

# MEMORANDUM

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**SUBJECT:** *Guidance Document LPR-SRR-2014-04*  
**Storage Tank Program Compliance Manual Volume 1: Program Fundamentals**

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**COPIES:** Regional Directors, Renee Hooper, Russell Ellison, Alicia Meadows

**Summary:**

This volume of the Storage Tank Program Compliance Manual provides an overview of Virginia's underground storage tank compliance program, including program fundamentals, important program dates and links to applicable laws and regulations.

**Electronic Copy:**

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET, and for the public on DEQ's website at:

<http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/Laws,Regulations,Guidance.aspx>

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# STORAGE TANK PROGRAM COMPLIANCE MANUAL

## VOLUME I-PROGRAM FUNDAMENTALS

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# 1 Introduction

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The Virginia Department of Environmental Quality's (DEQ) Tank Compliance Program regulates underground and aboveground storage tanks in an effort to protect the environment and promote the health and well-being of Virginia's citizens. The program's goal is to ensure tanks meet requirements intended to prevent environmental contamination from leaks and spills.

Numerous tanks exist throughout the state. Although some tanks are exempted or excluded from compliance requirements, the program regulates approximately 18,000 active USTs at 6,000 UST facilities, which can store up to 314 million gallons of regulated substances, and approximately 10,000 ASTs at 3,700 AST facilities, which can store up to 1.3 billion gallons of oil.

This manual describes the current procedures for addressing regulated tank compliance requirements and replaces previously issued guidance. The policies and procedures contained within this manual are intended to (1) implement the program goal of preventing environmental contamination and (2) promote statewide consistency in the application of compliance requirements. The scope of this manual includes program guidance related to assessing tanks for compliance with the provisions of State Water Control Law and related regulations from the time of tank installation through closure, as well as informal resolution of compliance issues. This manual does not address program guidance applicable to remediation or reimbursements. These topics are addressed in the Petroleum Storage Tank Technical Manual and the Virginia Petroleum Storage Tank Fund Reimbursement Guidance Manual, respectively. Additionally, this manual does not address inspection activities related to State Air Pollution Control Law, nor does it include enforcement policies. Rather, the DEQ Enforcement Manual includes the Agency's enforcement guidance.

The Agency's Central and Regional Office staff members collaborated to develop this manual as a guidance document for DEQ personnel. (See Appendix- A for a map of the DEQ regional offices.) Consultants and tank owners and operators also may find the information in this manual useful. Copies are available to the public upon request, and an electronic version of this volume of the manual is available through the Agency's website on the petroleum programs guidance page.

## 2 Statutory and Regulatory Authority

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### 2.1 Aboveground Storage Tanks - ASTs

#### 2.1.1 Federal AST Law and Regulations

There is no comprehensive federal statute or regulation that directly parallels Virginia's AST Program requirements. Although the United States Congress has considered bills that would create a regulatory

structure for ASTs similar to that which exists for USTs, no similar acts have been passed. While no federal AST program has been established, certain federal legislation and regulations nonetheless apply to ASTs. The following is a list of applicable federal laws and regulations:

- Oil Pollution Act of 1990 (“OPA 90”);
- Clean Water Act (CWA), 33 USC 1321, Oil & Hazardous Substance Liability;
- 40 CFR Part 112, Spill Prevention, Control, and Countermeasure (SPCC);
- 33 CFR 154, Oil Pollution Prevention Regulations for Marine Oil Transfer Facilities;
- 33 CFR 156, Oil and Hazardous Material Transfer Operations; and
- 29 CFR 1910.106, Occupational Safety and Health Act (OSHA).

All of these laws and regulations may be through EPA’s website at:

<http://www.epa.gov/osweroe1/lawsregs.htm>.

### **2.1.2 Virginia AST Law and Regulatory Authority**

The 1989 grounding of the Exxon Valdez oil tanker in Alaska's Prince William Sound brought to the nation's attention the environmental devastation that a large release of petroleum can cause. This event, along with a significant release from a Star/Texaco facility in northern Virginia and a pipeline release, impelled the Virginia legislature to promulgate laws aimed at preventing further environmental disasters from petroleum contamination. A series of amendments to State Water Control Law (SWCL), contained in Article 11 of SWCL, CODE §§ 62.1-44.34:14 through: 23, provided an emergency fix and contains the statutory authority for the state AST Program.

Three regulations emerged from Article 11, as follows:

- VR 680-14-07 (codified as 9 VAC 25-90 *et seq.*)  
Oil Discharge Contingency Plans and Administrative Fees for Approval  
Adopted: December 9, 1991  
Effective: January 29, 1992  
Repealed: June 24, 1998
- VR 680-14-13 (codified as 9 VAC 25-140 *et seq.*)  
Aboveground Storage Tanks Pollution Prevention Requirements  
Adopted: May 10, 1993  
Effective: June 30, 1993  
Repealed: June 24, 1998
- VR 680-14-12 (codified as 9 VAC 25-130 *et seq.*)  
The Facility and Aboveground Storage Tank Registration Requirements  
Adopted: June 28, 1993  
Effective: September 22, 1993  
Repealed: June 24, 1998

Amendments to the law continued, which mandated changes to the AST regulations. To implement statutory amendments and to enhance consistency and clarity in the AST regulations, the State Water Control Board adopted a new regulation that consolidated and updated the three regulations listed above. The Facility and Aboveground Storage Tank (AST) Regulation, 9 VAC 25-91 *et seq.*, became effective June 24, 1998.

Additionally, the State Water Control Board adopted the Aboveground Storage Tank and Pipeline Facility Financial Responsibility Requirements Regulation, 9 VAC 25-640 *et seq.*, which became effective March 2, 2001.

Other state laws that apply to ASTs are contained in the Uniform Statewide Building Code and Statewide Fire Prevention Code Act, which local code officials administer. The regulations associated with these laws are the Virginia Statewide Building Code and the Virginia Statewide Fire Prevention Code.

Appendix B contains instructions for accessing electronic copies of the AST-related statutes and regulations discussed in this section.

## **2.2 Underground Storage Tanks - USTs**

### **2.2.1 Federal UST Law and Regulations**

By the early 1980s, 2.1 million UST systems in the United States were currently or had been used to store petroleum and other substances. Many of those had leaked or were believed to be leaking, posing a serious threat to the nation's groundwater. That threat to groundwater, along with other health and safety concerns, prompted Congress to add Subtitle I to the already existing Resource Conservation and Recovery Act (RCRA) [42 U.S.C. § 6991 *et seq.*]. Subtitle I became effective on November 8, 1984.

While the implementing regulations for Subtitle I were under development, EPA instituted an Interim Prohibition (effective May 8, 1985) that prohibited the installation of any underground tanks and piping that were not corrosion protected, structurally sound, and compatible with the substances stored. The final federal UST regulation, Technical Standards and Corrective Action Requirements for Owners and Operators of USTs, 40CFRPart 280, became effective on December 22, 1988.

The Federal Energy Policy Act of 2005 (EPACT) was adopted by Congress and signed into law in 2005. This act amends Subtitle I of RCRA. There are six major requirements affecting UST compliance: inspection frequency; secondary containment; delivery prohibition; operator training; public record; state compliance reporting on government tanks; and, requirements imposed as a condition of grant funding. In 2006 and 2007, EPA issued guidance to the states for implementing these requirements.

## 2.2.2 Virginia UST Law and Regulations

In 1987, Virginia amended its State Water Control Law to incorporate the requirements of RCRA Subtitle I (Federal UST Law) by adding Article 9 (CODE §§ 62.1-44.34:8 through: 9) and Article 10 (CODE §§ 62.1-44.34:10 through :13).

The State Water Control Board subsequently promulgated two regulations: the UST Technical Standards and Corrective Action Requirements Regulation, 9VAC25-580-10 et seq., (the “UST Technical Regulation”), and the Petroleum UST Financial Responsibility Requirements Regulation, 9VAC25-590-10 et seq., (the “UST Financial Responsibility Regulation”).

The UST Technical Regulation governs UST installation, performance standards, operation, closure, release reporting, assessment, and corrective action. It became effective on October 25, 1989, and was amended, effective September 15, 2010, to incorporate federal requirements imposed by EPACT.

The UST Financial Responsibility Regulation requires UST owners and operators to demonstrate their ability to pay for the cost of corrective action and third party bodily injury and property damage resulting from a UST release. The effective date of the regulation was May 8, 1990. It has been amended twice. The last amendment became effective on October 10, 2013. Other state laws that apply to USTs are contained in Virginia’s Uniform Statewide Building Code and Statewide Fire Prevention Code Act, which local code officials administer. The regulations associated with these laws are the Virginia Statewide Building Code and the Virginia Statewide Fire Prevention Code.

Appendix B contains instructions for accessing electronic copies of the UST-related statutes and regulations discussed in this section.

## 2.2.3 Key UST Program Dates

Because federal and state government have regulated USTs for some time, the following chronology of key legal and regulatory developments may prove helpful to compliance staff:

- 11/8/84 - Federal UST Law (Subtitle I of RCRA) effective
- 5/8/85 - Federal UST Interim Prohibition in effect (only corrosion proof tanks/piping may be installed)
- 5/8/86 - Federal UST Notification due to state implementing agencies on federal notification form
- 7/1/87 - Virginia UST Laws (Article 9 of State Water Control Law) effective
- 12/22/88 - Federal UST Technical Regulation effective

Start date for ten year phase-in of UST upgrade requirements for spill and overfill prevention and corrosion protection

- 10/25/89 - Virginia UST Technical Regulation effective
- 12/22/89 - Start date for five year phase-in for UST Release Detection requirements based on tank age
- 12/22/93 - End of five year phase-in for UST Release Detection requirements based on tank age
- 7/1/96 - State law amended to rescind state regulation of heating oil USTs
- 12/22/98 - End of ten year phase-in of UST upgrade requirements for spill prevention, overfill prevention and corrosion protection.
- 8/8/05- EPACT adopted, addressing Delivery Prohibition, Operator Training and Secondary Containment.
- 9/15/10 Virginia UST Technical Regulation (9VAC25-580) amended to comply with the requirements imposed by EPACT, addressing Delivery Prohibition, Operator Training and Secondary Containment.

## 2.2.4 Differences between the Federal and the Virginia UST Regulations

The Virginia regulations substantially duplicate the federal UST regulations in terms of UST operating and technical standard requirements. However, there are several minor areas where Virginia's UST regulatory structure is either more stringent than, or is implemented slightly differently from, the federal UST regulations. These differences are summarized in the paragraphs below.

- **Corrosion Protection:** The Virginia UST regulation does not permit the installation of a regulated UST system without corrosion protection under any circumstances. The federal regulation permits regulated UST systems to be installed without corrosion protection in cases where a corrosion expert has determined that the site is not corrosive enough to cause the system to have a release due to corrosion during its operating life.
- **Building Code Requirements:** The Virginia UST regulation requires tank owners/operators to show that they have complied with the Uniform Statewide Building Code (USBC) by obtaining a permit issued by the local code official and any required inspections for UST installation, upgrade, repair, or closure. The federal regulation has no corresponding requirement.
- **Impressed Current Systems:** The Virginia UST regulation requires that UST systems with impressed current corrosion protection systems be installed so that they cannot inadvertently be shut off. The federal regulation simply mandates continuous corrosion protection.
- **Soil and Water Sample Testing:** In cases where soil or water samples are used to measure for the presence of a release from a UST system at closure or change-in-service, Virginia's UST regulation requires the samples to be analyzed for total petroleum hydrocarbons (TPH). Additionally, Virginia owners and operators must submit test results from those samples, describe the area where the samples were taken,

and prepare a site map. DEQ uses this information to determine whether any significant release occurred while the tank was in use. The federal regulations do not specifically require samples to be analyzed for total petroleum hydrocarbons (TPH) or submittal of the sample results, the sample location description, or site map. However, the federal regulations do require closure or change-in-service documentation to be maintained for at least three years.

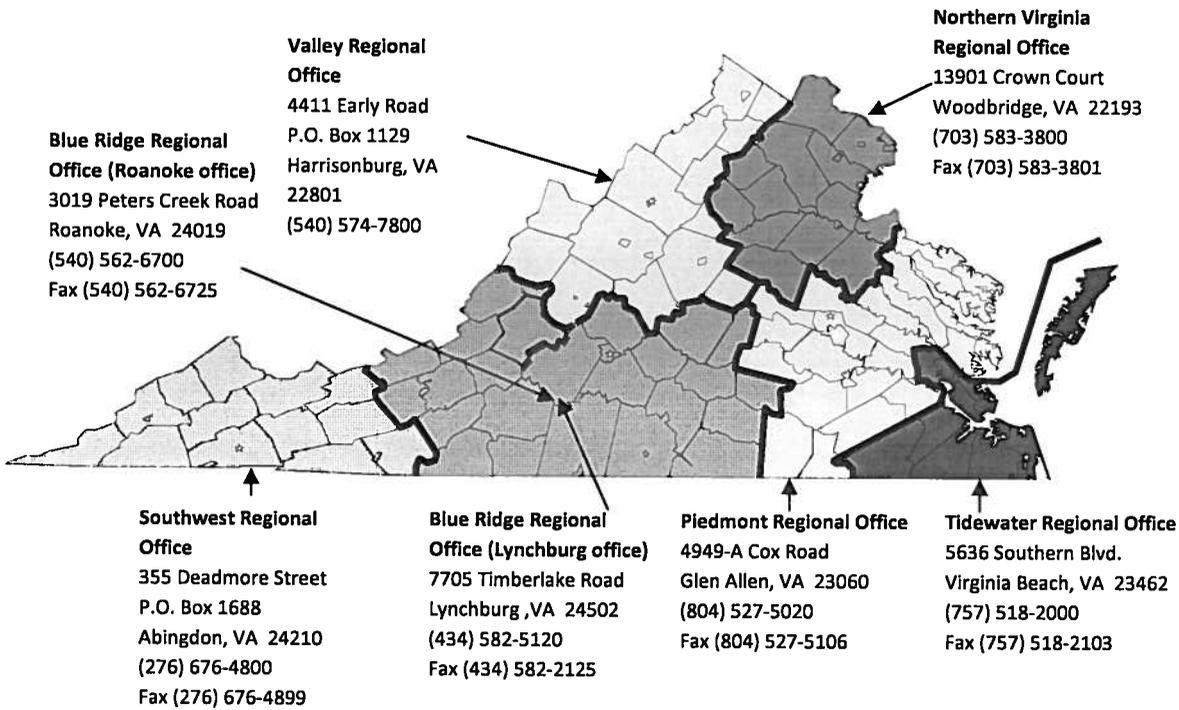
- **VPSTF as FR Demonstration Mechanism:** Virginia's UST Financial Responsibility Regulation allows tank owners and operators to use the Virginia Petroleum Storage Tank Fund (VPSTF) as a means for meeting most of their \$1Million/\$2Million federal financial demonstration requirement. There is no corresponding federal fund and no provision in the federal regulation that requires the EPA to accept state Funds like the VPSTF as a demonstration mechanism. (Some states do have such Funds, and EPA accepts them unless the Fund proves to be insolvent.) Thus far, EPA has accepted the VPSTF as suitable demonstration of an owner/operator's financial responsibility for the amount above that owner/operator's VPSTF sliding scale financial responsibility requirement.
- **Definition of Regulated Substance:** In the Virginia regulations, the definition of "regulated substance" is broader than the one in the federal regulation because Virginia includes "any element, compound, mixture, solution, or substance which, when released into the environment, may present substantial danger to the public health or welfare" while the federal definition for "regulated substance" includes "petroleum" and only those specifically CERCLA listed substances. Although this could be interpreted as a very substantial difference in the two regulations, in its actual practice DEQ uses the federal definition. Because the State definition is so broad, it could be interpreted to include any substance. Because such an interpretation would make the regulation and the program unmanageable and does not appear to be consistent with the intent of the legislature, the UST Program regulates only petroleum and CERCLA listed products.
- **Notification of any Known UST:** The Virginia UST regulation requires owners to submit notifications for any known USTs, even if the tank is no longer in use but remains in the ground. The federal regulation requires that owners/operators register any tank that was in the ground on or after May 8, 1986 unless the tank was out of operation on or before January 1, 1974.
- **EPACT Requirements:** The Virginia UST regulation incorporates the requirements of EPACT while the federal regulation does not; however, EPA is currently revising its regulation to incorporate some of the EPACT requirements. Delivery prohibition requirements will continue to be covered by federal guidance, rather than regulation.

## 2.2.5 UST Program Delegation

Under federal law and regulation, it is permissible for EPA to delegate program administration for federal environmental regulatory programs. EPA delegated the UST Program to Virginia, effective October 28, 1998, through a process called "State Program Approval." This approval allows DEQ to enforce Virginia's UST

regulations in lieu of the federal regulation. Generally, EPA will defer enforcement of the federal UST regulations in favor of Virginia's enforcement of the state UST regulations. However, EPA still retains oversight jurisdiction for the Virginia UST Program and may conduct inspections and enforce the federal UST regulations in Virginia if it decides to do so.

# Appendix- A Map of DEQ Regions



## Regional Offices

## Counties and Cities

<b>Northern Regional Office</b>	<b>Counties</b>	Arlington, Caroline, Culpeper, Fairfax, Fauquier, King George, Loudoun, Madison, Orange, Prince William, Rappahannock, Spotsylvania, Stafford, Louisa
	<b>Cities</b>	Alexandria, Falls Church, Fairfax, Fredericksburg, Manassas, Manassas Park
<b>Piedmont Regional Office</b>	<b>Counties</b>	Amelia, Brunswick, Charles City, Chesterfield, Dinwiddie, Essex, Gloucester, Goochland, Greensville, Hanover, Henrico, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northumberland, Powhatan, Prince George, Richmond, Surry, Sussex, Westmoreland
	<b>Cities</b>	Colonial Heights, Emporia, Hopewell, Petersburg, Richmond.
<b>Blue Ridge Regional Office</b>	<b>Counties</b>	Alleghany, Amherst, Appomattox, Bedford, Botetourt, Buckingham, Campbell, Charlotte, Craig, Cumberland, Floyd, Franklin, Giles, Halifax, Henry, Lunenburg, Mecklenburg, Montgomery, Nottoway, Patrick, Pittsylvania, Prince Edward, Pulaski, Roanoke
	<b>Cities</b>	Bedford, Clifton Forge, Covington, Danville, Lynchburg, Martinsville, Radford, Roanoke, Salem
<b>Valley Regional Office</b>	<b>Counties</b>	Albemarle, Augusta, Bath, Clarke, Fluvanna, Frederick, Greene, Highland, Nelson, Page, Rockbridge, Rockingham, Shenandoah, Warren
	<b>Cities</b>	Buena Vista, Charlottesville, Harrisonburg, Lexington, Staunton, Waynesboro, Winchester
<b>Southwest Regional Office</b>	<b>Counties</b>	Bland, Buchanan, Carroll, Dickenson, Grayson, Lee, Russell, Scott, Smyth, Tazewell, Washington, Wise, Wythe
	<b>Cities</b>	Bristol, Galax, Norton
<b>Tidewater Regional Office</b>	<b>Counties</b>	Accomack, Isle of Wight, James City, Northampton, Southampton, York
	<b>Cities</b>	Chesapeake, Franklin, Hampton, Newport News, Norfolk, Portsmouth, Poquoson, Suffolk, Virginia Beach, Williamsburg

## Appendix-B Web Instructions for Accessing AST and UST Statutes and Regulations

### **AST and UST Statutes:**

Article 9 (USTs):

<http://lis.virginia.gov/cgi-bin/legp604.exe?000+cod+TOC62010000003000010000000> (select 44.34:8 and :9)

Article 10 (UST Financial Responsibility):

<http://lis.virginia.gov/cgi-bin/legp604.exe?000+cod+TOC62010000003000010000000> (select 44.34:10-:13)

For Article 11 (ASTs):

<http://lis.virginia.gov/cgi-bin/legp604.exe?000+cod+TOC62010000003000010000000> (select 44.34:14-:23)

### **AST and UST Regulations:**

Underground Storage Tanks: Technical Standards and Corrective Action Requirements (Chapter 580)

<http://lis.virginia.gov/000/reg/TOC09025.HTM>

Facility and Aboveground Storage Tank Regulation

<http://www.deq.virginia.gov/Portals/0/DEQ/Land/Tanks/astfin.pdf>

Petroleum Underground Storage Tank Financial Responsibility Regulations (Chapter 590)

<http://lis.virginia.gov/000/reg/TOC09025.HTM>

Aboveground Storage Tank & Pipeline Facility Financial Responsibility Regulations (Chapter 640)

<http://lis.virginia.gov/000/reg/TOC09025.HTM>

**The above statutes and regulations may also be accessed through the petroleum programs Guidance and Regulations page.**

### **Federal Laws and Regulations affecting USTs and ASTs:**

Resource Conservation and Recovery Act (RCRA): <http://www.epa.gov/epahome/laws.htm>.

Federal Energy Policy Act of 2005 (EPACT): [http://www.epa.gov/swerust1/fedlaws/epact\\_05.htm](http://www.epa.gov/swerust1/fedlaws/epact_05.htm).

Technical Standards and Corrective Action Requirements for Owners and Operators of USTs Regulation:

<http://www.epa.gov/swerust1/fedlaws/index.htm>.

**Other Laws and Regulations affecting USTs and ASTs:**

Uniform Statewide Building Code: <https://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC360000000060000000000000>

Statewide Fire Prevention Code Act: <https://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC270000000090000000000000>

Virginia Uniform Statewide Building Code Regulations: <http://www.dhcd.virginia.gov/index.php/va-building-codes/building-and-fire-codes/regulations/uniform-statewide-building-code-usbc.html>

Virginia Statewide Fire Prevention Code Regulation:  
<http://www.dhcd.virginia.gov/StateBuildingCodesandRegulations/PDFs/2009/Code%20-%20SFPC.pdf>.

National Fire Codes – NFPA 30 & 30A: [www.nfpa.org](http://www.nfpa.org)