

OKLAHOMA CORPORATION COMMISSION
PETROLEUM STORAGE TANK DIVISION

THE ABC'S OF UST'S

AN OVERVIEW OF UNDERGROUND STORAGE TANK REQUIREMENTS



PO BOX 52000
OKC, OK 73152-2000
www.occeweb.com

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Disclaimer

This document is provided as a convenience to tank owners. **It highlights some of the requirements for the proper operation of underground storage tanks in Oklahoma but does not mention every requirement and should not be used as a replacement for the underground storage tank rules and regulations.** For a complete copy of the UST rules and regulations please visit www.occeweb.com and click the link for the Petroleum Storage Tank Homepage. The regulations for underground storage tanks can be found at Title 165 Chapter 25.

Registration (165:25-1-41)

All underground storage tanks 110 gallons or greater that store regulated substances must be registered with the OCC unless they are listed in the exclusions section of the UST requirements (165:25-1-24). New tanks are registered with the OCC by completing a UST Registration Form 7530-1. This form must be completed and signed by the owner or legal representative and forwarded to our office. Only forms with original signatures will be accepted. Once this form is processed an invoice for the tank fees (\$25/tank) will be sent to the owner's mailing address. Please advise the Registration Office if your mailing address changes. Tank fees must be paid annually in order to receive an OCC tank permit. This permit must be posted at your facility. Annual Tank Registration invoices are generated August 1st of every year and payment is due by September 30th. Permits are generated once payment is received.

UST's excluded from OCC PST regulation

165:25-1-24. Exclusions

The following classes of underground storage tanks or systems are specifically excluded from all provisions of this Chapter:

- (1) Agricultural and residential tanks with a capacity of 1,100 gallons or less used for storing motor fuels for non-commercial purposes.
- (2) Tanks used for storing heating oil for consumptive use on the premises where stored.
- (3) Underground storage tank systems storing hazardous wastes regulated under Subtitle C of the Resources Conservation and Recovery Act (RCRA) or substances regulated as hazardous wastes under the Oklahoma Hazardous Waste Disposal Act. This exclusion does not apply to underground storage tank systems storing a regulated substance mixed with a de minimus quantity of hazardous substance as defined under RCRA, since such systems remain subject to all provisions of this Chapter.
- (4) Pipeline facilities (including gathering lines) regulated under:
 - (A) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App., § 1671 et seq.);
 - (B) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App., § 2001 et seq.); or
 - (C) Intrastate pipeline facilities regulated under State law comparable to the provisions of law referred to in (A) or (B) of this paragraph.
- (5) Flow-through process tanks.
- (6) Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations.
- (7) Tanks with a capacity of less than 110 gallons.
- (8) Tanks storing diesel fuel at plants regulated by the Atomic Energy Commission.
- (9) Tanks with a de minimis concentration of regulated substances, such as swimming pools and coffins.

(10) Tanks that serve as emergency backup tanks, provided that they hold regulated substances for only a short period of time and are expeditiously emptied after use.

Owner transfer (165:25-1-51)

When an ownership transfer occurs, the new owner must submit the Change of Ownership form to the OCC within 30 days of the transfer date. This form must be signed by the new owner or owner's legal representative. All tank system records must be transferred to the new owner at no cost.

Recordkeeping requirements (165:25-1-53 through 165:25-1-58)

The following records must be available to the Fuel Inspector at the facility at all times:

- Release detection for the previous 12 months for each tank system. Some types of release detection must be kept longer. See the release detection section for specific requirements.
- Installation records must be kept for the life of the tank system.
- Repair records must be kept for the life of the tank system.
- Cathodic protection re-certifications must be kept for at least 9 years. *
- The cathodic protection installation design must be kept for the life of the tank system. *
- The cathodic protection suitability study must be kept for the life of the tank system. *
- The rectifier readings for impressed current cathodic protection systems must be kept for at least the preceding 12 months. *
- Internal lining certificates must be kept for the life of the tank system. *
- A record of all spills and overfills must be kept for 3 years from the date of occurrence.
- A current map of the piping system must be kept on site and updated within 30 days of any changes.
- A current OCC tank permit must be posted at each facility.

The release detection and cathodic protection requirements are discussed later in this document. Failure to have the required records available when requested by the Commission may result in enforcement action.

*Not all records are applicable to every tank system.

Notifications of Installations and Removals (165:25-1-42 & 165:25-2-131)

The OCC must be notified at least 24 hours in advance of any tank system installations and at least 14 days in advance of any tank system removals. This

includes removal or installation of piping systems. The OCC must be given 48 hours notice of schedule changes.

An OCC registration form must be submitted within 30 days of a new tank system installation. The tank owner or owner's legal representative and the UST Installer must sign the registration form. Only forms with original signatures will be accepted. Copies of the tank tightness, line tightness, and line leak detector testing must be submitted with the registration form.

After a tank or line removal the owner or owner's representative must submit an OCC Closure Report form with required attachments to the OCC within 45 days of the removal.

Any person that performs installations or removals must be licensed with the OCC. You can obtain lists of licensed individuals by visiting our website or calling 405-521-4683.

Release detection requirements

At a minimum, release detection records for the previous 12 months must be available at the facility at all times. In addition, some methods require that a tank tightness test performed within the last 5 years be maintained at your facility. At least one method for tanks and one method for lines must be utilized at your facility. **Failure to perform and supply the required records for one of the following methods can result in enforcement action and tank and/or line tightness testing will be required.**

Methods used for tanks

- Tank system testing with monthly inventory control (165:25-3-6.22)-This method expires 10 years after a new tank is installed. The tanks must be tightness tested every five years in addition to performing monthly inventory reconciliation (MIR). MIR requires that an owner/operator "stick" or measure the tank each operating day to determine the product level in the tank. In order to convert the measurement from inches to gallons you will need an accurate tank chart. This measurement is compared with the amount of fuel sold and any deliveries for that operating day. A mathematical formula listed on the top of the OCC MIR form walks you through the reconciliation steps. Use of the OCC form or an electronic *equivalent* is required and the last 12 months of MIR, along with the most recent tank tightness test must be kept on site. An EPA publication, "Doing Inventory Control Right" explains how to properly perform inventory reconciliation. A copy of the publication can be found on our website.
- Vapor observation wells (165:25-3-6.23)-Vapor monitoring measures product "fumes" in the soil around the UST to check for a leak. This method requires installation of carefully placed observation wells inside the tank pit; therefore, a site assessment must be completed by an OCC licensed Remediation

Consultant before any facility can use wells as release detection. Vapor observation wells must be monitored every 30 days by an OCC licensed Observation Well Technician and the readings must be recorded on the OCC vapor monitoring form. This type of release detection cannot be used at a location where a confirmed release has occurred.

- Groundwater observation wells (165:25-3-6.24)-Groundwater monitoring measures for the presence of fuel floating on the groundwater. This method requires that observation wells be strategically placed inside the tank pit; therefore, a site assessment must be completed by an OCC licensed Remediation Consultant before any site can use wells for release detection. Groundwater observation wells must be monitored every 30 days by an OCC licensed Observation Well Technician and the readings must be recorded on the OCC groundwater well form. This type of release detection cannot be used at a location where a history of free product has occurred.
- Interstitial Monitoring (165:25-3-6.25)-This method requires that the interstice of a double walled tank be monitored for fuel, water level, or vapors. Monitoring must be performed in accordance with the requirements of the manufacturer of the tank or the manufacturer of the monitoring device itself. Electronic monitoring devices must be National Work Group on Leak Detection Evaluations (NWGLDE) third party approved for interstitial monitoring.

Automatic tank gauging (ATG) (165:25-3-6.26)-This method involves the use of a probe that is installed in the tank and wired to a monitor. In order to use an ATG as release detection it must be capable of performing either a 0.1 or a 0.2 gallon per hour (gph) test monthly. If the more stringent 0.1 gph test is not completed, then monthly inventory reconciliation must be performed and kept on the OCC form in addition to the 0.2 gph test. If you are using a CSLD, SCALD, or another form of continuous leak detection, verify that the ATG is set to 99% operating mode in system setup. Since this method is certified as a 0.2 gph test, monthly inventory reconciliation must be kept for this type of testing also.

*Copies of the ATG printouts documenting one passing monthly test for each tank must be kept at your facility.

- Manual tank gauging (165:25-3-6.27)-Manual tank gauging can be used only for tanks of 2,000 gallons or less capacity. This method requires keeping the tank undisturbed for at least 36 hours each week, during which the contents of the tank are measured twice at the beginning and twice at the end of the test period, then compared to a chart found in the back of Chapter 25 UST Rules. This chart can also be found in an EPA publication, "Manual Tank Gauging for Smaller UST's" which is on our website. For tanks with a capacity of 1,000 gallons or less, manual tank gauging is all that is required to meet release detection requirements for the tank. For tanks with a capacity

between 1,001 and 2,000 gallons manual tank gauging must be combined with tank tightness testing performed every 5 years. This publication explains how to properly perform this release detection method.

- **Statistical inventory reconciliation (SIR) (165:25-3-6.28)**-SIR requires that an owner/operator perform monthly inventory reconciliation and submit these measurements to an SIR provider so that a statistical analysis can be performed. The owner/operator must “stick” or measure the tank each operating day to determine the product level in the tank. This measurement is then converted from inches to gallons using a tank chart. The measurement is compared with the amount of fuel sold and any deliveries for that operating day. A mathematical formula listed at the top of the OCC MIR form walks you through the reconciliation steps. The math check at the bottom of the page must be completed at the end of each month. These forms are then supplied to an SIR provider that has the computer software to run an analysis on the numbers supplied. Each SIR program has different NWGLDE third party requirements that must be met. For example, some SIR programs require that an analysis be performed on 30 days of inventory numbers while others require only 15 days. Make sure and discuss your situation (tank size, operating days) with the SIR provider to determine whether their program will qualify for use with your tanks. An EPA publication “ Introduction to Statistical Inventory Reconciliation” gives a more detailed explanation of this method of release detection. This publication can be found on the OCC website.
*The OCC does not accept SIR as a form of release detection for product piping.

Methods used for product lines: (165:25-3-6.29)

Pressurized piping:

- **Mechanical line leak detectors and annual line tightness testing**
A passing certified line tightness test performed on the line within the last 12 months must be available at the location. The test must be performed in accordance with and recorded on the OCC Line Tightness Test form. The OCC requires that a tester certified by the manufacturer of the testing equipment test the line for a minimum of one hour at a test pressure of at least 50 psi. The NWGLDE third party certification of the testing device may have more stringent requirements and if so those must be met and recorded. A line leak detector test performed within the last 12 months must be available at the location and performed in accordance with and recorded on the OCC form. The line leak detector must be able to detect a leak of at least 3 gph.
- **Mechanical line leak detectors with sump sensors**
This method is only acceptable with double walled piping systems installed with sensors at all sumps. A copy of your sensor and alarm history report

must be printed each month and 12 months of reports kept on site. The sensors must also be function tested annually in accordance with manufacturer's instructions and test results kept on site as well. A line leak detector test performed within the last 12 months must be available at the location and performed in accordance with and recorded on the OCC form. The line leak detector must be able to detect a leak of at least 3 gph.

- Electronic line leak detector -An electronic line leak detector can be used as the sole method of line leak detection if the following items are met:
 - The system must perform a 3 gph test each time the pump is activated
 - The ELLD must perform a 0.2 gph test each month for each product line.
 - The ELLD must perform a 0.1 gph test at least once during the year for each product line.
- An operability or function test must be performed on the ELLD annually. This test must be recorded on the OCC form. The previous 12 months of ELLD tests must be printed and available on site.

Suction piping:

- Line tightness test every 3 years- A line tightness test must be performed on US suction piping every 3 years. The test must be performed in accordance with and recorded on the OCC Line Tightness Test form. The OCC requires that a tester certified by the manufacturer of the testing equipment test the line for a minimum of one hour at 1.5 times the operating pressure of the line. The NWGLDE third party certification of the testing device may have more stringent requirements and if so those must be met and recorded.
- Safe suction piping-If all of the following are met, release detection is not required on the line:
 - The below grade piping operates at less than atmospheric pressure
 - The below grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released.
 - Only one check valve is included in each suction line and it is located directly below and as close as is practical to the suction pump

Please note! After July 2008 all new piping installed must be double-wall, whether it is a pressure system or a suction system.

Corrosion Protection Requirements (165:25-2-51 through 165:25-2-53)

Underground storage tanks and/or piping constructed of steel require protection from corrosion. There are two types of cathodic protection (CP) systems, impressed current and sacrificial (galvanic). A CP tester must recertify the CP system every 3 years. The test must be recorded on the OCC CP Recertification form and a copy of the last three tests must be available on site. A copy of the CP Design and the suitability study must be kept for the life of the tank and/or line. An impressed current system must be monitored at least every two months

by recording the amp, volt, and hour readings off the CP rectifier. The last 12 months of rectifier readings must be recorded on the OCC form and available on site when an impressed current system is used.

Internal Lining (165:25-2-53.1)

Internal lining was an EPA approved method for upgrading UST's. This method is no longer approved. Tanks that were previously lined must keep a copy of the internal lining certificate. An internal lining inspection must be completed within 10 years of the lining installation and every 5 years thereafter. The inspection must be performed according to OCC guidelines and recorded on the OCC Internal Lining Inspection form. This inspection is conducted to determine if the lining is still performing according to original design specifications. A small repair of the lining is allowed if performed according to industry standard; however if the lining has failed the tank cannot be relined and must be removed. If any minor repairs are made to the lining the tank must be upgraded with a cathodic protection system within 6 months of the repair. Before a cathodic protection system can be installed a suitability study must be performed to determine whether or not the tanks have enough "life" left to upgrade. UST's upgraded by both cathodic protection and interior lining do not require the internal inspection if the CP system has been properly maintained.

Temporary Closure (165:25-2-133 & 165:25-2-134)

When a UST system is taken out of service the owner or operator must do the following:

- Continue the operation and maintenance of the corrosion protection system. This includes recording impressed current rectifier readings, maintaining a current CP recertification, repairing a malfunctioning system. When using an impressed current CP system the electricity to the rectifier must be maintained in order for the system to continue to operate.
- The tanks must be emptied to within 1" of the bottom. If the tanks are emptied to this level release detection is not required.
- The lines, pumps, man ways, and other equipment must be secured.
- The tank system vents must remain open and functional.

Return to Service

If a facility is out of use for 12 months or more a tank tightness, line tightness, and line leak detector test must be performed before a facility can resume operation. Copies of these tests must be submitted with the return to service form.

Release Reporting (165:25-3-7)

All UST owners, operators, their employees or agents, or transporters must report any of the following events to the OCC within 24 hours of the event.

(1) The discovery of released regulated substances at the underground storage tank system facility or in the surrounding area (such as the presence of free product or vapors in soils, basements, crawlspaces, sewer and utility lines, and nearby surface water).

(2) Any unusual operating conditions observed by owners and/or operators, such as the unexplained erratic behavior of product dispensing equipment, the sudden loss of product from the underground storage tank system, or an unexplained presence of water in the tank, unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced.

(A) In the case of inventory control, two consecutive months where the Total Gallons Over/Short is greater than the "Leak Check" (1 percent of product sales plus 130 gallons) must be reported to the Commission within 24 hours of the owner or operator knowing the inventory control results.

(B) Any UST system failure from a third party-certified Statistical Inventory Reconciliation (SIR) analysis must be reported to the Commission within 24 hours of the owner or operator knowing of the failure. An immediate investigation into the cause of the failed report must be conducted and results reported to the Commission within 7 days.

(C) An "Inconclusive" report from an SIR monthly analysis must be reported within 24 hours of the owner or operator knowing of the report. An Inconclusive means that the UST system has failed to meet leak detection requirements for that month.

(3) An unusual level of vapors on the site that is of unknown origin. A vapor observation well reading in excess of 4,000 units/ppm from a pit containing gasoline tanks, and in excess of 1,500 units/ppm for a pit containing diesel or both gasoline and diesel, must be reported to the Commission within 24 hours of the owner or operator or any of his or her employees at the facility knowing the monitoring results. Within 10 days, the owner or operator must submit to the Commission all vapor observation well data, including background data, for the last 12 months. Upon examination of the submitted data, the Commission will advise the owner or operator what action, if any, he or she needs to take.

(4) An increase in vapor levels of 500 units/ppm above background or historical levels detected by monthly monitoring, even though below the 24-hour reporting level, must be reported if the increase does not correct itself in the second month of monitoring. It must be reported to the Commission within 24 hours of the owner or operator or any of his or her employees at the facility knowing the monitoring results.

(5) Monitoring results from a release detection method required by this Chapter that indicate a release may have occurred unless the monitoring device is found to be defective, and is immediately repaired, recalibrated, or replaced, and additional monitoring does not confirm the initial result.

While aboveground releases of petroleum of less than 25 gallons need not be reported, they must be recorded by the owner or operator and contained and cleaned up immediately. All of the following releases must be reported by telephone within 24 hours of discovery, with a written confirmation to follow within 20 days in accordance with the requirements established in this Chapter:

- (1) All known belowground releases in any quantity; for example, a release resulting from a line broken during an excavation.
- (2) Any aboveground release of petroleum greater than 25 gallons.
- (3) Any aboveground release of petroleum that is less than 25 gallons, but cannot be contained and cleaned up within 24 hours.

Release Investigation and Confirmation (165:25-3-8)

The next step after you have reported a release is to begin an investigation. Owners and/or operators must immediately investigate all suspected releases within 7 days of notice from the Commission. In most cases the OCC will require tank and line testing. If the system fails the testing the owner or operator must repair, replace or upgrade the system and begin an investigation to determine if fuel was released into the environment. The OCC Technical Department may decide to open a suspicion of a release or a confirmed release based on the failed testing. A suspicion of a release (SOR) is opened when the Technical Department has reason to believe a release of fuel has entered the environment but no laboratory testing has been performed to determine to what extent the contamination exists. During an SOR investigation a monitor well is drilled on your property at the location where fuel contamination is most likely to be found. Groundwater and soil samples are taken from that well to determine if fuel contamination exists and to determine if the contamination requires remediation. A notice of release (NOR) is issued when the Technical Department is certain that a release has occurred.

Corrective Action (165:29)

Chapter 29 Remediation Rules governs the remediation of contaminated sites. Tank owners or operators must perform corrective action in accordance with this Chapter when directed by the Commission.

Indemnity Fund (165:27)

The OCC has a fund available that pays for fuel contamination clean ups on contaminated sites. This fund does not pay for tank removal, installation, compliance, or prevention activities. An eligible party must make application to this fund and be found eligible for reimbursement. In most cases a deductible must be paid to access these funds. For releases that occurred before June 4, 2004 the deductible is \$5,000; for releases that occurred after June 4, 2004 the deductible required is 1% of the clean up cost up to \$5,000. When the deductible required is 1% of the clean up cost, \$1,000 must be paid in advance for every

\$100,000 requested up to the \$5,000 deductible limit. Any unused portion of that deductible will be refunded to the applicant. There are limits to the amount of funds available for each clean up. The limits for reimbursement are \$1.5 million for tanks in the petroleum marketing service and \$500,000 for non-retail facilities. The Indemnity Fund Program will provide for rehabilitation of as many polluted sites as possible that resulted from releases of petroleum from storage tank systems. The Indemnity Fund Program will also encourage voluntary corrective action in a manner and to a level of completion that will protect the public health, safety, and welfare and minimize damage to the environment. In order to accomplish these purposes, the Indemnity Fund Program will reimburse allowable costs incurred for corrective action to eligible parties.

Substantial compliance review

As part of the Indemnity Fund application process an applicant must submit documentation showing past compliance history for the facility. During this review the following items are normally requested:

- Leak detection data sheet
- Leak detection performed on the tanks, lines, and line leak detectors at the facility for the 12 months prior to the release report date (rrd)
- Cathodic protection recertification performed within the 3 years prior to the rrd*
- Rectifier readings for an impressed current cathodic protection system recorded for the 12 months prior to the rrd*
- Cathodic protection installation design*
- Cathodic protection suitability study*

*Not applicable if a tank system does not require a cathodic protection system

If the items requested cannot be supplied then a substantial compliance fine will be required in addition to the indemnity fund deductible. The fines assessed are based on a citations table found in the back of Chapter 25 UST Rules. **The majority of these fines are assessed for every month of non-compliance for the tank systems at the subject facility.** For example if documentation of a line tightness test performed within the 12 months prior to the release report date cannot be supplied a fine of \$3,000 (\$250/month X 12 months) is assessed.

Contact **Regarding** **Phone Number**

Main number

405-521-4683