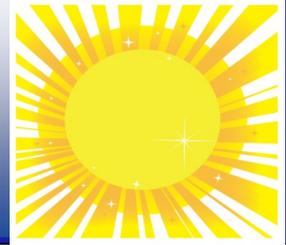




UST TALK

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A Newsletter for Underground Storage Tank Owners / Operators

Published by Waste Management & Prevention Division

Unstaffed Gas Stations



One national trend that we are starting to see in VT is unstaffed gasoline stations. So long as you have a credit card you can buy gasoline or diesel at any time of the day or night!

Some gas stations are open 24-hours, while others are simply continuing credit-card fuel sales after hours. Before you decide to make the switch to unstaffed, you need to consider a few things to ensure safe operations.

1. Dispensers that can handle credit card sales are an obvious need. Upgrading old dispensers to the latest models capable of credit card sales can be expensive! An approved auto-shutoff nozzle with a latch that holds the handle in the open position should also be provided. The installation of new dispensers may require the issuance of a construction permit and all dispensers must have a sump.
2. Unstaffed operations REQUIRE automatic fire-suppression systems (per DPS Fire Safety Rules 42.7.4). These systems are designed to automatically deploy fire suppressant when fire is detected. These systems are installed overhead in the canopy at the pumps, and could be a costly upgrade.
3. All leak detection, fuel inventory, and monthly inspection activities have to occur just as if the station was staffed. A system and schedule for these activities must be worked out and adhered to.
4. Warning signs must be conspicuously posted in the dispensing area and shall incorporate the following or equivalent wording:
 - ◆ WARNING: It is unlawful and dangerous to dispense gasoline into unapproved containers.

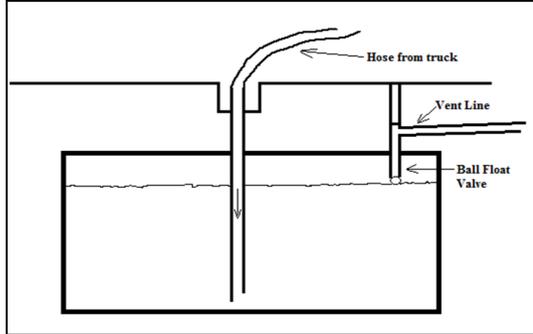
- ◆ No Smoking
 - ◆ Stop motor
 - ◆ No filling of portable containers in or on a motor vehicle
 - ◆ Place container on ground before filling
 - ◆ Discharge your static electricity before fueling by touching a metal surface away from the nozzle
 - ◆ Do not reenter your vehicle while gasoline is pumping
 - ◆ If a fire starts, do not remove nozzle – back away immediately.
 - ◆ Do not allow individuals under licensed age to use the pump
5. Operating instructions shall be conspicuously posted in the dispensing area. The instructions shall include location of emergency controls and a requirement that the user stay outside of his/her vehicle and in view of the fueling nozzle during dispensing.
 6. Emergency instructions must be conspicuously posted in the dispenser area. The instructions shall incorporate the following or equivalent wording:

Emergency Instruction in case of fire or spill

- ◆ Use Emergency stop button
 - ◆ Report accident by calling (specify local fire number). (Report location)
7. A telephone or other approved device to notify the fire department shall be provided at the facility.

Know Your Overfill Prevention Equipment!

“I was waiting for the ball float valve to slow down the delivery into the 12,000 gallon tank when I smelled gasoline. I turned around and saw gas ‘boiling’ out of the fill pipe from the 6000 gallon tank”, said the confused and unnerved delivery truck driver. He explained how a 40 gallon spill occurred while he was making a gasoline delivery to a convenience store in Vermont. The driver thought he was being careful and following proper procedures, but he apparently did not understand how ball float valves work, and that led to a serious spill.



SO HOW DOES A BALL FLOAT VALVE WORK? In theory, it’s very simple. In real life, it can get very complicated. When a tank is filled with gasoline (or diesel fuel, or kerosene, or whatever) as the fuel enters the tank, the air inside the tank gets pushed out of the tank through the vent opening. A ball float valve is a device that hangs inside the tank from the vent opening. It is a metal tube with a metal ball suspended in a cage below the bottom of the tube. As the product fills the tank the ball floats and seals off the vent line, preventing the air from escaping the tank. This creates a cushion of compressed air that creates back pressure, slowing down the delivery. The delivery driver is supposed to notice that the fuel is flowing slowly, and stop the delivery. (See Diagram 1.)

Diagram 1: When the ball float seals against the tube, air cannot escape the tank. This creates back pressure, which slows down the delivery and alerts the driver that the tank is nearly full.

SOUNDS SIMPLE, RIGHT? The problem with this setup is that it only works if the fuel and air have no other place to go. If the fuel or air can escape the tank by another route, you’ll never get the back pressure that slows down the delivery and alerts the driver that the tank is getting close to full. In this particular case, the two gasoline tanks were connected by a siphon line (i.e. they were manifolded together). The driver delivered gasoline into both tanks, and the 6000 gallon tank filled fairly quickly. The driver disconnected the hose from that fill pipe, but he did not replace the cap on the fill pipe. (He said that his company’s standard procedure was to leave caps off fill pipes until all deliveries were completed.) When the 12,000 gallon tank got close to full, the ball presumably seated as it is supposed to, but the gasoline continued flowing down the hose, because it was able to move through the siphon line into the 6000 gallon tank, and the gasoline gushed out the open fill pipe.

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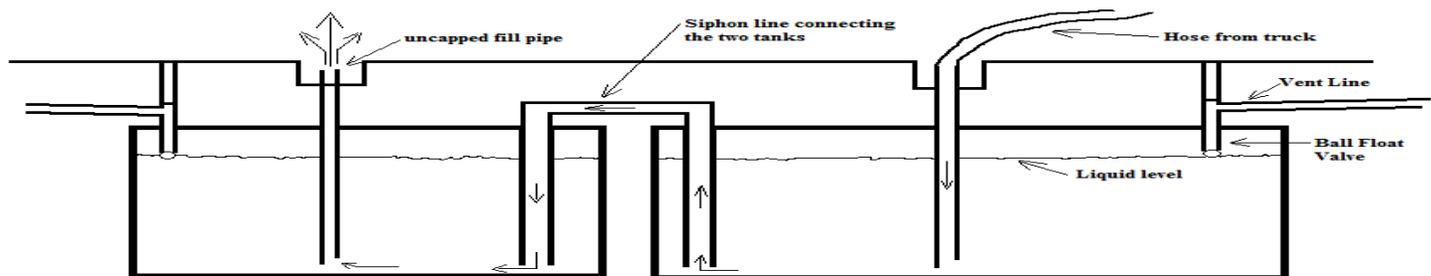


Diagram 2: When the ball float seated in the larger tank, gasoline flowed through the siphon line into the smaller tank. Since the fill pipe was not capped, the gasoline shot up the drop tube and emerged like a geyser!

WHAT LESSONS CAN BE DRAWN FROM THIS UNFORTUNATE EVENT? Most important, no overfill prevention device will work unless it is used properly. The delivery driver thought the flow of gasoline would slow down, but he did not understand that the siphon line and the open fill pipe gave the gasoline another path to follow. Another critical lesson is that people are the most important overfill prevention device in the system! All people involved in UST system operation need to understand how their system components work, and they need to think about what they are doing.

POSTSCRIPT: After the spill was cleaned up, the ball float valves were pulled to ensure that they were properly sized and functional. The UST Rules require that the ball engage when the tank is no more than 90% full. The tanks in question were 8 feet in diameter, and the math determined that the ball float valves had to be at least 16 inches long. Although the ball floats were found to be functioning, they were only 6 inches long, which means that they did not engage until the tank was 97.6% full. Needless to say, the tank owner was required to replace them with properly sized ball floats immediately!

Those Annoying Lights and Alarms

Many facilities have electronic monitoring systems, which are set up to detect liquid in different parts of the system. The systems use sensors located in sumps and the interstitial space of double-wall tanks; these sensors send a signal back to the control panel when liquid is detected in these locations, which then issues the flashing light and sound of an alarm. The diligent owner/operator promptly investigates the alarm, fixes the problem, and operations continue. Is this the end of the episode?



Technically, liquid alarms from an electronic monitoring system constitute an unusual operating condition defined in § 8-103 (a)(2)(B)(i), and must be reported to the UST Program.

Reporting the alarms not only keeps you in compliance with the Rules, but enables UST Program staff to work with you to determine how serious the alarm condition is, what are possible reasons for the alarm, and – most importantly – possible solutions to prevent the liquid from returning!

Unfortunately, most facilities in VT are exposed to our famous weather which can lead to liquid alarms because of snow melt or rain. Alarms caused by water in piping sumps can be reported after the water has been removed; program staff will discuss the situation and determine if planned repairs/mitigation will be successful, and work with the facility owner/operator on a schedule for the repairs.

Liquid alarms from an electronic monitoring system constitute an unusual operating condition defined in § 8-103 (a)(2)(B)(i), and must be reported to the UST Program.

Alarms caused by gasoline, diesel, or heating oil in the sump or interstitial space must be reported IMMEDIATELY! These situations pose a grave and immediate threat to human health and the environment, and steps must be taken to diagnose the problem, implement containment measures, and plan repairs.

One common alarm that should not be reported is Low Fuel. This alarm is intended to alert the owner/operator that more fuel is needed. It is usually not an indicator of a problem with the UST system; however, if coupled with a failed leak-detection test it *could* be. A good reason to treat all alarms seriously!!!!

Over-fill alarms are another common alarm that should not be reported, but should be looked into. This alarm is indicative of a delivery that has filled the tank over the 90% or 95% level that the overfill device is set at. This alarm usually means the delivery driver did not quickly stop the delivery when they should have, and a possible spill/release condition has occurred. This alarm should prompt a discussion with the delivery driver or distributor, but not a report to the UST program.

Reporting liquid alarms can be done by calling 802-828-1138 during normal business hours, and 800-641-5005 outside of normal business hours.

Self-Certification of compliance for 2014 will shortly be available on-line for UST owners/operators.

Owners/operators have until December 31, 2014 to complete the self-certification, and we would rather you not wait until the last month. For the last two years the AB operator for the facility has been or should have been doing the required monthly inspections and the annual self-certification is really a conclusion of the year's inspections except the information is certified and submitted to the State.

If your facility was subject to Stage II Vapor Recovery please note Stage II questions have been removed. Since January 15, 2013 Stage II is no longer required. However, we have new questions on Vapor Recovery Stage 1.

Each permittee will receive a letter from the UST Program advising when the Self-Certification is accessible and reminding you of your access code. The user ID and password you established in the past is still good and we would prefer that you use it. However, if your email address has changed your user ID and password will need to be updated. You can update your user ID and password by calling the UST Program (June at 802-522-0231) or setting up a new account with a new user ID and password through the on-line certification process. If you have forgotten your user ID and/or password the system is set up to send you an email with that information or you can call June.

Website for the UST self-certification is <https://anrnode.anr.state.vt.us/ust/>

“ATTENTION”

UST Invoices for annual permit, assessment fees, or loan payments



A reminder:

Please **return the invoice** that was sent to you together with your check when making these payments. We want to make sure we credit the correct facility.

Please update your spill emergency numbers

To report spills during normal business hours
M-F 7:45 am -4:30pm please call **802-828-1138**

After hours (available 24hrs/day)

call 1-800-641-5005

Inspections reveal many facilities are still listing the old Waterbury office number to report spills and releases.

PETROLEUM CLEAN UP FUND Fiscal year 2015

TANK ASSESSMENT INCREASES FOR SINGLE WALL TANKS

Commercial

- ⇒Single wall tank and piping.....\$1,000
- ⇒Single wall tank and double wall piping
(combination system).....\$ 500
- ⇒Single wall tank, lined, with double wall piping.....\$ 250

Retail with petroleum sales > 40,000 gallons

- ⇒Single wall tank and single wall piping.....\$1,000
- ⇒Single wall tank and double wall piping
(combination system).....\$ 500
- ⇒Single wall tank, lined, with double wall piping....\$ 250

AB OPERATORS 2012 CERTIFICATION WILL EXPIRE IN 2014.

Check your certificate for the date and renew.

You should send your new certification to one of the following choices:

- ◇ **Email it** to: June.Reilly@state.vt.us,
- ◇ **Mail it** to the: Department of Environmental Conservation, Waste Management & Prevention Division, UST Program, One National Life Drive, Davis 1, Montpelier, VT 05620-3704, or
- ◇ **Fax it** to: 802-828-1011

If you have any questions regarding AB Operator Certification, please contact

June Reilly @ (802) 522-0231