day (dd)/ year (yyyy)).

Section 10. Housekeeping, Monitoring Pipes, and High Risk Facilities

10a. Facility Housekeeping

Regulation Reference: COMAR 26.10.01.04 and 26.10.01.09

A person may not pump, discharge, spill, throw, drain, deposit, or cause to be deposited, oil or other matter containing oil into, near, or in an area likely to pollute waters of the State.

When completing this section, inspector discretion and common sense will have to be exercised. The inspector should also generally observe the entire facility and can include comments on other environmental concerns, such as the accumulation of tires, batteries, or solid or hazardous waste. Answer for each question (**P**) Pass or (**F**) Fail.

Question 1 - Does the facility have heavily saturated soils or containers of oil (5-gallon buckets, 55-gallon drums, pans, etc.) open and exposed to the elements? If yes, is there standing (puddles) oil on the ground surface or oil running towards a storm drain? Does the facility have any type of spill prevention kit available to contain and cleanup surface spills? If a repair garage is present or another area where motorized vehicles are being worked on, is the area properly maintained? (Are there free-standing liquids, e.g., anti-freeze, steering or brake fluid, oil, gas, etc., that could be released into the environment)?

Question 2 - If aboveground storage tank(s) (ASTs) are present at the facility, briefly inspect them. Look for obvious signs of leaking or staining. Is the AST UL or API listed for aboveground purposes, or is it listed for belowground use? Look at the tag on the tank for marking of *Aboveground* or *Belowground* use. Is the AST properly supported to prevent tipping? If the AST has piping that goes below ground, does the piping meet UST piping requirements, including cathodically protected from corrosion?

Facilities with used oil storage of 1,000 gallons or greater or if virgin oil storage is 10,000 gallons or greater capacity, an Individual Oil Operations Permit is required from MDE, and the owner must contact and notify OCP at (410) 537-3442. Quantities at or exceeding the above storage capacities should be noted in the comments.

Question 3 - Is there any liquid or puddled product around the dispensers? Has absorbent material been applied but never cleaned up? Areas with contamination or spent absorbent materials that have not been removed should be noted in the comments.

10b. Tank Field Monitoring Pipes

Regulation Reference: COMAR 26.10.03.04 and 26.10.07.01-.04

Question 1 - Evaluate the installation date of the UST system being inspected to determine if tank field monitoring pipes (TFMPs) are required. If the UST system was installed on or after March 15, 1985, a minimum of two monitoring pipes are required to be installed in opposing

corners in the tank field. If the pipes are not present or are damaged, this section **(F)** Fails the inspection. Do not attempt to correct this by installing the pipes in the tank field, as damage to the tank may occur. The inspector is to report missing pipes in the inspection report; MDE will determine the necessary corrective action.

Note: A TFMP is not a groundwater monitoring well (GWMW). A TFMP is in the backfill material of the UST. A GWMW is outside the UST excavation and intersects the groundwater table.

Question 1a - If the gasoline UST system was installed on or after **January 26, 2005, in Baltimore, Carroll, Cecil, Frederick, and Harford** counties and is greater than 2,000 gallons or multiple USTs in a shared excavation used to fuel motor vehicles, four (4) TFMPs may be required (COMAR 26.10.03.04B). If all four monitoring pipes are not present, the section **(F)** Fails the inspection. Do not attempt to correct this by installing new pipes. The inspector is to provide comments of any missing pipes, and MDE will determine what the necessary corrective action may be.

Question 2 - Open the TFMP and look inside. Use a flashlight, mirror, tape measure, or a fabricated device (e.g., a wooden stick with a screw) to assist. Does it appear that screened (slotted) pipe is present and the top 2 feet of the TFMP is solid PVC pipe? If not record the depth from grade where the solid portion of the TFMP stops and where the water table begins.

Question 3 - Is the top portion of the monitoring pipe sealed with an (8") bentonite clay or concrete mixture to prevent entrance of surface runoff (e.g., overflow of the UST) from entering the pipe? This is typically an easy failure to correct to achieve a **(PC)** Pass with/Corrections rating.

Question 4 - Do the TFMPs have liquid tight caps and a manhole cover present to protect them from traffic? Duct tape from the original installation is a **(F)** Fail for this question. Is a lock present to secure the cap, or does the manhole cover have working bolts on them? The purpose of the locked cap or bolts is to deter a delivery driver or persons from accidentally filling the TFMPs.

Question 5 - The TFMP manhole covers must be properly identified using API 1637 color symbol marking of a white background with a black equilateral triangle in the middle. Or the TFMP covers must have the words: "Monitoring Well, Do Not Fill." Both are acceptable.

Question 6 - The TFMPs must be checked for the presence of petroleum contamination. If water is present, a bailer, a discriminating interface probe, or petroleum finding paste may be used. If any petroleum product is detected, note the amount in #6a. If a PID, FID, or explosive/combustible gas meter is used to check vapor levels in the TFMPs, record the vapor reading. If petroleum vapors are present in the monitoring pipe, immediately reinstall the cap or place the plumber's plug back into the pipe and prepare the instrument to collect a reading as follows: make sure there are no liquids at or near the top of the casing, calibrate your field instrument (PID, FID, Explosive/Combustible Gas Meter or other approved field instrument); have calibrated instrument turned on, in hand, and ready to read; then lift monitoring pipe cap or

plumber's plug just enough to place probe of field instrument into the pipe; take reading; and record on #6a. of the inspection report.

Question 6a - If product or vapor is found in a TFMP, record the product thickness or vapor reading(s) in the appropriate block.

10c. HRGUA / WHPA Facilities

“High Risk Groundwater Use Area” (HRGUA) means all areas served by individual wells or within a “Well Head Protection Area” (WHPA) in Baltimore, Carroll, Cecil, Frederick, and Harford counties. See COMAR 26.10.07.02B.(2) and (8) for HRGUA and WHPA definitions.

Question 1 - A gasoline UST system in a HRGUA or WHPA is required to implement one or more methods. Select the method(s) implemented:

- 1) Installed Pressure Control System (PCS);
- 2) Soil Vapor Control System (SVCS);
- 3) Installation of three or more Groundwater Monitoring Wells (GMW) complete questions 4-6;
- 4) Other Method (OM) approved by MDE, describe in comments.

Note: If the owner received Department approval to opt-out of the required HRGUA or WHPA requirements, verify that the facility has a written MDE approval. If written MDE approval was granted, enter **NA**.

Question 2 - Check “Yes” if the facility or immediate neighbor (adjoining property) on either side of the facility is utilizing a potable well for drinking water. If Yes, complete Question 3.

Question 3 - If the facility is located in the HGRUA or WHPA and has a potable well at the site, the inspector must verify the well was sampled within the past year and a copy of the potable well sampling results have been submitted to MDE. The proper U.S. EPA potable well sample method is 524.2. Enter **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **NA**.

Question 4 - If GMW is selected in question 1, confirm a minimum of three (3) or more groundwater monitoring wells (GMWs) are installed outside the tank excavation area. Enter **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **NA**.

Question 5 - Do the monitoring wells have liquid tight caps and manhole covers present to protect the wells from vehicle traffic? Each cap must have a lock attached, or the manhole cover must have working bolts to secure them. If no, this question **(F)** Fails.

Question 6 - Inspector must verify the groundwater monitoring wells have been sampled within the past year and the sample results submitted to MDE. Enter **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **NA**.

10d. High Risk Underground Oil Storage Facilities

10d-1. Facility Determination

Regulation Reference: COMAR 26.10.07.07

This section must be completed for all facilities.

Question 1 – Calculate the total amount of underground **oil** storage capacity to determine if the capacity is 80,000 gallons or greater and evaluate if any single UST or product piping system is constructed of single walled. The total capacity does not include any heating oil UST used for onsite consumptive use. Answer Yes or No.

Question 2 – Review the inventory control records for the last 12 months. Add all product throughputs together and divide by 12 months. If the throughput has an average of 750,000 gallons or more, the facility is considered High Risk Underground Oil Storage Facility, and the inspector should check Yes.

Question 3 – Review the inventory control records for the last 12 months. If the total combined throughput is 1,000,000 gallons or more in any single month, the facility is considered a High Risk Underground Oil Storage Facility, and the inspector should check Yes.

If “Yes” to any questions 1 - 3, the facility is considered a High Risk Underground Oil Storage Facility, and Section 10d-2. must be completed.

10d-2. Compliance Monitoring Method

Regulation Reference: COMAR 26.10.07.07B.—E. (see below)

If “Yes” is selected in Section 10d-1., select the compliance monitoring method(s) (Questions 1, 2, or 3) for each UST system.

Question 1 – Determine if at least three groundwater monitoring wells have been installed surrounding the UST(s) and piping system and the groundwater has been sampled within 60 days of the well installations and annually thereafter.

Question 2 – Enhanced Testing Method may only be selected if the UST system(s) (tank and piping) is double walled.

Question 3 – Alternative Monitoring Method may only be selected if the UST owner demonstrates to MDE the method is designed to detect a spill, release, or discharge from the UST system. If MDE approves an Alternative Monitoring Method, an approval letter will be provided to the UST owner. Inspector must list the approved method.

COMAR 26.10.07.07B. – E.

B. Compliance with Monitoring Methods. An owner of a high risk underground oil storage facility shall:

(1) Select, and upon receipt of Department approval, implement one of the following monitoring methods:

- (a) Groundwater monitoring method specified under §C of this regulation;*
- (b) Enhanced testing method specified under §D of this regulation; or*
- (c) An alternative monitoring method specified under §E of this regulation; and*

(2) Begin implementing the monitoring method in accordance with the following schedule:

- (a) Within 6 months of the effective date of this chapter, if the facility meets the size and construction conditions of §A(1)(a) of this regulation;*
- (b) Within 6 months of determining that the facility meets the throughput conditions of §A(1)(b) of this regulation; or*
- (c) On a schedule determined by the Department.*

C. Groundwater Monitoring Method. An owner of a high risk underground oil storage facility choosing to implement the groundwater monitoring method shall:

(1) Install a minimum of three groundwater monitoring wells:

- (a) That are constructed in accordance with the well construction requirements of COMAR 26.04.04 and Department specifications;*
- (b) Outside of the excavation zone;*
- (c) In locations that will allow for the determination of groundwater flow; and*
- (d) In areas that are most likely to detect a spill, release, or discharge from the UST system;*

(2) Within 60 days of installing the groundwater monitoring wells, and annually thereafter:

- (a) Sample each groundwater monitoring well and analyze collected samples:
 - (i) For full suite volatile organic compounds, including naphthalene and fuel oxygenates, in accordance with USEPA Test Method 8260 or another method approved by the Department; and*
 - (ii) For total petroleum hydrocarbons, including diesel and gasoline range organics, in accordance with USEPA Test Method 8015 or another method approved by the Department; and**

(b) If present at the high risk underground oil storage facility, sample each site supply well and analyze collected samples for full suite volatile organic compounds, including naphthalene and fuel oxygenates, in accordance with USEPA Test Method 524.2 or another method approved by the Department; and

(3) Within 60 days after conducting a sample collection required under §C(2) of this regulation, submit the following documents to the Department:

- (a) A complete laboratory report that includes a copy of the laboratory sample acceptance form, sample chain-of-custody, and laboratory analytical results; and*
- (b) A site map identifying each site supply well and groundwater monitoring well located*

at the oil storage facility.

D. Enhanced Testing Method.

(1) This method may only be implemented by an owner of a high risk underground oil storage facility if all of the UST systems at the facility are installed with double-walled USTs and all of the piping systems are installed in accordance with COMAR 26.10.03.02A.

(2) An owner of a high risk underground oil storage facility choosing to implement the enhanced testing method shall:

(a) Perform UST and piping release detection by interstitial monitoring and perform at least one additional method of UST release detection in accordance with COMAR 26.10.05;

(b) Perform annual primary line precision tightness testing;

(c) Perform annual piping interstice precision tightness testing;

(d) Equip all containment sumps, except the vent riser containment sump, with sensors programmed for positive UST system dispensing and pumping shut down; and

(e) Every three years or at an alternative frequency under the direction of the Department, perform precision tightness testing of:

(i) The UST in a manner that minimizes isolation of UST system components, such as the vent and vapor piping and risers, to the greatest extent possible; and

(ii) The UST interstice, except for a brine filled interstice.

E. Alternative Monitoring Method. Subject to Department approval, an owner of a high risk underground oil storage facility may implement an alternative monitoring method if the owner demonstrates the alternative method is designed to detect a spill, release, or discharge from the UST system in a manner that is not less protective of human health and the environment than a method described under §C or D of this regulation.

Section 11. Inventory Control

Regulation Reference: COMAR 26.10.04.01C and D, 26.10.05.04 and 26.10.05.06

The Inventory Control section applies to **metered** and **non-metered** UST systems. A metered UST system has a gauge or meter measuring the gallons of liquid being dispensed through the UST system. (Examples: gas station with a pump dispenser, bulk oil terminal loading rack, etc.)

Inspector must determine if the UST system is metered or non-metered.

Metered Storage Systems: Complete questions 1-10.

Non-Metered Storage Systems: Complete questions 3-6.

Tanks using Inventory Control combined with SIR, also complete Section 12d.

Answer **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable.

COMAR 26.10.04.01C and D:

C. Liquid Level Measurements.

(1) An owner and an operator of a metered UST system shall:

(a) Each day of operation, measure the liquid level of the UST using a gauging stick or an electronic method and reconcile the results with:

(i) Pump meter readings of the UST; and

(ii) Regulated substance delivery receipts for the UST;

(b) Perform inventory in accordance with "USEPA Doing Inventory Control Right for Underground Storage Tanks"; and

(c) Review reconciled inventory records in accordance with the inventory control requirements in COMAR 26.10.05.04.

(2) An owner and an operator of a non-metered UST system designed to allow for the direct measurement of liquid levels in the UST shall gauge the liquid level in the UST using a gauging stick or an electronic method and record the measurements in writing before filling the UST.

(3) An owner and an operator of a UST system shall maintain the liquid level measurement and inventory reconciliation records required under §C(1) and (2) of this regulation:

(a) For 5 years at the regulated substance storage facility where the UST system is located, or another location designated by the owner of the UST system; and

(b) In accordance with Regulation .05 of this chapter.

D. Delivery and Transfer Equipment. An owner and an operator of a UST system shall:

(1) Ensure spill catchment basins are kept clean and dry;

(2) In order to prevent liquid or other matter from entering the UST system, return and secure any fill pipe or Stage I vapor recovery connection cap taken off during a delivery or transfer operation;

(3) Install a UST system designed to allow for the direct measurement of liquid levels using the gauging stick method;

(4) Maintain a storage tank gauging stick in good operating condition and capable of measuring the level of a regulated substance over the full range of the UST and riser pipe height to the nearest 1/8 inch;

COMAR 26.10.05.04 *Inventory Control*

A. Inventory Variations.

(1) *An owner and an operator of a UST system shall review the reconciled inventory records required by COMAR 26.10.04.01 for the following:*

(a) *Inventory variations exceeding 1 percent plus 130 gallons of the metered quantity of a regulated substance each calendar month; and*

(b) *Daily inventory records that show 7 consecutive days of shortage totaling 80 gallons or more.*

(2) *An owner and an operator of a UST system shall conduct a review of reconciled inventory records at the following frequencies:*

(a) *Review inventory variation as required under §A(1)(a) of this regulation monthly; and*

(b) *Review daily inventory records as required under §A(1)(b) of this regulation daily.*

(3) *Reporting and Investigating Inventory Variations.*

(a) *An operator of a UST system shall report a variation or shortage as described in §A(1) of this regulation to the owner of the UST system;*

(b) *Upon discovery of an inventory variation, an owner and an operator of a UST system shall immediately investigate the cause of the variation or shortage;*

(c) *If the investigation required under §A(3)(b) of this regulation reveals no indication of a discharge or release from a UST system, an owner and an operator of a UST system shall state the cause of the inventory variation or shortage in the daily inventory records; and*

(d) *If the investigation required under §A(3)(b) of this regulation reveals a discharge or release from a UST system, an owner and an operator of a UST system shall follow the procedures established under COMAR 26.10.08.*

B. The Department may require an owner and an operator of a UST system to perform a precision tightness test of the UST system:

(1) *If the owner and the operator fail to reconcile daily inventory records as specified in COMAR 26.10.04.01 and review the reconciled records in accordance with §A of this regulation;*

(2) *If the owner and the operator fail to comply with monthly release detection requirements of Regulation .05 of this chapter; or*

(3) *For any other good cause as determined by the Department.*

C. The Department may require an owner and an operator of a UST system to perform a precision tightness test of the UST system

and install monitoring wells or conduct a site assessment if there is reason to believe there is or may have been a discharge or release of a regulated substance from the UST system.

Question 1 - For a **metered storage system**, the inspector must evaluate that the owner or operator is recording the liquid level in the UST using a stick or electronic method for each day of operation. Pump meter readings (amount of product dispensed) and the amount of product received to the UST must also be recorded each day of operation. If the inventory records are not recorded each day of operation, this section **(F)** Fails the inspection. Accurate inventory records are very important in monitoring gains and losses. **If the facility changed**

owner/operator within the prior 12-month period, only review inventory records for the time of operation of the new owner/operator and note in the comments section.

Inventories shall be performed in accordance with “Doing Inventory Control Right”, incorporated by reference in COMAR. This USEPA publication explains how inventory control works and can be downloaded from EPA at: <https://www.epa.gov/sites/default/files/2014-03/documents/inventry.pdf>

Question 2 - Inspector must verify with the owner and/or operator that the inventory records are reviewed daily to monitor a gain or loss of liquid. Daily inventory records that show 7 consecutive days of shortage totaling 80 gallons, regardless of percent, shall be reported to the owner of the UST system and investigated immediately to determine the cause of the loss (*COMAR 26.10.05.04A*). **If the cause of the loss is investigated and determined not to be a discharge and is recorded with the inventory record, Question 2 (P) Passes. If the cause of the loss cannot be determined or there is an indication of a discharge, immediately report to MDE and Question 2 (F) Fails.**

Question 3 - The appropriate calibration chart for the UST must be used and is available on-site. Gauging charts for steel and fiberglass USTs are not interchangeable as the UST diameters and lengths are different. EPA’s “Doing Inventory Control Right” document provides information on how to convert standard tank gauging charts from inches to the nearest 1/8-inch to gallons.

For electronic automatic tank gauging systems, it is important that the probe has been installed and calibrated to measure the full height of the UST.

Question 4 - The owner and operator shall ensure that releases due to spills and overfills do not occur. Inspector must evaluate that stick readings are recorded before each delivery to confirm the UST will hold the volume being delivered, and after each delivery to confirm the amount delivered. The measurements can normally be found recorded on the delivery bill of lading or on the daily inventory sheet.

Question 5 - Inspector must visually inspect the gauging stick used to gauge the UST. The stick must be maintained in good operating condition, not worn or broken, and capable of measuring the level of product over the full range of the UST height to the nearest 1/8-inch. The stick should be made of non-sparking material such as wood, varnished to minimize fuel from creeping above the actual fuel level, and marked in 1/8-inch increments with zero at the bottom.

Question 6 - The gauging stick must be rigid and the proper length to measure the full height of the UST, including the UST riser pipe. Gauging sticks must not have a rope or string tied to them to compensate for sticks that are not of proper length.

Question 7 - The UST must be gauged monthly for the presence of water using appropriate water-finding paste (**Note: ethanol products require a special water paste**), a discriminating oil/water interface probe, or an ATG capable of measuring for water to the nearest 1/8-inch. The gauging event must be recorded even if zero water was detected. If more than 1 inch of water is detected, an arrangement should be made for its immediate removal. For USTs storing ethanol,

no amount of water is acceptable. The inspector must verify if water measurements are recorded monthly for determining a **(P)** Pass or **(F)** Fail. All discrepancies are to be recorded in the comments section.

Question 8 - The past 12 months of inventory records must be maintained at the facility and made available to the inspector for review. Records not available **(F)** Fails the inspection. List the missing months in the comment section. **If the facility changed owner/operator within the prior 12-month period, only review inventory records for the time of operation of the new owner/operator and note in the Comment Section.**

Question 9 - Inspector must review the monthly reconciliation reports to confirm inventory variations do not exceed 1 percent plus 130 gallons of the metered quantity (sales) of a regulated substance over a period of 30 consecutive days. If inventory variations exceed 1 percent plus 130 gallons of the metered quantity (sales) of a regulated substance over a period of 30 consecutive days, it must be reported to the owner of the UST system and investigated immediately to determine the cause of the inventory variation.

If the cause of the loss is investigated and determined not to be a discharge and is corrected and recorded with the inventory record, Question 9 (P) Passes. If the cause of the loss cannot be determined or there is an indication of a discharge, immediately report to MDE and Question 9 (F) Fails.

Question 10 - If 12 months of inventory records reviewed do not show evidence of a release, enter **(P)** Pass. If the inventory results indicate a suspected release, the inspector, owner and operator shall notify MDE **within 2 hours**. **Note:** Consistent water intrusion into an UST system is considered a suspected release, is also reportable to MDE, and **(F)** Fails the inspection.

Section 12. Release Detection Summary

Regulation Reference: COMAR 26.10.02.02, 26.10.04.01, and COMAR 26.10.05

UST Method: Complete for each UST

Pipe Method: Complete for each Pipe Run

(1) Which UST Systems are required to have release detection?

- All motor fuel UST systems.
- All Emergency generator UST systems.
- All new or replaced motor fuel UST systems, including emergency generator USTs, installed on or after January 12, 2009, must have interstitial monitoring.
- USTs storing heating oil that is not, solely for onsite consumptive use, shall have a monthly method of release detection.
- All USTs, including emergency generator UST systems installed after January 26, 2005, must have double-walled piping for all product, vapor, and vent piping and have a containment system at the UST top and terminated when a dispenser is part of the UST system, in an under-dispenser containment sump. (COMAR 26.10.03.02)
- If installed, replaced, or upgraded on or after January 12, 2009, all UST systems, including emergency generator UST systems, must be double-walled USTs; double-walled piping systems for all product, vapor, and vent piping; have a containment system at tank top and terminated, when a dispenser is part of the UST system, in an under-dispenser containment sump; and use interstitial monitoring for release detection in accordance with *COMAR 26.10.05.05G*.

(2) Which UST Systems are not required to have release detection?

- Commercial heating oil USTs for on-site consumptive use; however, these systems must be precision tightness tested at installation, at 15 years of age, and every 5 years thereafter.
- Residential and farm UST systems storing less than 1,100 gallons.
- An oil/water separator holding UST not used to store oil and which receives a de minimis concentration of a regulated substance (e.g., UST for a car wash o/w separator).

(3) Some UST systems may have more than one monthly method of release detection. In the boxes provided, indicate (PR) for the primary method of release detection for each UST and piping and, if applicable, (S) for the secondary method. **NOTE: If required to have interstitial monitoring based on the installation date list above, Section 12c. must be completed for primary or secondary method.**

(4) If the primary method falls under one of the release detection methods listed on the inspection report, fill in the box with (PR), then complete the appropriate section(s) of release detection as indicated in the right-side column. The inspector may complete the appropriate section for the (S) secondary method listed (interstitial monitoring must be completed). Storage tank systems installed on or after January 12, 2009, must follow instructions in (5).

(5) **Complete the section(s) for the Primary method being used for each UST and piping system.** UST systems installed on or after January 12, 2009, **must** have a secondary containment system that is monitored and must complete Section 12c. for either primary or secondary release detection method. If Section 12c. is listed as the (S) secondary method, complete the appropriate section for the primary method and Section 12c. and check (√) Not Applicable in the top of each section for all other methods.

(6) A **(P)** Pass inspection in each section is for when the criteria apply and are met. A **(F)** Fail inspection is for when the criteria apply but are **NOT** met **COMPLETELY**.

(7) The release detection system must be installed, calibrated, operated, and maintained in accordance with manufacturer instructions, including routine maintenance and service checks for operability or running condition. Release detection operability tests must be performed annually. *COMAR 26.10.05.01A(2) and C.*

(8) If the inspector indicates “None Needed” or “Not Applicable” for release detection, a complete explanation must be provided in the comments section of the form. (Example: Heating oil UST used for on-site consumptive use is not required to have a method of release detection.)

Residential and Farm USTs over 1,100-gallon capacity must be registered with OCP. Heating oil UST systems over 1,100 gallons must comply with the "**Heating Oil for Direct Consumptive Use**" and Motor fuel UST systems over 1,100 gallons must comply with the "**Motor Fuel, Used Oil, Bulk Heating Oil Storage**" as outlined in the UST Systems Compliance Outline that is updated periodically.

(9) Owners and operators shall perform daily inventory control as described in *COMAR 26.10.04.01C and 26.10.05.04*, (See Section 11).

(10) **In addition, one of the following methods of release detection shall be performed on a monthly basis in accordance with COMAR 26.10.05.05.**

Section 12a. Automatic Tank Gauging (UST Only)

Regulation Reference: COMAR 26.10.05.05E and 26.10.05.06

If Automatic Tank Gauging (ATG) is not the primary or secondary method of release detection check (✓) the **(Not Applicable)** box at the top right-hand corner of the page.

ATG can be used for release detection for the **UST only**. The piping system must have another method of release detection.

Release Detection using ATG may not be an applicable method at every tank site.

Equipment for ATG that test for the loss of a regulated substance and conducts inventory control shall meet the following requirements:

COMAR 26.10.05.05

E. Automatic Tank Gauging. At least monthly, an owner and an operator of a UST system shall perform automatic tank gauging using equipment that tests for the loss of regulated substance and conducts inventory control and that meets the following requirements:

- (1) The automatic regulated substance level monitor test is capable of detecting a 0.2 gallon per hour leak rate from any portion of the UST;*
- (2) The automatic tank gauging equipment meets the inventory control, or another test of equivalent performance, requirements of COMAR 26.10.04.01, and Regulation .04 of this chapter; and*
- (3) An automatic tank gauging system tests for loss of a regulated substance by operating in one of the following modes:
 - (a) In-tank static testing conducted at least once monthly; or*
 - (b) Continuous in-tank leak detection operating on an uninterrupted basis or operating within a process that allows the automatic tank gauging system to gather incremental measurements to determine the leak status of the UST at least once monthly.**

EPA's document for evaluating "Automatic Tank Gauge Systems for Release Detection—Reference Manual For Underground Storage Tank Inspectors" can be obtained at EPA's publications website:

[Automatic Tank Gauging Systems For Release Detection - Reference Manual For Underground Storage Tank Inspectors \(epa.gov\)](https://www.epa.gov/underground-storage-tanks/automatic-tank-gauging-systems-for-release-detection-reference-manual-for-underground-storage-tank-inspectors)

Question 1 - Record the make and model of the ATG System for each UST.

Question 2 - To pass the inspection, the unit must be turned on and working. There should be a visual display indicating the system is operating.

Question 3 - The owner's manual for the ATG control box and tank probe that is in use must be on-site. If the facility has a "**Quick Reference Guide**," this is acceptable.

Question 4 - Indicate the frequency the ATG is performing a test: **(D)** daily, **(W)** weekly, or **(M)** monthly. This information can normally be found in the ATG system setup or on the UST test reports.

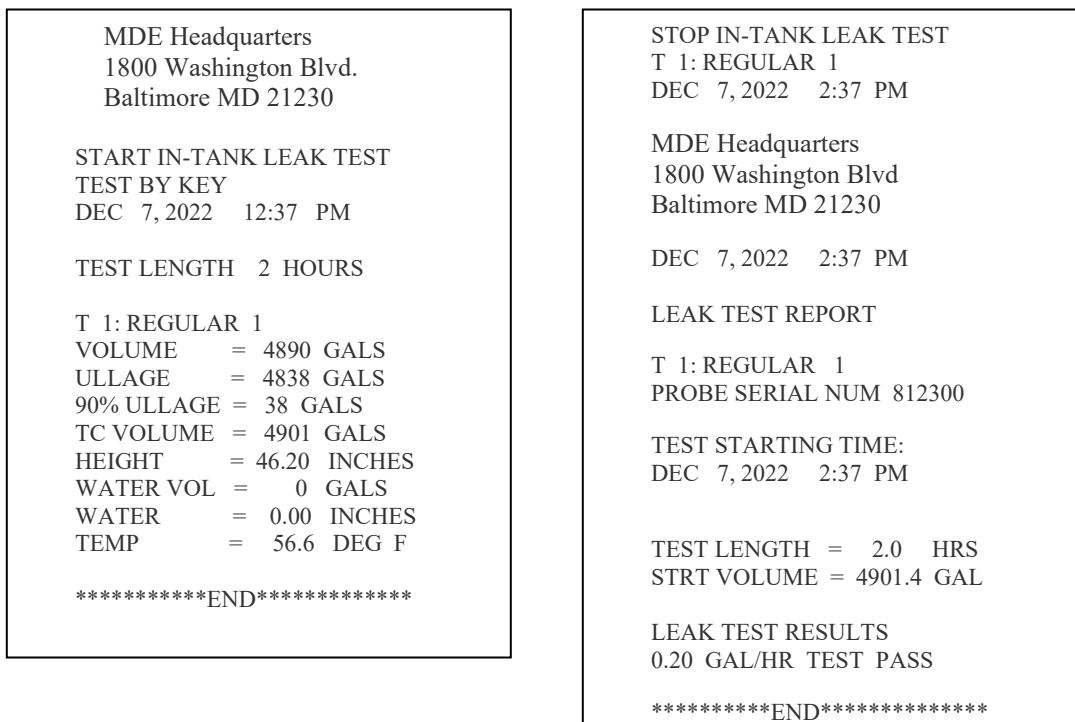
Question 5 - It is important the inspector review the National Work Group on Leak Detection Evaluations (NWGLDE) list for the ATG system being used. NWGLDE will provide specific limitations such as: applicable products the ATG can be used on, limits on tank capacity, testing periods, calibration requirements, and evaluation comments regarding the ATG. In accordance with COMAR 26.10.05.01C.(3) an annual ATG operability test must be performed.

Question 5a - Provide the date (mm/dd/yyyy) of the last annual operability test.

Question 6 - System setup is reviewed by the inspector to verify all probes are functioning and documenting results. System setup procedures for evaluating the ATG can be found in the ATG owner's manual. Also, most ATG systems are listed in the EPA document, "*Automatic Tank Gauge Systems for Release Detection – Reference Manual For Underground Storage Tank Inspectors*" [Automatic Tank Gauging Systems For Release Detection - Reference Manual For Underground Storage Tank Inspectors \(epa.gov\)](https://www.epa.gov/automatic-tank-gauging-systems-for-release-detection-reference-manual-for-underground-storage-tank-inspectors)

Question 6a - Verify, for each UST, a copy of the ATG leak test printout (see Figure 12) has passing results for the month prior to your inspection. The test must be 0.2gph or CSLD. A Gross test is not acceptable. If the ATG system is not equipped with a printer, verify the last monthly handwritten log or record has passing results. Attach a copy of the last monthly ATG printout to the inspection report.

Figure 12.



Question 7 - Inspector must review the last two months of records and evaluate if, at the time the test was performed, the UST was filled to proper capacity and the test was completed in the required duration of time. The required capacity for testing and duration of time required to perform the test for the specific ATG system in use can be found on the NWGLDE website or in the ATG owner's manual.

Question 8 - Verify the console and probe(s) are third-party approved on the NWGLDE list. You can view the NWGLDE list at: www.nwglde.org. Verify that the manufacturer produces, services, and supports the equipment. Evaluate any restrictions that may be listed.

Examples of typical problems with ATG systems:

ATG setup - Setup may have a UST being tested during busy product dispensing times. Therefore, the test cannot be performed properly. The best time for testing is the quiet early morning hours (1:00-4:00 a.m.).

ATG systems cannot perform a test due to insufficient product levels. Marinas typically have this problem during the off-season when product levels in the USTs are low. All USTs must maintain sufficient levels to perform monthly ATG testing.

Continuous Statistical Leak Detection (CSLD) has limitations on product throughput. (Example: Veeder-Root ATG has a monthly maximum throughput of 221,890 gallons.) Monthly throughput exceeding the limitations may not use CSLD as a method of release detection.

Question 9 - Confirm the past 12 months of ATG release detection records are available at the facility. Inspector must evaluate if the ATG system has performed (at a minimum) a monthly 0.2 gallons per hour leak test from any portion of the UST that routinely contains a regulated substance. *COMAR 26.10.05.04E(1) & COMAR 26.10.05.06A.(2) and (3)*.

Question 10 - This section **(F)** Fails the inspection if the monitoring results evaluated from the ATG system indicate a release may have occurred. However, if the tank monitoring device is found to be defective and is immediately repaired, recalibrated, or replaced and additional monitoring does not indicate a release, this section would be a **(PC)** Pass with/Corrections. **If the facility changes owner/operator within the prior 12-month period, only review release detection records for the time of operation by the new owner/operator and explain in the comment section.**

Section 12b. Vapor Monitoring (UST and/or Piping)

***** **(Must Have MDE Written Approval To Use This Method)** *****

Regulation Reference: COMAR 26.10.05.04F

If Vapor Monitoring is not the primary or secondary method of release detection check (√) the **(Not Applicable)** box at the top right-hand corner of the page.

Field instruments such as PID, FID, or explosimeter field-screening instruments are not an approved method for vapor monitoring.

CAUTION: MDE finds the majority of facilities claiming to use vapor monitoring as a method of release detection not valid.

COMAR 26.10.05.05I. - *Vapor monitoring is not an acceptable method of release detection and may not be used after April 1, 2009 unless approved under §H. of this regulation.* MDE may approve vapor monitoring provided the UST owner submits documentation demonstrating all of the following criteria are met:

- (1) The materials used as backfill are sufficiently porous, such as pea gravel or sand, to readily allow diffusion of vapors from releases into the excavation area;
- (2) The stored regulated substance, or a tracer compound placed in the UST system, is sufficiently volatile to cause a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the UST;
- (3) The location of vapor monitoring devices is not subjected to groundwater, rainfall, soil moisture, or other known interferences with vapor measurements for more than 30 consecutive days;
- (4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the UST;
- (5) The vapor monitors are designed, calibrated, and operated to detect an increase in the concentration of the regulated substance, a component of that substance, or a tracer compound placed in the UST system;
- (6) In the UST excavation zone, the site is assessed to ensure compliance with above and to establish the number and positioning of vapor monitoring wells that will detect releases within the excavation zone from any portion of the USTs that routinely contains a regulated substance; and
- (7) Vapor monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

The inspector must review the most current NWGLDE List (www.nwglde.org) for the vapor monitoring system to determine the type of system being used, the operating principle, alarm conditions, calibration requirements, comments, and restrictions. **CAUTION:** Vapor Monitoring Systems **will not work** with petroleum products having low vapor pressures (e.g., No. 2 heating oil, used motor oil, hydraulic fluid).

Question 1 - Record the make and model of the Vapor Monitoring System console for each UST system.

Question 2 - Determine if the Vapor Monitoring System panel/control box is working (e.g., turned on, light on, display present). Fully automated vapor monitoring systems have permanently installed equipment to continuously or periodically gather, analyze vapor samples and respond to a release with a visual or audible alarm. If there is no visual evidence the vapor monitoring system is working, the owner or operator must provide reasonable proof the system is operating. A complete description of proof of operation must be described in the comment section.

Question 3 - Verify that the Vapor Monitoring System is listed on the most current NWGLDE List (www.nwglde.org). Determine if there are any limitations and how they apply to this Vapor Monitoring System.

Question 4 - Does the facility have an owner's manual or user's guide on site? Evaluate if the manual or guide is the correct document for the make and model being used.

Question 5 - Can Vapor Monitoring be used based on the type of backfill material under and surrounding the USTs? The backfill material must be porous, such as pea gravel or sand, to allow diffusion of vapors into the excavation zone. Normally, an opening of the UST system, such as a riser pipe, can verify the type of backfill. The backfill should be clean enough that previous contamination does not interfere with the detection of a current leak. If the backfill material is native soil that is not porous, this question **(F)** Fails the inspection (e.g., native soil must be porous sand).

Question 6 - Vapor monitoring senses or measures "fumes" from leaked product in the soil to determine if the UST or piping system is leaking. Research the NWGLDE List to determine the design, any calibration that may be necessary, and any time factor connected with the calibration, such as monthly or yearly, according to the manufacturer's instructions, operating functions of the Vapor Monitoring System, and any limitations listed.

Manually operated vapor monitoring systems range from equipment that can immediately analyze a gathered vapor sample to a device that must be sent for laboratory analysis. Monitoring results from manual systems are generally less accurate than those from automated systems. Manual systems must be used at least once a month to monitor a site, and a log must be kept for each sample.

Question 7 - Before the installation of a vapor monitoring system, a site assessment is necessary to determine the soil type, groundwater depth, flow direction, and the general geology of the site. Only a trained professional can accomplish this. The facility must have a Site Evaluation Report demonstrating and verifying this information and evaluating any background contamination that was or is present which may interfere with the Vapor Monitoring System. The location of vapor monitoring devices cannot be subject to groundwater, rainfall, soil moisture, or other known interferences with vapor measurements for more than 30 consecutive days. Vapor monitoring wells must be clearly marked and secured to avoid unauthorized access and tampering.

Question 8 - For an automatic vapor monitoring system, review the system setup and verify that the settings are correct. It is crucial for the facility to have an owner's operation manual for the system to walk you through the system setup procedures for the proper settings and to verify that all of the probes are functioning. Probes installed and not working, or probes not connected to the panel or control box should raise concerns by the inspector and must be listed as (F) Fail.

Question 9 - Are the Vapor Monitoring System probes installed in the proper locations (i.e., in the UST and piping system backfill) to confirm that the UST and piping that routinely contains product is being continuously monitored? The system can either be manual or automatic. The sensors or probes cannot be located outside the UST and piping excavations. The length of the piping system at a typical service station will require multiple vapor monitoring points and sensors to monitor the entire piping run.

Question 10 - At the time of the inspection, the owner/operator must have release detection records, with passing results, available from the prior 12 months for your review. If a monthly vapor monitoring log or monthly results are not available, this question **(F)** Fails the inspection. **If the facility changed ownership within the prior 12-month period, only review release detection records for the time of operation of the new owner/operator and explain in the comment section.**

Question 11 - After reviewing the release detection records, you must determine if a suspected release has occurred. Each month of release detection records must show a "Pass" or this question **(F)** Fails the inspection.

Section 12c. Interstitial Monitoring (UST and/or Piping)

Regulation Reference: COMAR 26.10.05.05G, 26.10.05.06, 26.10.05.01 and 26.10.02.01A

All UST systems installed, replaced, or upgraded on or after January 12, 2009, including emergency generator UST systems, must be double-walled USTs; double-walled piping for all product, vapor, and vent piping; terminates in a containment system at tank top, and when a dispenser is part of the UST system, in an under-dispenser containment sump; and must use interstitial monitoring for release detection in accordance with *COMAR 26.10.05.05G*. (COMAR 26.10.02.01A(2) and (3))

If Interstitial Monitoring is not the primary or secondary method of release detection and not required by COMAR 26.10.02.01A(2) and (3), check (✓) the **(Not Applicable)** box at the top right-hand corner of the page.

26.10.05.05G. Interstitial Monitoring.

(1) Beginning the effective date of this chapter, an owner and an operator of a UST system may only use interstitial monitoring as a monthly method of release detection between a UST system and a secondary barrier as described in §G(2)(b) of this regulation with prior written approval from the Department.

(2) An owner and an operator of a UST system may use interstitial monitoring between the UST system and a secondary barrier immediately around or beneath the UST system as a method of release detection if the UST system is designed, constructed, and installed to detect a spill, release, or discharge from any portion of the UST system and one of the following conditions are met:

(a) For a double-walled UST system, the owner and operator of the UST system uses a sampling or testing method that can detect a spill or release through the inner wall in any portion of the UST system;

(b) For a UST system with a secondary barrier within the excavation zone, the owner or operator of the UST system uses a sampling or testing method that can detect a spill, release, or discharge between the UST system and the secondary barrier, provided that:

(i) The secondary barrier around and beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable, at least 1×10^{-6} centimeter/second for the regulated substance stored, to direct a spill, release, or discharge to the monitoring point and allow the detection of the regulated substance;

(ii) The barrier is compatible with the regulated substance stored so that a spill, release, or discharge from the UST system will not cause a deterioration of the barrier and allow a spill, release, or discharge to pass through the barrier undetected;

(iii) For cathodically protected UST systems, the owner and the operator installs a secondary barrier so that it does not interfere with the proper operation of the cathodic protection system;

(iv) The groundwater, soil moisture, or rainfall will not make the testing or sampling method used inoperative so that a spill, release, or discharge could go undetected for more than 30 consecutive days;

- (v) The site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under these conditions; and*
- (vi) Monitoring wells are clearly marked and secured with bolts or a lock to avoid unauthorized access and tampering; and*
- (c) For USTs with an internally fitted liner, the owner and operator of the UST uses an automated device that can detect a spill or release between the inner wall of the UST and the liner, and the liner is compatible with the regulated substance stored*

Type of interstitial monitoring:

Question 1 - Is the interstice space between the inner and outer walls of a UST, or piping system filled with a brine solution, an empty air space, or is there a vacuum present? Identify for each UST and piping system: Liquid (**L**), Air Space (**AS**), or Pressure/vacuum (**PV**).

Manual/Visual Inspection Only:

Question 2 - MDE does not recommend manual /visual inspections of interstitial space as there is room for error due to inclement weather and schedules not allowing the required monthly check. Monitoring devices can be as simple as a gauging stick to measure the lowest point of the containment system to determine if liquid product is present. The owner/operator must have a gauging stick on-site and be calibrated to the nearest 1/8-inch (i.e., can you read all the numbers?). If the owner/operator does not have a written monthly log of the visual inspection, this question (**F**) Fails the evaluation.

Electronic System Only:

Question 3 - What is the **Make** and **Model** of the console? List for each UST and piping system. Monitors can be sophisticated automated systems that continuously check for leaks.

Question 4 - Is the console and sensor on the NWGLDE List (www.nwglde.org)? Inspector must evaluate limitations and how they apply to this Interstitial Monitoring System. Some monitors indicate the physical presence of the leaked product, either liquid or gaseous. Other monitors check for a change in condition that indicates a hole in the UST, such as a loss of vacuum or a change in the level of a liquid monitoring system (brine) between the walls of a double-walled UST or piping system.

Question 5 - Determine if the Interstitial Monitoring System panel/control box is working (i.e., turned on, light on, display present). Fully automated interstitial monitoring systems have permanently installed equipment to continuously or periodically monitor the space between the UST or piping system and the secondary containment barrier. If there is no visual evidence the interstitial monitoring system is working, the owner or operator must provide reasonable proof the system is operating. A complete description of proof of operation must be described in the comment section.

Question 6 - The interstice space must be monitored monthly, and the inspector must evaluate if the probe or monitoring device is located in the correct position to alarm if there is a breach in the inner wall. Is the monitoring of the interstitial space at the lowest point of secondary

containment for air filled or at the highest point of secondary containment for brine filled, and is the monitoring device positioned so that other equipment will not interfere with its proper operation? If the interstitial system is not fully automated (electronic), the inspector must evaluate the monthly written log to determine if the interstitial space of the UST system (UST and piping) is monitored.

An example of monthly monitoring for the piping is that the containment sumps below the dispenser and the STP are visually inspected monthly, and a log is maintained listing the date of inspection, the person performing the inspection, the locations inspected, and the results of the inspection.

Question 7 - Inspector must check that the monitoring device has been calibrated, operated, and maintained according to the manufacturer's instructions. Check the NWGLDE List (www.nwglde.org) to determine if any limitations are listed for the monitoring device. Some manufacturers do not require calibration of monitoring devices; however, every manufacturer must have an operability test procedure. In accordance with COMAR 26.10.05.01C.(3) the inspector must evaluate an operability test is performed annually.

Question 7a – List the date (mm/dd/yyyy) of the last annual operability test.

Summary of Manual /Visual Inspection and Electronic System

Question 8 - Owner/operator must have prior 12 months of release detection records with passing results for your review at the time of the inspection. If one month shows a release or if the system showed a failure during the prior 12-month period, the owner must have written documentation to show the cause of the failure and what corrections were performed. **If the facility changed ownership within the prior 12-month period, only review release detection records for the time of operation of the new owner/operator and explain in the comments section.** If the full 12 months of release detection records are not available or no documentation is available for failing results, then this question is a **(F)** Fail.

Note: UST owner/operator is required to maintain 5 years of release detection records.

Question 9 - If the UST system incorporates an air space in the interstice between the inner and outer wall of the UST or piping system, there can be no evidence of liquid in the air-filled space. If the system incorporates a liquid or brine solution in the interstice, there can be no loss or gain of the solution in the monitoring sump. If the UST system incorporates the use of a partial vacuum or an over pressure system, the gauge must read within the manufacturer's design specifications in the owner's manual or what is listed on the NWGLDE List for that specific monitoring system.

Question 10 – MDE has found numerous flaws in the secondary containment sumps and piping systems. Where possible, visually, and closely inspect the secondary containment system for holes, cracks, or leaks. Inspect the pressure or vacuum gauges for leaks or signs of aging (e.g., glass face on gauge cracked, or missing; reservoir that contains the solution has holes, cracks, or leaks; or riser pipes, utilized as a part of the interstitial monitoring system, have damaged or

missing manhole covers, are not clearly marked, and secured with bolts or lock to avoid unauthorized access and tampering).

Section 12d. Statistical Inventory Reconciliation (UST System)

Regulation Reference: COMAR 26.10.05.05B and 26.10.05.06

If Statistical Inventory Reconciliation (SIR) is not the primary or secondary method of release detection, check (√) the **(Not Applicable)** box at the top right-hand corner of the page.

SIR is a leak detection method that uses sophisticated computer software to conduct a statistical analysis of UST inventory, received delivery, and dispensing data. SIR methods are either quantitative or qualitative, and not all SIR methods can be used on all UST systems (e.g., manifold UST systems). The inspector must research the SIR method (equipment name) to determine if the method is on the NWGLDE list and if there are any limitations or restrictions listed.

To use Statistical Inventory Reconciliation (SIR) as a method of release detection, the daily inventory records required to be maintained in Section 11 must be reviewed by an approved third-party SIR vendor to reconcile for inventory variations. MDE accepts third-party vendors listed on the NWGLDE website (www.nwglde.org).

SIR must meet the following requirements:

COMAR 26.10.05.05B *Statistical Inventory Reconciliation. An owner and an operator of a UST system utilizing statistical inventory reconciliation as a monthly method of release detection:*

- (1) May only use statistical inventory reconciliation if the UST system is a metered UST system;*
- (2) Shall use statistical inventory reconciliation to detect a spill, release, or discharge through application of statistical principles to inventory data, or another test of equivalent performance, with a probability of detection of not less than 0.95 and a probability of false alarm of not more than 0.05;*
- (3) Shall use a method of statistical inventory reconciliation that meets the following requirements:*
 - (a) Uses inventory volume measurements collected in accordance with COMAR 26.10.04.01;*
 - (b) Produces a quantitative result with a calculated leak rate;*
 - I Is capable of detecting: (i) A leak rate of 0.2 gallon per hour; or (ii) A spill, release, or discharge of 150 gallons within a month; and*
 - (d) Uses a threshold that does not exceed one-half the minimum detectible leak rate; and*
- (4) Shall have a Department-approved third party conduct the statistical inventory reconciliation.*

Typical SIR Third-Party Evaluation Results:

Pass: “According to the analyzed data, the UST system tests tight, or the detection level is at or under the leak threshold of 0.2 gallons per hour leak rate, or not greater than 150 gallons within a month.”

Fail: “Analyzed data indicates a loss of product from the system or an influx of groundwater. However, a Fail does not necessarily indicate that the system is leaking. A Fail may indicate dispensers are not calibrated, inaccurate metered deliveries, or stolen product. There is also a chance that a Fail is a false alarm. The owner/operator must determine the possible reasons for the Fail.”

Insufficient Data or Inconclusive: “The analyzed data cannot determine a pass or fail. The information provided to the SIR vendor is incomplete, and it is not possible to make a Pass/Fail determination. This often can be traced back to poor UST sticking or bookkeeping practices (Example: a new employee who has received inadequate training).”

If using an electronic (ATG) method for product inventories, re-calibration may be required. Whatever the reason, an **INCONCLUSIVE** result means: in effect, that the owner/operator has failed to perform leak detection on the UST system in question for that month, and the reasons for the inconclusive result(s) must be determined.

Question 1 - Verify and enter the SIR method (equipment name) for the UST system. Methods (equipment names) may be found on the NWGLDE website at www.nwglde.org.

Continuous In-Tank Leak Detection Method (Continual Reconciliation) is a system to allow the tank to operate continuously or nearly continuously without interruption for leak detection tests. Verify the method (equipment name) on the NWGLDE website at www.nwglde.org. The inspector must read all the information, including “Comments” when you click on the “Equipment Name” on the NWGLDE website page for this Method. The Continual Reconciliation may include to following types of systems:

- Continuous ATGS
- Continuous Reconciliation
- Automatic Monthly Inventory Control

It is important the inspector review the NWGLDE list for the ATG system being used. NWGLDE provides specific limitations such as: applicable products the ATG can be used on, limits on UST capacity, testing periods, calibration requirements, and evaluation comments regarding the ATG.

Question 2 - Review the dates of the inventory records to determine if the records or data are being sent to the SIR vendor within 5 days of the 30-day monitoring period. If the owner/operator is retrieving data for Continual Reconciliation from ATG, mark (NA) in the box.

Question 2a - Are the SIR results received by the owner/operator from the SIR vendor within 5 days of the submittal of data? Review the dates of the SIR vendor results to determine if the

results were received by the owner/ operator within 5 days of submittal of the data to the vendor (when is the owner/operator receiving the results back from the vendor?). Enter **(P)** Pass if the owner/operator is receiving the results within the 5-day period.

Question 3 - Inspector must review the SIR results to determine if the vendor had a sufficient amount of inventory data from the owner/operator to evaluate if the UST system is within 0.2 gph leak rate or not greater than 150 gallons within the month. The third-party vendor will normally list “insufficient data or inconclusive” on the report if the owner/operator did not submit enough data to evaluate. Enter **(P)** Pass if sufficient data was provided to the vendor or **(F)** Fail if insufficient data or inconclusive.

Question 4 - Review each month’s leak detection results to determine if there is evidence that shows a fail or inconclusive for any of the prior 12-month period. If monitoring devices are operating correctly and there is a failure or two consecutive inconclusive monthly reports, the inspector shall notify the owner, operator, and MDE within 2 hours of discovery. **If the facility changed ownership within the prior 12-month period, only review release detection records for the time of operation of the new owner/operator and explain in the comments section.** If the full 12 months of release detection records are not available or no documentation is available for a failing monthly result, then this question is a **(F)** Fail.

Section 12e. Groundwater Monitoring (UST and/or Piping)

Regulation Reference: COMAR 26.10.05.05F and 26.10.05.06

If Groundwater Monitoring is not the primary or secondary method of release detection, check (√) the **(Not Applicable)** box at the top right-hand corner of the page.

CAUTION: MDE finds the majority of facilities claiming to use ground-water monitoring (GWM) as a method of release detection not valid. Listing GWM as the primary method may target an audit from MDE.

COMAR 26.10.05F. *Groundwater Monitoring.*

(1) Beginning the effective date of this chapter, an owner and an operator of a UST system may only use groundwater monitoring as a monthly method of release detection with prior written approval from the Department.

(2) An owner and an operator of a UST system shall conduct groundwater monitoring in accordance with the following requirements:

(a) Perform a site assessment 60 days before the implementation of the groundwater monitoring method;

(b) Provide a written report of the site assessment to the Department upon request and, beginning the effective date of this chapter, ensure the written report is signed by a professional engineer or professional geologist, or equivalent licensed professional with experience in environmental engineering, hydrogeology, or other relevant technical discipline acceptable to the Department; and

(c) Demonstrate that the testing or monitoring to detect a regulated substance on the groundwater meets all of the following requirements:

(i) The regulated substance stored is immiscible in water and has a specific gravity of less than one;

(ii) Groundwater is never more than 15 feet from the ground surface and the hydraulic conductivity of the soil or soils between the UST system and the monitoring wells or devices is not less than 0.01 centimeter/second, with the soil consisting of gravels, coarse to medium sands, coarse silts, or other permeable materials;

(iii) The slotted portion of the monitoring well casing is designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low groundwater conditions;

(iv) Monitoring wells are sealed from the ground surface to the top of the filter pack;

(v) Monitoring wells or devices intercept the UST excavation zone or positioned as close to the excavation zone as is technically feasible;

(vi) The method of measuring the contents of the well, whether automatic or manual, is capable of detecting the presence of at least 1/8 of an inch of free product on top of the groundwater in the monitoring wells;

(vii) At least monthly, the contents of the groundwater monitoring well are measured;

(viii) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in §F(2)(c)(i)—(v) of this regulation and to establish the number and positioning of monitoring wells or devices that will detect discharges or releases from any portion of the UST system;

- (ix) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering; and*
- (x) A key, a lock combination number, or access tool for all monitoring wells is provided to the Department upon request and made available on the site where the UST system is located.*

Answer **(P)** Pass, **(PC)** Pass with Corrections, or **(F)** Fail for each question for the UST and piping system using Groundwater Monitoring (GWM). If GWM is used for the UST but not the piping, indicate **NA** in the appropriate box.

Question 1 - Use a measuring device such as an electronic interface probe or water measuring tape that has been decontaminated. Measure the distance from the top of casing (TOC) to the air/water interface in the well casing to determine if the groundwater is within 15 feet from the ground surface. If the water table interface is deeper than 15 feet from the ground surface, then question 1 **(F)** Fails the inspection.

Question 2 - Review the monitoring well drilling logs in the site evaluation or site assessment report to determine if the well screen (slotted portion) of the casing intercepts the water table to allow entry of product into the well. The monitoring well must be constructed with a screen having a minimum slot size of 0.02 inches and a maximum slot size of 0.025 inches. The screen must be placed, at a minimum, 10 feet below the detected water table and 10 feet above the water table.

In some cases, for shallow water table conditions, the requirements (i.e., 10 feet of well screen above the water table) cannot be met. When this occurs, the screen may be extended to within 2 feet of the ground surface to allow for a proper surface seal; however, the well screen must be across the water interface.

Question 3 - Monitoring wells must either intercept the UST excavation zone and/or be positioned so they are as close as technically feasible to the UST excavation, and the soils must consist of gravels, coarse to medium sands, coarse silts, or other permeable materials. Wells located away from the UST and piping systems may not detect a release. GWM for the piping system(s) may require multiple wells, especially for facilities with many dispensers.

Question 4 - Are the regulated substances immiscible in water and have a specific gravity of less than one? This means the regulated substance **will not** blend or mix with water, and it is light enough to float on top of the water. If the specific gravity of the substance is 1.0 or greater, GWM is a **(F)** Fails inspection.

Question 5 - Review the site evaluation report (may be called Phase II evaluation or site assessment) to obtain and verify the information requested in questions 1-3, and also to determine if the evaluation contains information pertaining to data demonstrating that any residual contamination (if present) will not interfere with the groundwater monitoring (previous releases of product that would falsely indicate a current release). MDE will request a complete copy of the report at the time of the audit review. Inspector must submit a copy of the evaluation report cover page with the TPI report.

Question 6 - Each device (may be manual or electronic) used to monitor the groundwater must be capable of detecting as little as 1/8 inch of free phase product on the groundwater, and the records kept demonstrate the results are recorded on a monthly basis. If using a manual device, it must be operating and tested at least once a month and recorded in a logbook kept at the facility. An electronic device can be permanently installed in the well for automatic, continuous measurements for leaked product. MDE will also accept monthly groundwater laboratory analyses for monitoring each site well. If groundwater sampling is used, the proper U.S. Environmental Protection Agency sampling method is 8260 (full suite) for volatile organic compounds (VOCs). If the inspector has questions regarding the appropriate sampling method, they should contact the laboratory performing the analysis or contact OCP.

Section 12f. Manual Tank Gauging (UST Only)

Regulation Reference: COMAR 26.10.05.05C and 26.10.05.06

If Manual Tank Gauging is not the primary or secondary method of release detection, check (√) the **(Not Applicable)** box at the top right-hand corner of the page.

If using manual tank gauging as the sole method of release detection and the UST is less than 2,000 gallons capacity, and the system is **metered**, then **Section 11. Inventory Control** must be complete.

Manual Tank Gauging can be used for the UST only and shall meet the following requirements:

COMAR 26.10.05.05C. Manual Tank Gauging.

(1) At least weekly, an owner and an operator of a UST system shall perform manual tank gauging using a storage tank gauging stick maintained in accordance with COMAR 26.10.04.01 as follows:

(a) Take UST liquid level measurements at the beginning and ending of an at least 36-hour period, during which liquid may not be added to or removed from the UST;

(b) Base the level measurements on an average of two consecutive stick readings at both the beginning and end of the period; and

(c) Using a UST gauge chart specific to the UST, convert the liquid levels to the gallons present in the UST and review for any variations between the starting and ending measurements.

(2) An owner and an operator of a UST system shall report a suspected spill, release, or discharge and follow the investigation and confirmation procedures in COMAR 26.10.08 if the variation between the beginning and ending manual tank gauging measurements performed in accordance with §C(1) of this regulation exceeds the weekly or monthly standards in the following table:

<i>Nominal UST Capacity</i>	<i><u>Weekly Standard</u> (one test)</i>	<i><u>Monthly Standard</u> (average of four tests)</i>
<i>550 gallons or less</i>	<i>10 gallons</i>	<i>5 gallons</i>
<i>551—1,000 gallons</i>	<i>13 gallons</i>	<i>7 gallons</i>
<i>1,001—2,000 gallons</i>	<i>26 gallons</i>	<i>13 gallons</i>

(3) An owner and an operator of a UST system may use manual tank gauging:

(a) As the sole method of release detection if the nominal capacity of a UST is 550 gallons or less; and

(b) For a UST with a nominal capacity of 551 to 2,000 gallons only in conjunction with conducting a precision tightness test, as defined in COMAR 26.10.02.02, at least every 5 years in accordance with the requirements of COMAR 26.10.03.05.

(4) An owner and an operator of a UST system may not use manual tank gauging to meet the requirements of this chapter for a UST that has a nominal capacity of more than 2,000 gallons.

USTs of greater than 2,000 gallons nominal capacity may not use this method to meet release detection requirements.

Correct gauging, recording, and interpretation of the data are the most important factors for successful tank gauging. The accuracy of the gauging can be greatly increased by applying the product-finding paste on the gauge stick before taking measurements. EPA publication, “Manual Tank Gauging For Small Underground Storage Tanks”, explains how to perform gauging and is available at: <https://www.epa.gov/ust/manual-tank-gauging-small-underground-storage-tanks>.

Answer questions 1 or 2 and 3 through 5 for each UST **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable.

Inspector must evaluate the UST capacity to determine if question #1 or #2 is applicable. Use a valid tank chart from the owner/operator for a UST with less than 550 gallons capacity. Another option to determine the approximate tank capacity is to take a direct stick reading (from the bottom of the UST to the top of the fill pipe), then insert a tape measure into the fill pipe, sliding the end of the tape along the wall of the pipe until it “snags” the fill pipe where it is threaded into the top of the UST. Subtract this fill pipe measurement from the stick reading of the entire height of the UST and the fill pipe. The number after the subtraction is the approximate diameter in inches of the UST. Use a tank chart to determine the estimated UST capacity. USTs with a capacity of 550 gallons or less and not metered may use weekly manual tank gauging conducted in accordance with *COMAR 26.10.05.05C*. If the UST capacity is 551 through 2,000 gallons, the owner/operator must perform precision tightness testing (in addition to manual stick gauging requirements) as required in *COMAR 26.10.03.05*. USTs greater than 2,000 gallons nominal capacity **may not** use this method to meet the monthly release detection requirements.

Question 1 - If the UST capacity is 550 gallons or less, indicate **(P)** Pass in the appropriate UST box. If the UST is 551 through 2,000 gallons, enter **NA** and complete question 2.

Question 2 - If the UST capacity is 551 through 2,000 gallons, indicate **(P)** Pass in the appropriate UST box. **Note:** Manual tank gauging must be combined with precision tightness testing; therefore, you must also complete Section 9 of this inspection report. If the UST is 550 gallons or less, enter **NA** and complete question 1.

Question 3 - The owner/operator must have a rigid gauging stick on site capable of measuring the full height of the UST from the bottom to, at a minimum, the top of the fill pipe without bouncing the stick on the bottom of the UST. The stick must have readable measuring increments of 1/8 inch. Inspector must verify the presence of a rigid gauging stick in good condition and confirm that the appropriate tank gauging chart for the UST is available on site to **(P)** Pass this question.

Question 4 - To **(P)** Pass this question, the inspector must confirm a weekly written log, or an electronic log is maintained. An example of a written manual tank gauging log is available in the EPA publication, “Manual Tank Gauging for Small Underground Storage Tanks” at: <https://www.epa.gov/ust/manual-tank-gauging-small-underground-storage-tanks>.

Question 5 - Inspector must evaluate records from the prior 12 months to determine if the variation is between the weekly and monthly standard listed in the table above. If the monthly

records for 12 consecutive months do not exceed the appropriate standard, this question **(P)** Passes the inspection. **If the facility changed ownership within the prior 12-month period, only review release detection records for the time of operation by the new owner/operator and explain in the comments section.**

Section 12g. Safe Suction (Suction Piping Only)

Regulation Reference: COMAR 26.10.05.02D

If Safe Suction piping is not the primary or secondary method of release detection, check (✓) the **(Not Applicable)** box at the top right-hand corner of the page.

Underground piping that conveys regulated substances under suction shall be tested for tightness at least every 2 years with a precision tightness test performed for a minimum of 1 hour that is capable of detecting a 0.1 gallon per hour release at a pressure between 5 and 15 pounds per square inch or be monitored monthly in accordance with Regulation .05B and F—H of this chapter.

Except for a precision tightness test required under COMAR 26.10.03.05A. for an UST system installed, replaced, or an existing UST system repaired or upgraded, release detection, and precision tightness testing **are not** required for suction piping (**also called safe suction**) when:

COMAR 26.10.05.02D(3)

(3) Suction Piping.

(a) An owner and an operator of a UST system with underground piping that conveys regulated substances under suction shall:

(i) At least every 2 years, perform a precision tightness test on the piping for a minimum of 1 hour that is capable of detecting a 0.1 gallon per hour release at a pressure between 5 and 15 pounds per square inch; or

(ii) At least monthly, monitor for a spill, release, or discharge using one of the methods of release detection described in Regulation .05B and F—H of this chapter.

(b) An owner and an operator of a UST system with underground suction piping are not required to perform the release detection and precision tightness testing required in §D(3)(a) of this regulation on the piping when:

(i) The piping operates at less than atmospheric pressure;

(ii) The piping is sloped so that the contents of the pipe will drain back into the UST if the suction is released;

(iii) A single check valve is included in each suction line;

(iv) The check valve is located directly below and as close as practicable to the suction pump;
and

(v) The owner and operator of the UST system provide a method of visual inspection to determine compliance with §D(3)(b)(ii) □(iv) of this regulation.

Answer questions 1 and 2 for each pipe **(P)** Pass, **(PC)** Pass with/Corrections, **(F)** Fail, or **(NA)** Not Applicable.

Question 1 - For Safe Suction: Inspector must visually evaluate that the piping is sloped back to the UST and operates under atmospheric pressure or less. The proper slope can be difficult to determine visually with accuracy. If the dispenser pump is located down a gradient from the top of the UST (on a slope or hill), safe suction **cannot** be used as release detection for the pipe.

If visual evaluation indicates the piping is sloped back to the UST, Question 1 **(P)** Passes the inspection. If the inspection indicates the suction pipe does not qualify as safe suction, enter **NA** and complete Question 2.

Question 2 - For Safe Suction: **The check valve must be located directly under the dispensing pump.** The UST system **cannot** have a check valve at the UST in addition to one under the dispenser pump. The inspector must evaluate the presence of the check valve by visual inspection or documentation provided by the UST owner. Some testers document the presence of check valves on the precision test reports. If it cannot be verified by visual observation or documentation, then the union, coupling, or check valve housing will have to be disassembled.

This would only have to be performed once to document. A Maryland certified UST Technician or precision tester may disassemble the union, coupling, or check valve housing to verify a check valve presence. If a check valve is present, Question 2 **(P)** Passes the inspection.

If piping is Unsafe or US suction (check valve or foot valve at the tank), a tightness test must be performed every 2 years with passing results and complete Section 9.

Section 12h. Automatic Line Leak Detectors (Pressurized Piping Only)

Regulation Reference: COMAR 26.10.05.02D.(2) and 26.10.05.05H

This section must be completed for all pressurized product pipes. All pressurized product pipes must be equipped with an Automatic Line Leak Detector that is tested annually. This includes any satellite piping system typically used at truck stops for fueling both sides of the vehicle. Satellite pipes must be evaluated closely to determine if the ALLD is monitoring the pressurized pipe. If the product pipe is not a pressurized pipe requiring an Automatic Line Leak Detector, check (✓) the **(Not Applicable)** box at the top right-hand corner of the page.

Underground piping that conveys regulated substances under pressure:

26.10.05.02D.(2) Pressurized Piping.

(a) An owner and an operator of a UST system with underground piping that conveys regulated substances under pressure shall equip the underground piping with an automatic line leak detector that is tested annually in accordance with Regulation .01C of this chapter and which will:

(i) Alert the operator to the presence of a leak or a spill, release, or discharge by restricting or shutting off the flow of a regulated substance through piping or triggering an alarm; and

(ii) Detect a leak or a spill, release, or discharge of a regulated substance of at least 3 gallons per hour at 10 pounds per square inch line pressure within 1 hour; and

(b) An owner and an operator of a UST system with underground piping that conveys regulated substances under pressure shall:

(i) At least annually, perform a precision tightness test on the piping for a minimum of 1 hour that is capable of detecting a 0.1 gallon per hour release at 1.5 times the pipe operating pressure; or

(ii) At least monthly, perform one of the methods of release detection described in Regulation .05B and F— H of this chapter.

Question 1 - Which type of automatic line leak detector (ALLD) is being used? The ALLD can be found on the submersible turbine pump (STP) or in-line using an approved “T” fitting: Mechanical (**M**) = no wire connected to it; or Electronic (**E**) = hard wired or wireless. Enter either an **M** or **E** for each pressurized pipe.

If the inspector is unsure of the type of ALLD, you must research the appropriate model by checking the NWGLDE List (www.nwglde.org) or the manufacturer of the ALLD. Most manufacturers have information posted on their web site.

Question 2 - Review the most current NWGLDE List at: www.nwglde.org to determine if the automatic line leak detector (ALLD) is third-party certified. If the ALLD is listed as “approved”, this question (**P**) Passes the inspection. The NWGLDE List may also state restrictions and the manufacturer’s limitations (i.e., pipe capacity, required duration of the test period, etc.).

Question 3 - All ALLDs must **pass** an annual field operability test for detection of at least 3 gallons per hour at 10 pounds per square inch line pressure within 1 hour; the device must be calibrated, operated, and maintained per the manufacturer's instructions, and must meet all limitations listed in the evaluation summary on the NWGLDE List. If the ALLD meets the manufacturer's and NWGLDE requirements, this question **(P)** Passes the inspection. Obtain and review from the owner/operator the prior year's operability test for each pressurized piping system's ALLD. A test certificate indicating a "PASS" only without supporting test data **(F)** Fails the inspection. When reviewing the ALLD test report, the test must be from the furthest dispenser or satellite dispenser. View of typical ALLD test reports below (Figures 13 and 14).

Question 3a - List the date (mm/dd/yyyy) of the last annual operability test.

Figure 13 - PEI Form

MECHANICAL AND ELECTRONIC LINE LEAK DETECTORS PERFORMANCE TEST						
Facility Name:			Owner:			
Address:			Address:			
City, State, Zip Code:			City, State, Zip Code:			
Facility I.D. #:			Phone #:			
Testing Company:			Phone #:		Date:	
This data sheet can be used to test mechanical line leak detectors (MLLD) and electronic line leak detectors (ELLD) with submersible turbine pump (STP) systems. See PEI/RP1200, Sections 9.1 and 9.2 for test procedures.						
Line Number						
Product Stored						
Leak Detector Manufacturer						
Leak Detector Model						
Type of Leak Detector	<input type="checkbox"/> MLLD <input type="checkbox"/> ELLD	<input type="checkbox"/> MLLD <input type="checkbox"/> ELLD	<input type="checkbox"/> MLLD <input type="checkbox"/> ELLD	<input type="checkbox"/> MLLD <input type="checkbox"/> ELLD	<input type="checkbox"/> MLLD <input type="checkbox"/> ELLD	<input type="checkbox"/> MLLD <input type="checkbox"/> ELLD
MLLD (ALL PRESSURE MEASUREMENTS ARE MADE IN PSIG)						
STP Full Operating Pressure						
Check Valve Holding Pressure						
Line Resiliency (ml) (line bleed back volume as measured from check valve holding pressure to zero psig)						
Step Through Time in Seconds (time the MLLD hesitates at metering pressure before going to full operating pressure as measured from 0 psig with no leak induced on the line)						
Metering Pressure (STP pressure when simulated leak rate 3 gph at 10 psig)						
Closing Time in Seconds (the time the						

Figure 14
 Independent Tester Form

Line Leak Detector Test Report

Site: _____ Date: _____
 _____ Technician: _____

Submersible Pump Identification

Manufacture: _____ **Model No.:** _____ **Serial No.:** _____

Manufacture:	Model:	Serial No.:

Leak Detector Identification

Manufacture:	Description:	Other Style Leak Detector:
	Diaphragm-Type <input type="checkbox"/>	
	Piston-Type <input type="checkbox"/>	

+ Product: _____ Product: _____

Question 4 - Inspector must visually inspect each ALLD for signs of leakage. Any sign of leakage, weeping, or dripping of product from the ALLD is a **(F)** Fail for this question.
Note: ALLDs do not monitor or test themselves for leaks; therefore, leaks in the ALLD can occur without detection by the system.

Note: If the product pipe is manifolded with more than one STP, care must be taken to evaluate the number of leak detectors present on the piping system and if the STPs with more than one leak detector operates at the same time or alternating operation. Any concerns should be noted in the comments box to include the location of ALLDs.

Section 13. Suspected Spill, Release, or Discharge

Regulation Reference: COMAR 26.10.01.04D., 26.10.01.05, 26.10.02.03A., and 26.10.08.01

Please use common sense for surface leaks. If a weep or drip is detected, even in dispenser pans, or sumps and/or containment sumps (unless they contain a measurable amount of petroleum product), and it can be cleaned up and corrected, it **does not** need to be reported to MDE; however, this information must be included in the inspection report.

Note: MDE takes reporting of spills, releases, and discharges very seriously, and **failure to notify MDE** may result in enforcement action that may include suspension or revocation of your Inspector Certification, civil penalties, and other legal sanctions.

Question 1 - Do you suspect, or have you detected, a spill, release, or discharge during this inspection? Several individual findings may constitute a release which may include but are not limited to: detection of oil contaminated soil; odors or free phase product in tank field monitoring pipes, or wells; inventory discrepancies; or a release detection result showing failures. If you detect or suspect a release, check (✓) **Yes** for the question and complete #2.

Question 2 - Maryland law and regulation require a suspected or detected spill, release, or discharge to be reported to MDE **immediately but no later than 2 hours** after detection. If an inspector detects or suspects a release, you are required to report to MDE. Check (✓) **Yes** or **No**.

Question 2a - If a report was made. list the date (mm/dd/yyyy) and time (hh:mm) of the report.

REPORT ALL KNOWN OR SUSPECTED SPILLS, RELEASES, DISCHARGES OR LEAKS TO MDE

MDE REPORTING NUMBERS: 410-537-3442 during normal business hours or after hours 1-866-633-4686 (24hr).

Section 14. Operator Training

Regulation Reference: COMAR 26.10.16.03 - .05

Operator Training Regulation took effect on August 8, 2012.

Question 1 - The owner of the UST system(s) must maintain a list of each designated Class A, Class B, and Class C Operator's on-site. Verify that the list of Class A, Class B, and Class C operators is available on site. Answer Yes or No.

Question 2 - Verify that a training certificate is available on site for each Class A, Class B, and Class C operator. For the Class C Operator, there must be a signed *Maryland Class C Underground Storage Tank Operator Checklist*, which will serve as the Class C Operator certificate. Answer Yes or No.

Question 3 - List the name of the Class A operator(s) designated for this facility. If there is more than one Class A operator, provide the name of each operator in the Comments. If one person is both the Class A and Class B operator, also list that name in Question 4.

Question 3a - Provide the date that the Class A operator was certified (mm/dd/yyyy). If more than one Class A operator is certified, then provide those dates with their name in the Comments.

Question 4 - List the name of the Class B Operator(s) designated for this facility. If there is more than one Class B operator, provide the name of each operator in the Comments.

Question 4a - Provide the date that the Class B operator was certified (mm/dd/yyyy). If more than one Class B operator is certified, then provide those dates with their name in the Comments.

Question 5 - Provide the name of the Class C operator that was on-site or contacted. If there is more than one Class C operator, provide the name of each operator in the Comments.

Question 5a - Provide the date that the Class C operator was certified (mm/dd/yyyy). If more than one Class C operator is certified, then provide those dates with their name in the Comments.

Question 6 - For an attended facility, verify a Class C operator is on-site. Answer Yes or No.

Question 6a - For an unattended facility, contact the Class C operator to determine they are available for immediate consultation. Answer Yes or No.

Question 7 - The UST system owner must provide written instructions that are always readily accessible on site to each operator. Verify that a written operator instruction manual is on-site. Answer Yes or No

Section 15. Walkthrough Inspections

Regulation Reference: COMAR 26.10.04.03 and .05

Walkthrough Inspection Regulation is effective 90 days after June 13, 2022.

Walkthrough inspections are required for all UST systems that must conduct a Third Party Inspection (motor fuel, bulk oil storage, used oil, or a hazardous substance UST systems). The facility may use the MDE Walkthrough forms, PEI/RP900-17, 2017 form or they may submit their own form with the *Self-Verification for Alternative Monthly / Annual UST Walkthrough Inspection Forms* for MDE approval. **If the facility changed ownership within the prior 12-month period, only review walkthrough records for the time of operation by the new owner/operator and explain in the comments section.**

MDE monthly and annual walkthrough forms and Maryland Self-Verification for Alternative Walkthrough Inspection Form for a company requesting to use an alternative form, are available on the MDE website at: [Fact Sheets and Publications \(maryland.gov\)](https://www.mde.state.md.gov/fact-sheets-and-publications)

Question 1 - The inspector must confirm, on a monthly basis the walkthrough inspection is performed and a record of the inspection is maintained by completing the MDE Monthly Walkthrough Inspection Report or report approved by MDE.

Question 1a - Spill Device – Confirm on a monthly basis or if the UST system receives deliveries at intervals greater than 30 days, the owner, operator, or designated person are inspecting the spill device (spill catchment basin or spill bucket), and a record of the findings are maintained for the following tasks:

- (i) Visually checking the equipment for damage;
- (ii) Removing liquid and debris from the equipment;
- (iii) Checking for and removing obstructions in the fill pipe;
- (iv) Checking the fill cap to ensure the cap is securely on the fill pipe; and
- (v) For double-walled spill prevention equipment with interstitial monitoring, checking for a release in the interstitial area.

Question 1b - Release Detection Device – The inspector must confirm an inspection of the release detection equipment is performed monthly to ensure:

- (a) The equipment is operating with no alarms or other unusual operating conditions present; and
- (b) The records of release detection testing are reviewed and are current.

Question 2 - The inspector must confirm and review the prior 12 months of monthly walkthrough inspection reports. If the monthly inspection reports are not available or if discrepancies were not repaired, this review (F) Fails the inspection.

Question 3 - The inspector must confirm an inspection of all containment sumps connected to the UST system is performed annually by:

- (i) Visually checking the containment sumps for damage;

- (ii) Checking for a release in the containment area and a spill, release, or discharge to the environment;
- (iii) Removing liquid and debris from the containment sumps;
- (iv) For double-walled containment sumps with interstitial monitoring, checking for a release in the interstitial area; and
- (v) Check hand-held release detection equipment by checking devices such as storage tank gauging sticks and groundwater bailers for operability and serviceability.

Question 3a - Record the date (mm/dd/yyyy) of the last annual walkthrough inspection.

Question 4 - The inspector must review the annual walkthrough inspection report. All corrective actions listed in the inspection report are complete. If the annual record is not available or the correction(s) are not complete, the inspection Fails (F).

Acknowledgments and Certifications

Making false statements and tampering with monitoring devices.

DON'T DO IT! You could lose your certification and have civil penalties imposed and/or be criminally prosecuted.

§ 4-417 Environment Article, **Annotated Code of Maryland**. Penalties.

(c) False statements in required documents; tampering with monitoring devices. Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this title or by any permit, rule, regulation, or order issued under this title, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this title or by any permit, rule, regulation, or order issued under this title, upon conviction, is subject to a fine not exceeding \$10,000, or by imprisonment not exceeding six months or both.

The completed and signed inspection report, including all required attachments must be mailed to:

MDE OIL CONTROL PROGRAM
Suite 620
1800 Washington Blvd.,
Baltimore MD 21230-1719



Maryland
Department of
the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary Designate
Suzanne E. Dorsey, Deputy Secretary

NOTICE TO INSPECT

Inspection Report Due Date

Date:

Facility I.D. No. «FacilityID»
«LocName»
«LocStr», «City»
«County» County, Maryland

Failure to perform the required inspection and submit the completed Inspection Report to the Department by the due date may result in enforcement action from the Department that could include issuance of a delivery ban, civil penalties, and other legal sanctions.

«Contact_Name»
«Owner_Name»
«Owner_Address» «Suite»
«Owner_City», «Owner_State» «Owner_Zip»

As the registered owner of an underground storage system located at the above facility, you are hereby given **Official Notice** to have your underground petroleum storage tank system(s) inspected by a Maryland Department of the Environment (MDE) Certified Underground Storage Tank System Inspector and submit the inspection report to the Department by the due date. In accordance with Code of Maryland Regulations 26.10.03.10A. "An owner of a motor fuel, bulk oil, used oil, or a hazardous substance UST shall have a certified inspection completed for the UST system by a UST system inspector certified by the Department under COMAR 26.10.06 to verify the owner's and the operator's compliance with the UST system requirements established under this chapter and COMAR 26.10.02, 26.10.04, 26.10.05, 26.10.07—26.10.12 and 26.10.16 and in accordance with the schedule established under Subsection B of this regulation". The owner of an underground motor fuel storage tank system shall complete a certified inspection of that system at least once every three years after the initial inspection.

You must choose and contact a company who employs a Maryland Certified Inspector to inspect your underground storage tank system(s). The cost of the inspection may vary. The Maryland Department of the Environment will not participate in the billing and collection process. Submittal of the inspection report to the Department is required by the due date in this notice. The MDE will not arbitrate nor accept disputes regarding an inspection finding as a reason for a delay in the report submittal.

As the registered owner or operator of the underground storage tank system(s), it is your responsibility to maintain your operation in compliance with Code of Maryland Regulations. Failure to perform the required inspection and submit the completed Inspection Report to the Department by the due date may result in enforcement actions from the Department that could include issuance of a delivery ban, civil penalties, and other legal sanctions.

Additional important information regarding the inspection, corrective actions and underground storage tank ownership changes is available on the back of this notice. Questions regarding the [Third Party Inspection Program](#) and required facility inspection may be directed to the Oil Control Program Certification Section at (410) 537-3442.

Mail Inspection Report To:
Maryland Department of the Environment
Oil Control Program
Suite 620
1800 Washington Blvd.
Baltimore, MD 21230-1719

Important Information:

- A Summary Printout of the UST(s) registered with the Department is available on the MDE web site at: <https://mes-mde.mde.state.md.us/FacilitySummary/default.aspx>
- "Owner Fact Sheet/Preparing for an UST Inspection" is available on the MDE web site at: https://mde.maryland.gov/programs/LAND/OilControl/Pages/ustcertification_programs.aspx
It is recommended owners discuss with the certified inspector the required information needed to complete the inspection **prior to** the inspection date.
- A list of companies employing MDE Certified UST Inspectors is available on the MDE web site at: https://mde.maryland.gov/programs/LAND/OilControl/Pages/ustcertification_programs.aspx
MDE encourages UST owners and operators to ask to see the inspector's MDE Certified Underground Storage System Inspector card (yellow card with the State Seal in the background with an (I) in the upper right corner). The card will have an expiration date and **must be valid at the time of the inspection.**

MDE will not accept inspection reports when it has been determined there is a "Conflict of Interest" of COMAR 26.10.06.07 Conflict of Interest, "A. A certified UST system inspector may not perform, and an owner and an operator of a UST system may not allow, a UST system inspector to perform an inspection on a UST system for compliance with COMAR 26.10.03.10 if the UST system inspector is also 1) The owner or the operator of the UST system to be inspected; 2) An employee of the owner or the operator of the UST system to be inspected; or 3) A certified UST system technician who completed the installation, replacement, or upgrade work on the UST system to be inspected. B. The Department shall refuse a UST system inspection report in compliance with COMAR 26.10.03.10D if the UST system inspector who performed the inspection and signed and provided their Department issued certification number on the inspection report is also one of the individuals identified in §A of this regulation. C. A certified UST system inspector who is also a certified UST technician may correct deficiencies while performing an inspection on a UST system in compliance with COMAR 26.10.03.10."

- For more information you may contact the Maryland Department of the Environment's Oil Control Program at (410) 537-3442 or visit our web site at: <http://mde.maryland.gov/programs/LAND/OilControl/Pages/index.aspx>
- The Department's facility registration database will be amended to reflect the information provided in the UST inspection report.
- Stage I and II Inspection, Section 7.c., pages 11 and 12 of the inspection report are to be submitted directly to ARMA upon completion of the inspection to the address listed at the top of page 11.

Required Corrective Actions Following an Inspection:

The owner of an underground storage tank system(s) shall have **thirty (30) days** to correct all deficiencies found during the inspection, in accordance with COMAR 26.10.02— 26.10.05, 26.10.07—26.10.12 and 26.10.16 unless an alternative schedule is required or approved by the Department. Many minor deficiencies found (example: clean containment sumps, tighten fittings, mark fill pipes, etc.) may be corrected at the time of the inspection. Only an MDE UST Certified Technician may upgrade, repair, install or close a UST system. The owner must submit all documentation to MDE confirming the corrective action(s). Documents submitted must include the Facility I.D. No. in the top right corner of each document.

After the inspection, you should discuss with the Third Party Inspector their findings and any deficiencies found during the inspection. The Department believes it is the inspector's obligation to explain, provide a summary of the findings or review any deficiencies found during the inspection process to allow the owner/operator to understand the deficiencies so that repairs or corrections can be performed in an efficient and timely manner. Remember, it is your responsibility to maintain and operate the underground storage system(s) in compliance with Maryland laws and regulations. Being prepared will make your inspection go smoothly and limit business disruption.

UST Ownership Change:

Immediately notify the MDE Oil Control Program in writing of the change by providing the date the change occurred, the name, address, and telephone number (if available) for the new owner and any other pertinent information confirming the change.