



Oil Pollution and Tank Management  
New Regulation Summary  
26.10.02.03 thru .03-6  
26.10.03.02 and .03

Beginning January 26, 2005 the owner of a regulated Underground Storage Tank (UST) system must comply with the following requirements.

**New , Replacement or Upgraded\* Underground Petroleum Storage systems:**

**Statewide:** A new UST system installed anywhere within Maryland, that stores any type of petroleum product (including gasoline, diesel fuel and heating oil) must:

1. Be installed with double wall piping for all product, vapor and vent piping.
2. Have a containment system at both the tank top and under the product dispenser.
3. Test for leaks all spill catch-basins yearly.
4. Test for leaks all containment sumps every two years.

**High Risk Groundwater Use Area\*\*:** Additionally new gasoline UST systems, used to fuel motor vehicles, in the High Risk Groundwater Use Area must either:

1. Submit required documents to demonstrate the storage system does not pose a threat;
2. Comply with the following:
  - a. Test the system for vapor leaks, using the MDE protocol, prior to startup.
  - b. Use interstitial monitoring.
  - c. Implement one of the following:
    - i. Install three or more groundwater monitoring wells (2" diameter wells are acceptable);
    - ii. Install a pressure control device; or
    - iii. Install a Soil Vapor Extraction System.
  - d. Additionally, USTs with a capacity > 2,000 gallons or for multiple tanks in the same tank excavation install four monitoring pipes connected in a manner that allows for the rapid installation of a soil vacuum extraction system
3. Within 30 days:
  - a. Sample the site supply well and any monitoring wells;
  - b. Test for leaks all spill catch basins and containment sumps.

4. Yearly:
  - a. Test for vapor leaks, using the MDE protocol;
  - b. Sample the site supply well and any monitoring wells;
  - c. Test for leaks all spill catch basins.
5. Every Two Years test for leaks all containment sumps.

**Existing UST Systems**, regardless of size or product stored, must:

**Statewide:**

1. Yearly test all spill catch basins.
2. Every two years test all containment sumps.

**Existing Gasoline UST Systems** that: are over 2,000 gallon in capacity, utilize Stage II vapor recovery and are used to fuel motor vehicles located in the **High Risk Groundwater Use Area** of these targeted counties, Baltimore, Carroll, Cecil, Frederick and Harford, shall:

1. Submit required documents to demonstrate the storage system does not pose a threat; or
2. Within 180 days:
  - a. Test for leaks all spill catch basins and sumps;
  - b. Install three or more groundwater monitoring wells (2" diameter wells are acceptable);
  - c. Sample the site supply well and any existing monitoring wells.
3. Within one year test the storage system for vapor leaks.
4. Every 180 days sample the site supply well and any monitoring wells.
5. Yearly:
  - a. Test for vapor leaks.
  - b. Test all spill catch basins.
6. Every Two Years test all containment sumps

**Sampling:**

Groundwater sampling must be performed by utilizing the test methods required by the regulations. When levels of concern are discovered those levels must be reported to the Department. Levels of concern are:  $\geq 5$  ppb Benzene,  $\geq 100$  ppb total BTEX,  $\geq 20$  MtBE.

\*A storage system upgrade is where the tanks and/or 40% or more of the piping system is replaced.

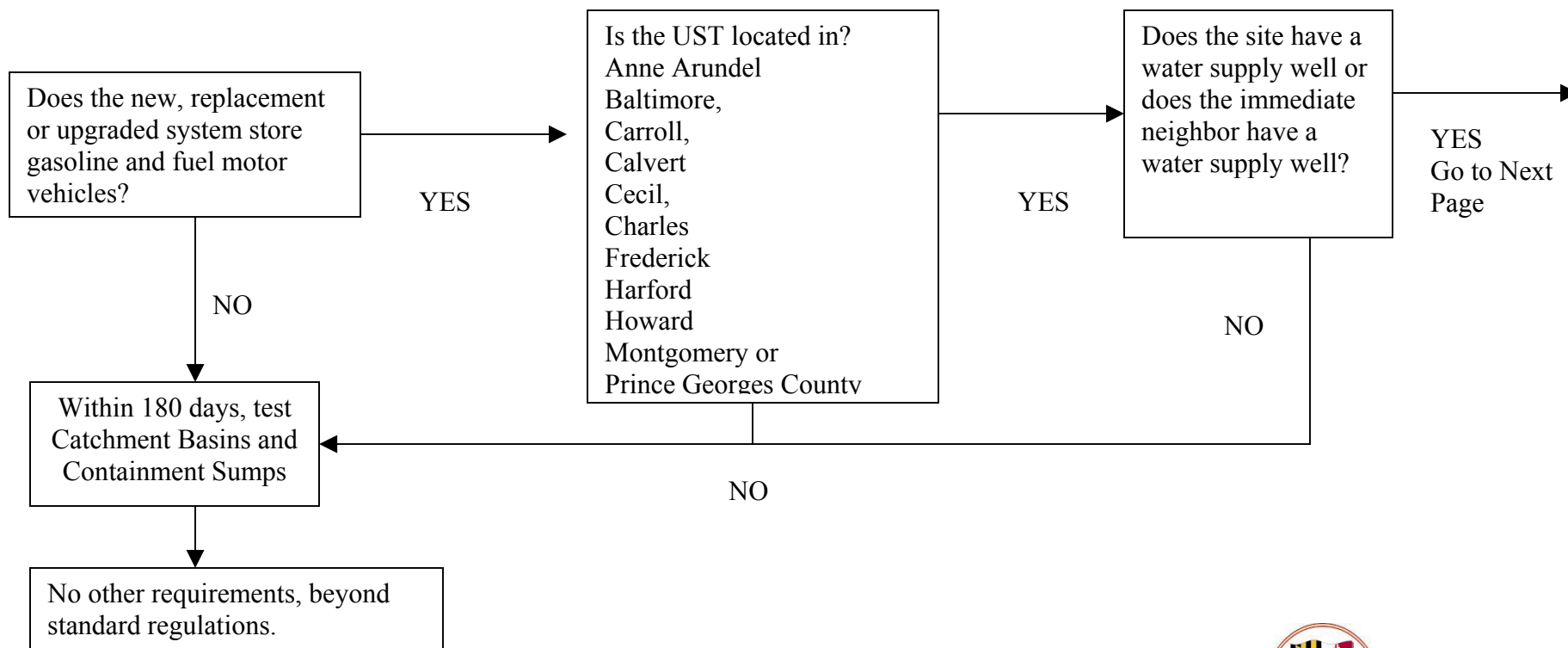
\*\*The High Risk Groundwater Use Area is all areas served by individual wells in Anne Arundel, Baltimore, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery and Prince George's counties.

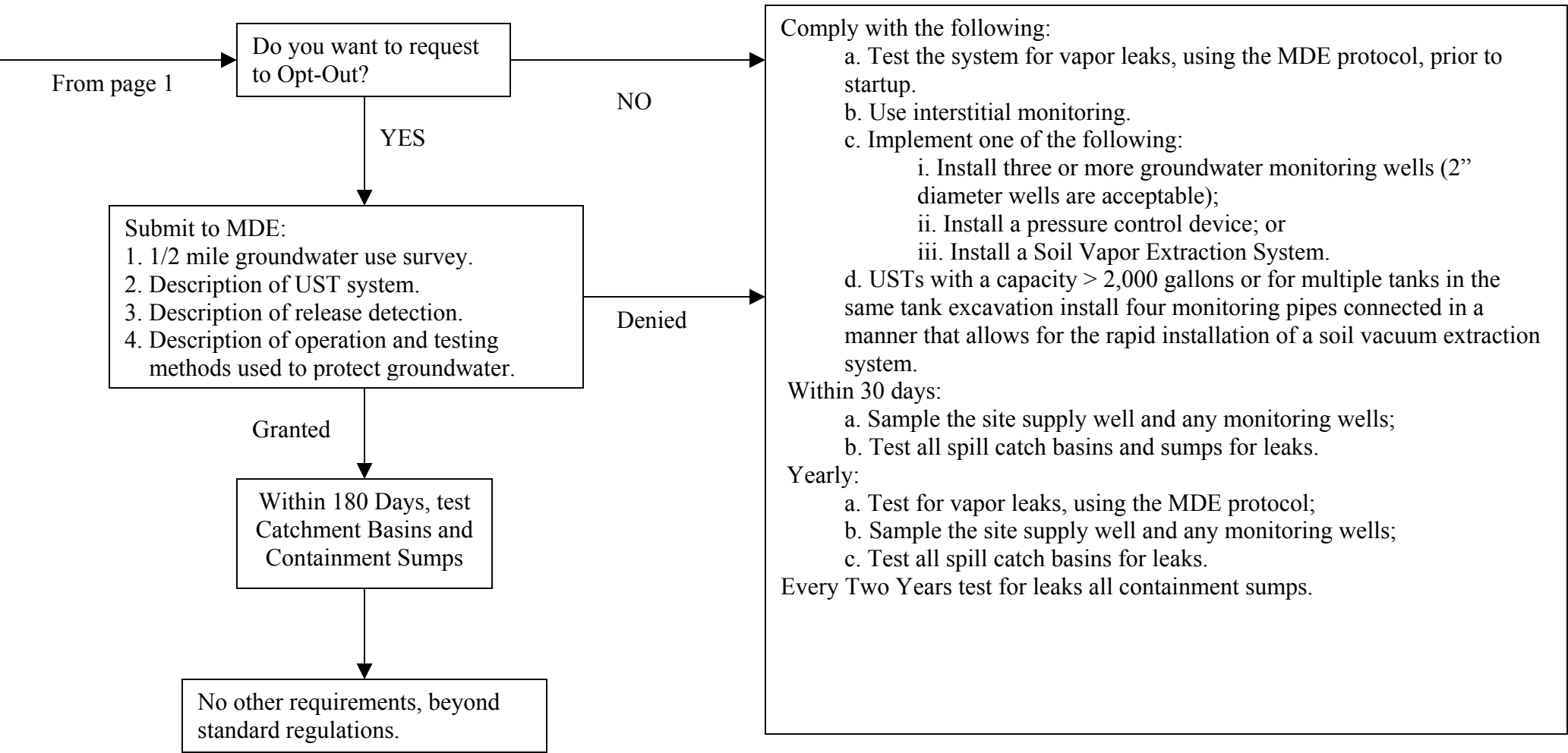
For further information please contact the Oil Control Program 410-537-3443.

# Regulation Decision Flow Chart for New, Replacement or Upgraded USTs Systems Effective 1/26/05

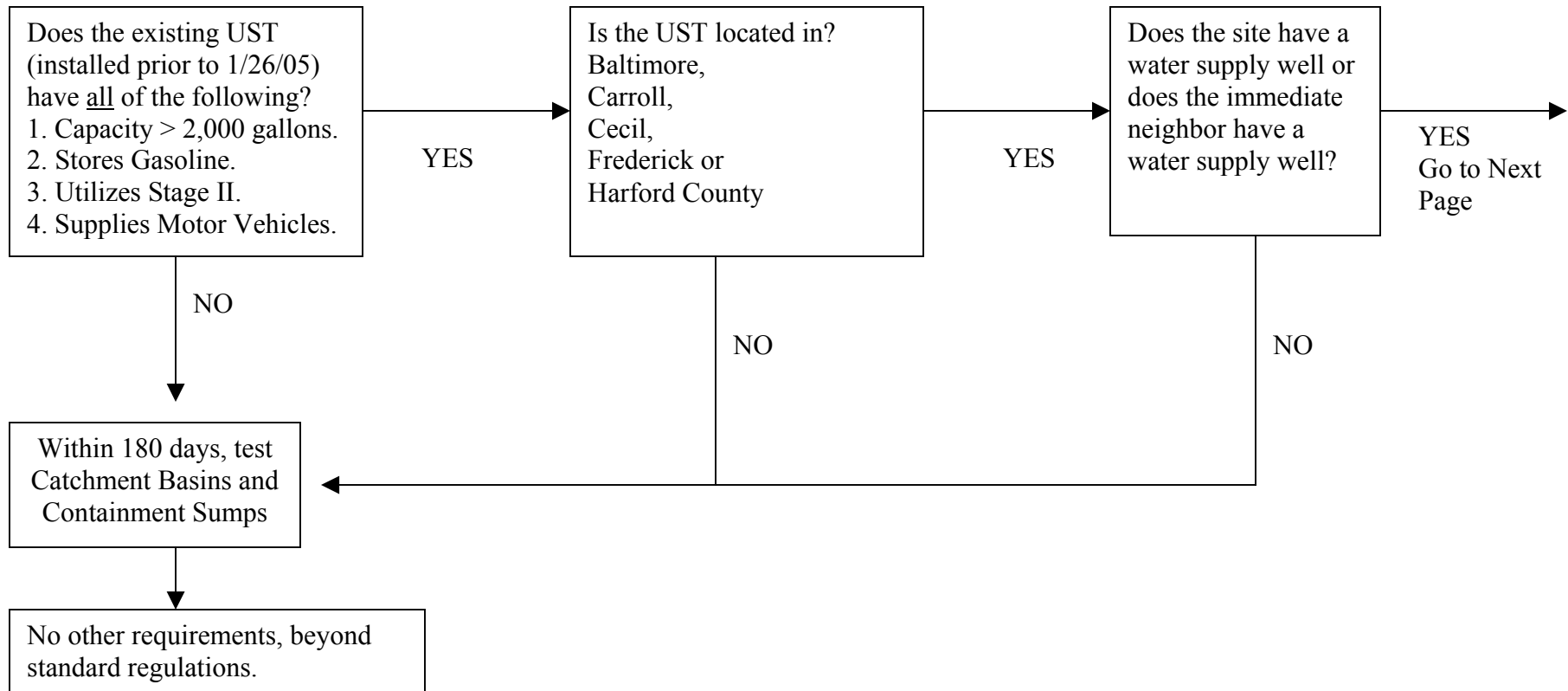
A new UST system installed anywhere within Maryland, that stores any type of petroleum product (including gasoline, diesel fuel and heating oil) must:

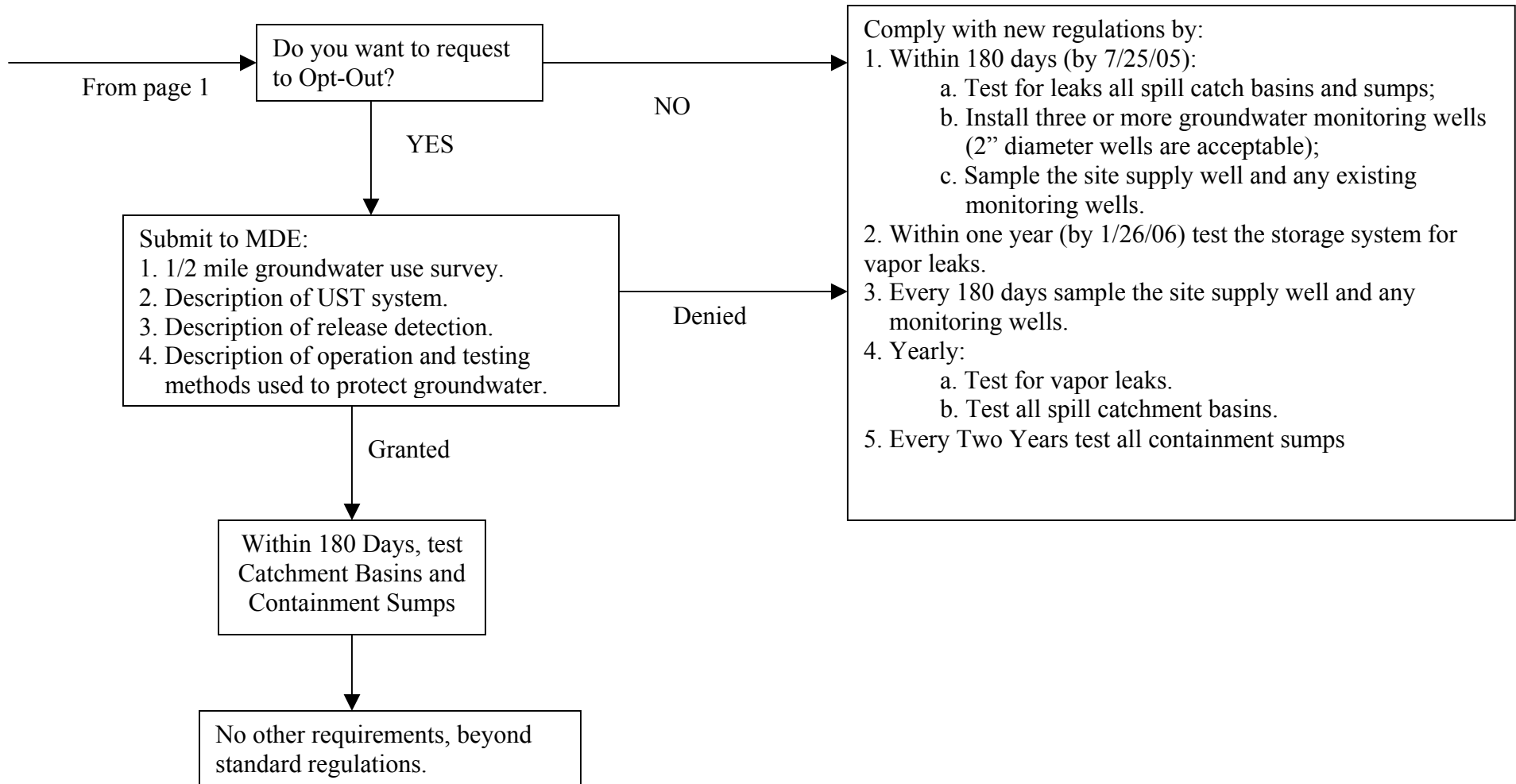
1. Be installed with double wall piping for all product, vapor and vent piping.
2. Have a containment system at both the tank top and under the product dispenser.
3. Test for leaks all spill catch basins yearly.
4. Test for leaks all containment sumps every two years.





# New Regulation Decision Flow Chart for Existing USTs Systems Effective 1/26/05







**Maryland Containment System Testing Protocol**  
DRAFT 3/1/05

**Introduction**

Recent (January 26, 2005) changes to the Code of Maryland Regulations (COMAR) 26.10, *Oil Pollution and Tank Management*, have implemented requirements for the testing of underground storage tank (UST) system spill catchment basins and release containment sumps to insure this equipment is not leaking. Specifically, testing protocols have been developed by the Maryland Department of the Environment (MDE) for spill catch basins (a.k.a. spill buckets) and containment sumps. It is recognized by MDE that these protocols are not necessarily the only methods that can be used to determine the tightness of this equipment. However, before an alternative method can be used, the testing method must be provided in detail to the Department for review and approval.

**Who can perform the test**

The individual performing the inspection and testing as outlined in this protocol must be either:

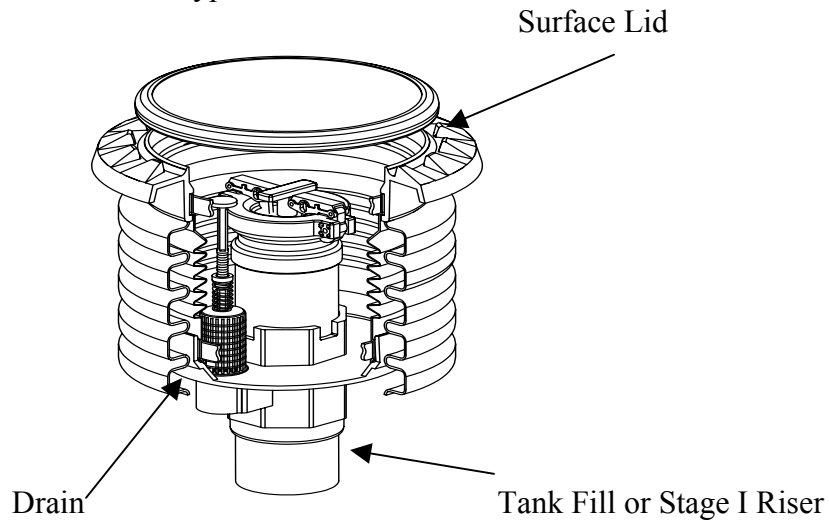
1. A certified UST technician in compliance with COMAR 26.10.06.
2. A Maryland certified UST inspector in compliance with COMAR 26.10.06. or
3. Employed by an UST testing company recognized by the MDE as indicated on the list of approved UST tests methods authored and updated by MDE.

**Spill Catchment Basins**

Containing the inevitable small spills that occur in the transfer of fuel from the tanker truck to the UST was the driving force behind the requirement for spill catchment basins a.k.a. spill buckets. This requirement is stated in Code of federal regulations 40 CFR 280.20: *Owners and operators must use... spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin).* Under COMAR 26.10.03, Maryland required spill catchment basins (basins) on every tank installed on or after December 22, 1988. For tanks installed prior to that date, owner/operators had until December 1998 to have them in place. Thus in Maryland, it is possible that some basins have been in the ground for seventeen or more years. On July 1, 1998 Maryland further amended COMAR and required the installation of basins on the Stage I vapor recovery connections of gasoline storage tanks and the fill pipes for used oil storage tanks (COMAR 26.10.03.03C&D).

The basins are made of both steel and plastic and are installed on fill risers and remote fill pipes of the UST. Most basins have a five-gallon spill capacity, however, larger basins with capacities upwards of twenty-five gallons are available. Some have drains or hand pumps permanently installed while others require the use of an external pump or absorbent pads to remove product.

The following is a schematic of a typical basin:



(Diagram taken from the EPA-OUST document "MUSTs for USTs")

The MDE testing procedure describes the protocol in detail. Important facts to consider with this test are:

- (1) The basins are hydrostatically tested;
- (2) Care must be taken to isolate loss through the drain;
- (3) The standard for declaring a failure is 1/8" inch or greater loss of water within one hour (which is equal to a leak rate of 0.05 gallons per hour in a typical 12" diameter basin).

It is important to understand that basins were neither intended nor designed for the *storage* of petroleum product, but rather to *contain* a small spill. The clear intent is that any spilled product would be immediately removed and either returned to the tank or properly disposed. Although it is a violation of COMAR 26.10.04.01B, it is very common to find petroleum product in the basin.

### **SPILL CATCHMENT BASINS HYDROSTATIC TEST**

- I. Basins are to be inspected for debris and liquid content. If liquid content is found to include significant petroleum product, the product must be removed. Any accumulation of debris (leaves, trash and sediment) encountered in the basins must be removed for proper disposal.
- II. Examine the basin's condition for damage. A damaged basin should not be tested but failed immediately and arrangements made for repair or replacement.

- III. The basin drain must be secured against possible leaks. This involves one of the following procedures:
  - a. Remove the plunger-drain and inserting a temporary plug;
  - b. Remove the plunger-drain ensuring it seals properly and reinstalling the plunger-drain; or
  - c. Adding 2”+ of water to the bucket prior to beginning the test to ensure the plunger-drain is liquid tight.

If the drain could not be secured by one of the above methods, the test is to be considered invalid and arrangements made for repairs.

- IV. Add water to the basin to just over the top of the fill-pipe. The water must be allowed to settle before the level measurement is taken. To ensure an accurate measurement, a rigid straightedge should be laid across the top of the basin, and its location marked. A tape measure or other measuring device is then lowered into the water perpendicular to the straightedge and the water level measurement is recorded. The location of the straightedge and the measuring device are to be kept constant for each measurement.
- V. The basin lid is put back in place and the hydrostatic test is performed for one hour.
- VI. After one hour measure the water level as in IV above.
- VII. A liquid level drop of 1/8<sup>th</sup> inch or greater in the one hour is considered a failure.
- VIII. Upon completion of the test, the water must be removed for further use or proper disposal.

### **Containment Sumps**

Containment Sumps (sumps) were not required on underground storage tanks in Maryland until January 26, 2005. As a result of emergency regulations sumps became mandatory for all new, replaced or upgraded UST systems (COMAR 26.10.03.02). Sumps can be found as a subsurface structure directly under the product dispenser, at the tank top or sometimes located at piping transitions. Sumps are designed to provide access to equipment, fittings and piping located below grade and to prevent the stored product from being released into the environment. Sumps should not routinely contain product or water, however, the Department continually finds liquid in sumps during our inspections. Sumps must be U.L. Listed and made from material compatible with the product being stored.

### **Types of Containment Sumps**

The Turbine Pump Sump is designed to provide access to the turbine area above the tank. The turbine area may house the turbine pump head, line leak detectors, interstitial

monitoring devices, wiring, and other equipment. Dispenser sumps are designed to contain releases and provide access to piping and other equipment located under the dispenser. Transition/Intermediate Sumps are used for the transition from aboveground piping to belowground piping or, in some cases, to transition between different types of piping, or to achieve the proper slope on a piping run. Intermediate sumps are located at key points in the piping system.

### **CONTAINMENT SUMP INSPECTION AND TEST**

Safety precautions and care must be taken when opening the lids. The lids are generally cumbersome and heavy. Flammable vapors and liquids may be present in the sump. Square or rectangular sump lids can fall through the opening and damage the piping, submersible pump, or tank. Round or oval lids, while not typically capable of falling into the sump, may swing down and impact the submersible pump or line leak detector. If applicable, follow the equipment manufacturer recommendations if special instructions are necessary to open the sump lids. Some lids are bolted down and hinged to ease in opening. In order to access the dispenser sumps, you may need a key to remove the dispenser cover.

- I. Sumps are to be inspected for debris and liquid content. If liquid content is found to include petroleum product, the product must be removed. Any accumulation of debris (leaves, trash, sediment, and/or filters) encountered in the sump must be removed for proper disposal.
- II. Examine the sump for damage. A damaged sump should not be tested but immediately recorded as a failure. Arrangements must be made to repair or replace the sump.
- III. Inspect all equipment for product leaks. All product leaks must be repaired before testing the sump.
- IV. Inspect all entry points into the sump to ensure they are in good condition.
- V. When liquid sensors are present raise or disable the sensors before conducting the test. This is an excellent time to ensure proper operation of the liquid sensors.
- VI. Ensure that there are no components that can be damaged by the addition of water to the sump. If such components are present discontinue the test and arrange to make repairs in order to perform the test.
- VII. Water is then added to the sump to a minimum of 4 inches above the highest entry point or sump sidewall seam. To compensate for sump deflection the water must be allowed to settle. To ensure an accurate measurement, a rigid straight-edged is laid across the top of the sump, and its location marked. A tape measure or other measuring device is then lowered into the water perpendicular to the straightedge and the water level measurement recorded.

The location of the straightedge and the measuring device are to be kept constant for each measurement.

- VIII. The sump lid or dispenser cover is to be put back in place and the hydrostatic test performed for one hour. After the one-hour test period, a liquid measurement is taken using the methodology described in VII above.
- IX. A measured liquid drop of 1/8<sup>th</sup> inch or greater in one hour is considered a failure.
- X. Upon completion of the test,
  - a. Remove all water for further use or proper disposal.
  - b. Reinstall or activate all liquid sensors and test them for proper operation.

If during your site visit you identify or suspect a release of fuel to the environment, you must report this finding to MDE immediately.

**Reporting Requirements:**

1. The UST owner must maintain records of the test for 1 year at the facility and 5 years at a location determined by the owner.
2. In accordance with Code of Maryland Regulation 26.10.08.01A, if a storage system fails a test for tightness, is otherwise determined to be leaking, or there exists evidence of a discharge, the person conducting the test, the owner, and the operator of the storage system shall notify the Department within 2 hours. Two consecutive inconclusive tests are considered a failure and shall be reported as required in this chapter.
3. Within 30 days upon completion of the catchbasin or sump test, a report detailing all activities and results must be maintained on site. If a test failure is detected a copy of the report must also be forwarded to the Department.
4. The report must include:
  - Name and Address of Facility tested.
  - Owner's Name, Telephone Number and Address.
  - Date test was performed and weather conditions.
  - Name and Telephone Number of tester/company.
  - Site Diagram of station identifying all tank top components, dispensers, basins, sumps and the known layout of piping.
  - Results of the test and a record identifying all repairs made to the storage system prior to and during each the test.
5. In accordance with Annotated Code of Maryland § 4-417 (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 requirement 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.

**Disclaimer:**

The storage of petroleum products and the maintenance and inspection of storage systems is a hazardous endeavor. Only experienced storage tank personnel should perform the actions as outline in this protocol. The Maryland Department of the Environment makes no claim as to the completeness or the quality of work performed by private parties. The use of this protocol is designed to demonstrate compliance with Maryland regulations to the Department. The damage of storage tank equipment, loss of life or injury are the sole responsibility of the storage tank owner and the person performing the test.

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