Standard Operating Procedure 008: Underground Storage Tank and Fuel Dispensing System

1.0 PURPOSE

This procedure serves to improve compliance with the Resource Conservation and Recovery Act (RCRA), Requirements for Petroleum UST systems 9VAC25-580 by preventing an unintentional leak or spill either above or below ground.

2.0 REFERENCES

2.1 ISO 14001 Standard (Operational Controls)
2.2 Environmental Aspects, Objectives and Targets, and Management Programs
2.3 Training, Awareness and Competence
2.4 Emergency Preparedness and Response
2.5 Resource Conservation and Recovery Act (RCRA)
2.6 Requirements for Petroleum UST systems 9VAC25-580

3.0 SCOPE AND RESPONSIBILITIES

3.1 The scope of this procedure is to ensure the proper care, understanding, and use of the fueling and monitoring equipment.

3.2 The Vehicle Maintenance Divisions are responsible to ensure proper operation, calibration, and maintenance of the fueling and monitoring equipment.

4.0 EMERGENCY SHUT OFF SWITCHES FOR EACH TERMINAL

4.1 Norfolk International Terminals (NIT)

4.1.1 The EMERGENCY SHUT OFF SWITCH for all fuel pumps is located on the Vehicle Maintenance Building approximately 50 feet to the east of the fuel island

4.2 Newport News Marine Terminal (NNMT)

4.2.1 The EMERGENCY SHUT OFF SWITCH for all fuel pumps is located on the equipment shelter approximately 100 feet to the west of the fuel island

4.3 Portsmouth Marine Terminal (PMT)

4.3.1 The EMERGENCY SHUT OFF SWITCH for all fuel pumps is located on Building 401 approximately 50 feet to the East of the fuel island

4.4 Virginia International Gateway (VIG)

4.4.1 The EMERGENCY SHUT OFF SWITCH for the diesel fuel tank is located on the fence across from the tank.

4.5 **Richmond Marine Terminal (RMT)**

4.5.1 The EMERGENCY SHUT OFF SWITCH for the fuel tanks is located on the outside of the maintenance shop, approximately 25 feet from fuel tanks.

4.6 **Virginia Inland Port (VIP)**

4.6.1 The EMERGENCY SHUT OFF SWITCH for all fuel pumps is located on the Maintenance building approximately 50 feet to the South of the fuel island

5.0 NIT, PMT, & VIG BULK FUEL LOADING

5.1 To prepare the bulk fuel loading pump:

During this procedure, the person filling the tank truck shall be positioned within arm's reach of the bulk pump local power switch, should an overflow or hazardous situation become evident.
VIG will need another employee on the ground to be positioned to push the local power switch, since the employee filling the fuel truck will not be able to reach it.

5.1.1 Position the fuel truck such that the bulk loading arm and the fill hatch on the fuel truck are in alignment. Position the loading arm over the fill hatch on the tank truck using the attached lanyard.

5.1.2 Turn the local **PUMP POWER SWITCH** located in front of the pump meter/filter assembly to **ON**.

5.1.3 To load bulk fuel into fuel truck:

5.1.3.1 Using the lanyard attached to the loading arm valve lever, pull downward on lanyard to start the flow of product into the tank truck.

5.1.3.2 Releasing tension of the lanyard will stop the flow of product.

5.1.3.3 Operator is to remain in control of product delivery at all times by keeping tension on the lanyard. **THE LANYARD WILL NOT BE TIED OFF OR OTHERWISE OUT OF THE OPERATOR'S IMMEDIATE CONTROL.**

5.1.4 Upon completion of bulk fuel loading

5.1.4.1 Release lanyard to stop the flow of fuel

5.1.4.2 Raise the fuel arm above the tank fill port and wait approximately 15-20 seconds to allow drippings from the fuel pipe to cease. Install pipe cap. Close fuel hatch cover on fuel truck bulk tank.

5.1.4.3 Return fuel arm to its stored position away from the fuel truck. Secure lanyards to prevent snagging by equipment and/or personnel.

5.1.4.4 Turn the switch located on the pump meter to OFF.

5.1.4.5 Turn **PUMP POWER SWITCH** located in front of the pump meter/filter assembly to **OFF.**

6.0 NNMT BULK FUEL LOADING

6.1 NNMT received a smaller fuel truck in 2016 which does not require the use of the bulk fuel loader. The NNMT fuel truck can be filled with the regular fuel dispenser.

7.0 GAS AND DIESEL PUMPS FOR FUELING VEHICLES – ALL TERMINALS

7.1 Remove nozzle from the pump unit.
7.2 Lift handle to turn on the pump.
7.3 Dispense fuel into vehicle.
7.4 Upon completion, push pump lever down and replace nozzle.
7.5 **DO NOT TOP OFF!!**

8.0 MAINTENANCE PROCEDURES

8.1 Fuel Island and Pumps

8.1.1 NIT & PMT Filter Changing

8.1.1.1 Filter replacement for the fuel pumps will occur, at least, once per year.

8.1.1.2 The filters are located behind the covers of the dispensing pump housing.

8.1.2 NNMT Filter Changing

8.1.2.1 When the gauge on the filter housing (filter changing indicator) points in the RED, replace the filter

8.1.2.2 There are three filters on each dispenser (pump), two (2) external and one (1) internal

8.1.3 VIP Filter Changinig

8.1.3.1 Filter replacement for the fuel pumps is done by the fuel vendor when necessary.

8.1.3.2 The filters are located behind the covers of the dispensing pump housing.

8.1.4 **Filter Changing Procedure – All Terminals**

8.1.4.1 Remove the expended filters with containment positioned to contain any leakage from the filter during the removal process

8.1.4.2 Using separate containment, take the new filters to another dispenser and fill with product to prevent vapor lock and/or air binding.

8.1.4.3 Install the new filters on the dispenser and check for any leaks.

8.1.4.4 Dispose of the used filters in accordance with the Universal Waste Management Procedure (SOP-006)

8.2 **Veeder-Root Monitoring System – All Terminals**

8.2.1 To verify the Veeder-Root monitoring is working properly, the following self-test will be completed periodicaly:

8.2.1.1 To initiate self-test, press the red button on the monitor labeled "Alarm/Test".

8.2.1.2 The results will print on the tape roll when completed.

8.2.1.3 Inform the Supervisor if the results do not state "System Normal".

8.2.2 If there is any type of UST or equipment failure, the Veeder-Root system will print out or display the failure. Additionally, the front panel will show a **RED** light for **ALARM**, the **YELLOW** light is a **WARNING** of impending trouble and the **GREEN** light indicates the system is in **NORMAL** operation and an alarm will sound locally at the panel.

8.2.2.1 A RED warning light and alarm will sound on the indicating panel located in the **vehicle maintenance foremans** office indicating a potentially damaging situation.

8.2.2.2 To silence the alarm press the red **ALARM/TEST** button. The alarm will be silenced, but the panel alarm indication will remain until the problem is corrected.

8.2.2.3 **If the Veeder-Root system is not working propery and will not give a proper test result for any reason, other than an actual leak, a 10 day manual reconciliation of inventory shall be conducted to ensure the tanks are not leaking. This manual reconciliation process will be documented and serve as the monthly leak test.**

8.2.2.4 Weekly, system will perform a tank tightness test.

8.2.2.4.1. Leakage is determined to be present if in excess of two-tenths (0.2) gallons per hour and considered failure requiring investigation.

8.2.2.4.2. One "passed" test print out each month will be kept as a record by the Vehicle Maintenance Foreman showing the status of tank integrity.

8.2.2.4.3. The "passed" test records will be kept for 3 years to satisfy The Virginia Department of Environmental Quality's requirements.

8.2.2.5 Sensors associated with the Veeder-Root system are:

8.2.2.5.1. Gasoline and Diesel UST
8.2.2.5.2. Gasoline and Diesel dispensers
8.2.2.5.3. Gasoline and Diesel UST submersible pumps
8.2.2.5.4. Gasoline and Diesel UST Annular (interstitial) space
8.2.2.5.5. Gasoline and Diesel total and maximum volume
8.2.2.5.6. Gasoline and Diesel high limit overfill limit, delivery limit, and low limit.
8.2.2.5.7. Gasoline and Diesel UST water warning in tank or annular (interstitial) space.

8.2.2.6 Readings and/or tape print out associated the Veeder-Root system are:

8.2.2.6.1. Gasoline and Diesel tank volume
8.2.2.6.2. Gasoline and Diesel tank ullage (amount tank lacks from being full) and 90% ullage.
8.2.2.6.3. Gasoline and Diesel tank height (product level in inches)
8.2.2.6.4. Gasoline and Diesel tank water volume (inches and gallons)
8.2.2.6.5. Gasoline and Diesel tank product temperature.

9.0 Virginia Department of Environmental Quality UST Requirements – All Terminals

9.1 General Virginia DEQ UST Requirements

9.1.1 Written Emergency Notification Procedures must be available on-site

9.1.1.1 During "Manned" Operation Hours, in case of any emergency notify the VPA Police at 440-7070.

9.1.1.2 During "Unmanned" Operation Hours, the fuel system will be shut down and locked out. In case of any other emergency notify the VPA Police at 440-7070

9.2 **Leak detection, line tightness testing for UST's – All Terminals**

9.2.1 Leak detection, tank tightness and piping tightness tests are to be conducted in accordance with the Requirements for Petroleum UST systems 9VAC25-580.

9.2.1.1 Automatic Line Leak Detectors (ALLD) and Line Tightness Test (LTT), must be conducted on an annual basis by a certified contractor.

9.2.1.1.1. VIP – ALLD and LTT are required every 3 years

9.3 Facilities with UST's must have operators designated and trained on UST operational compliance activities. **There must be a Class A, B, and C operator for the facility**.

9.3.1 **Class A Operator Ensures the following**

9.3.1.1 The facility has a Class A, B, and C Operators

9.3.1.2 Class B operators are trained to operate and maintain the UST's and maintain appropriate compliance records.

9.3.1.3 Class B and C operators properly respond to emergencies

9.3.1.4 Funding is available to meet regulatory requirements and financial responsibility requirements are met.

9.3.2 **Class B Operators**

9.3.2.1 Schedules applicable required testing and routine maintenance of the UST system

9.3.2.2 Periodically checks the system components to verity proper operation

9.3.2.3 Works with DEQ staff regarding UST facility compliance inspections.

9.3.3 **Class A and B Operators Requirements**

9.3.3.1 Must receive initial training as a Class A or Class B Operator; contact the Workforce Development Coordinator for information on this training.

9.3.3.2 Maintain a list of designated Class A, B, and C Operators

9.3.3.3 At least one Class A or Class B Operator must be readily available and able to be onsite at the facility within a reasonable time

9.3.3.4 Must be available for immediate phone consultation when the UST facility is in operation

9.3.3.5 Must maintain emergency response and notification procedures for Class C Operators

9.3.3.6 May train Class C Operators

9.3.4 Class A and B Operators Training Frequency and Documentation

9.3.4.1 Upon hire, a new Class A or B Operator must receive training within 60 days of assuming Class A or B Operator duties.

9.3.4.2 Retraining is not required unless notified by Virginia DEQ as a result of an enforcement action for resolution of noncompliance. The retraining requirement would be included as a corrective action measure in an enforceable order

9.3.5 Class C Operators

9.3.5.1 Respond to alarms or other indications of emergencies caused by spills or released from UST's and equipment failure

9.3.5.2 Facility first responders

9.3.5.3 Must be present (on-site) when manned and readily available during unmanned hours.

9.3.6 Class C Operators Training Requirements

9.3.6.1 Can receive training from a Class A or B Operator

9.3.6.2 Must be retrained every 12 months

9.3.6.3 Must receive training before beginning any Class C Operator duties

9.3.6.4 There must be one Class C Operator on-site at all times during "manned" operational hours.

9.3.6.5 **A written record of the Class Operators that includes the Class Operators Names, Date Trained, Trainers Name, and Trainers Operator Class Designation must be retained as documentation of meeting the training requirements must be kept and readily available for DEQ Inspection ON THE FACILITY.**

9.4 Class C Operator Training

9.4.1 Class C Operators must be trained on this SOP

9.4.2 If there is a spill, release, or an alarm triggered by the UST, personnel will follow the below instructions for dealing with emergencies:

9.4.2.1 For spills:

5.3.2.1.a) Secure the source either locally at the fuel pump or with the emergency shut off switch listed in Section 4.0 of this SOP.

5.3.2.1.b) protects all storm drains and contains the spill.

5.3.2.1.c) Follow the instruction in SOP 14 Spill Procedure Response
5.3.2.1.d) Notify your immediate Supervisor (Class B Operator)

5.3.2.2 If the Veederoot alarm panel indicates a release:

5.3.2.2.a) Immediately secure the fuel island and cease all fueling by pressing the emergency shut off switch listed in Section 4 of this SOP.

5.3.2.2.b.) Notify your immediate Supervisor (Class B Operator)

9.4.3 The Emergency Notification Telephone Numbers is the VPA Police at 440-7070.

9.4.4 The Class A and B Operators Telephone Numbers for each terminal are posted at each fuel island.

10.0 CONSEQUENCES OF DEVIATION FROM PROCEDURE

10.1 Deviations from this procedure could result in the improper discharge of fuel, disposal of universal wastes or in the improper record of spills or disposal of universal waste.

10.2 The improper record of spills or disposal or improper disposal of universal wastes could result in fines or notices of violation from the Virginia Department of the Environment and/or could result in harm to individuals or the environment.

11.0 ATTACHMENTS (Controlled Documents)

Not Applicable

12.0 RECORDS FOR MONITORING AND MEASURING

12.1 Monthly UST tank tightness test results (Veeder-Root Tickets)
12.2 Annual UST piping test results
12.3 3 year UST Tank Tightness Test Results

12.4 3 year Tank and Line Tightness Test Results (VIP Only)
12.5 Weekly fuel usage report
12.6 Monthly fuel usage summary (as reported to Financial Services)

13.0 DEFINITIONS

Not Applicable

14.0 REVISION HISTORY

14.1 Effective Date: 11/10/2009

14.2 Latest Revision Date: 2/21/17 – updated NNMT fuel truck. 1/10/17 – added procedure for manualy conducting leak tests if veeder-root system is down. 11/10/16 – added VIP and RMT. 2/23/15 – added VIG's buld fueling to procedure. 10/22/14 – updated fuel truck filling procedures. 11/13/13 – updated employee titles. 1/10/2013 – removed Fuel-O-Matic procedure for NNMT because that system in non-operational at that terminal. 7/17/12 – combined all SOP's for all terminals to one. 7/9/2012 – added new DEQ UST Regulations

14.3 Approval: Scott Whitehurst. Director, Environmental Policy & Compliance

14.4 Last Reviewed: 12/12/18

14.5 Reviewer: Billy Goodson –Environmental Compliance Specialsit