

OKLAHOMA CORPORATION COMMISSION  
PETROLEUM STORAGE TANK DIVISION

# **THE ABC'S OF AST'S**

## **AN OVERVIEW OF ABOVEGROUND STORAGE TANK REQUIREMENTS**

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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 aboveground storage tanks in Oklahoma but does not mention every requirement and should not be used as a replacement for the aboveground storage tank rules and regulations.** For a complete copy of the AST rules and regulations please visit [www.occeweb.com](http://www.occeweb.com) and click the link for the Petroleum Storage Tank Homepage. The regulations for aboveground storage tanks can be found at Title 165 Chapter 26.

### **Registration (165:26-1-41)**

All aboveground storage tanks with a storage capacity of 110 gallons or greater at retail, public airports, marinas, and emergency generators and aboveground storage tanks with a storage capacity of 2100 gallons or greater used at Fleet and Commercial facilities that store regulated substances must be registered with the OCC unless they are listed in the exclusions section of the AST requirements (165:26-1-22). Tanks are registered with the OCC by completing a 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 May 1<sup>st</sup> of every year and payment is due by June 30<sup>th</sup>. Permits are generated once payment is received.

### **AST's excluded from OCC PST regulation**

#### **165:26-1-22. Exclusions**

(a) The following classes of aboveground storage tanks or systems are specifically excluded from all provisions of this Chapter:

(1) All tanks used in the exploration or production of oil and gas, including well service equipment and natural gas compression facilities. These activities are regulated by the Commission's Oil and Gas Conservation Division and by the Pipeline Safety Department.

(2) All mobile or temporary tanks used at construction sites.

(3) All farm and ranch tanks.

(4) All tanks used by public utilities in the generation of electric power for public use.

(5) All tanks used by manufacturers in the production of goods.

(b) These exclusions do not extend to permanently located fuel storage tanks used to fuel company vehicles, even though the vehicles may be driven to production or construction sites.

### **Owner transfer (165:26-1-47)**

When an ownership transfer occurs, the new owner must submit a 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 (165:26-1-55 through 165:26-1-60)**

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 nine (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. \*
- A record of all spills and overfills must be kept for three (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.
- Owners must comply with the Spill Prevention Control and Countermeasure (SPCC) rule found at Title 40 of the Code of Federal Regulations (CFR), Part 112 (Oil Pollution Prevention). If a SPCC is required, it must be kept on site.

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.

### **Operating Training (Optional)**

Each aboveground storage tank system or group of aboveground storage tank systems at a facility **may** have a *Class A*, *Class B*, and *Class C* operator designated. Separate individuals may be designated for each class of operator or an individual may be designated to more than one of the operator classes.

### **Notifications of Installations and Removals (165:26-1-42 & 165:26-1-57)**

A PSTD Scheduling Form must be submitted to the OCC 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 installations 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 AST Installer must sign the registration form. Only forms with original signatures will be accepted. Copies

of the line tightness and line leak detector testing must be submitted with the registration form.

After a tank or line removal the owner's 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.** 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 will result in enforcement action and tank and/or line tightness testing will be required.**

#### **Methods used for tanks (165:26-3-20.1)**

**Owners and operators of new and existing aboveground storage tank systems must use a release detection method, or a combination of release detection methods, that is:**

- (1) Capable of detecting a release of regulated substances from any portion of the aboveground storage tank system that routinely contains product.
- (2) Designed, installed, calibrated, operated and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running conditions.
- (3) Capable of meeting the performance requirements of this Chapter, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer.
- (4) Sampled, tested, or checked for a release at least once every 30 days.
- (5) Owners and/or operators must keep all written manufacturer and installer performance specifications and the manner in which those specifications are determined.
- (6) All electronic and mechanical equipment used for release detection, monitoring or warning must be tested for proper operation and calibration annually or per the manufacturer's recommendation, whichever is more frequent.

#### **165:26-3-20.1. Monitoring requirements for aboveground tanks and aboveground piping**

One of the following methods must be used:

- (1) Visual Monitoring
  - (A) Visual inspection of the aboveground storage tank systems to identify cracks or other defects in the secondary containment area and product transfer area.

(B) Visual inspection of the exterior surface of the tanks, piping, valves, pumps and other equipment for cracks, corrosion, releases and maintenance deficiencies; identify poor maintenance, operating practices or malfunctioning equipment.

(C) Visual inspection of elevated tanks or tanks on concrete slabs.

(D) Visual inspection of the area between the tank's outer shell or the tank's floor and containment area or a vapor monitoring of the soil directly under the tank bottom or perimeter and the water table, unless the tank containment has a sound concrete floor.

(E) Visual inspections are not adequate where, due to the nature of the aboveground storage tank and/or its secondary containment, it cannot be determined whether a leak has occurred. A good example would be a vertical tank that is not raised off the ground, making it impossible to visually inspect its bottom and is not sitting on a sound concrete slab within sound secondary containment.

(2) Monthly Inventory Reconciliation (MIR)

(A) MIR requires that an owner/operator “stick” 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 at the top of the OCC MIR form walks you through the reconciliation steps. MIR must be performed in accordance with the OCC form 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.

(3) Interstitial Monitoring. Interstitial monitoring can be used for double walled aboveground storage tank systems. The sampling or testing method must detect a release monthly in accordance with the manufacturer instructions through the inner wall in any portion of the tank that routinely contains product.

(4) Automatic tank gauging systems

(A) Automatic tank gauging systems (ATGs) that test for the loss of product must conduct an automatic product level monitor test at a minimum frequency of once every 30 days and be capable of detecting at least a 0.2 gallon per hour leak rate with a probability of detection of 0.95 and a probability of false alarm of 0.05.

(B) Automatic tank gauging systems (ATG's) must be third party certified for the size and quantity of the tank. Only third party certifications that have been reviewed and approved by the National Work Group on Leak Detection Evaluations (NWGLDE), as evidenced by their posting on the NWGLDE Web Site, will be accepted ([nwgldde.org](http://nwgldde.org)).

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

Each method of release detection for underground pressurized piping must be performed in accordance with the following requirements:

- (A) Automatic mechanical line leak detectors and annual line tightness testing
  - (i) Methods which alert the owner and/or operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or by triggering an audible or visual alarm may be used only if they detect leaks of three (3) gallons per hour at ten (10) psi line pressure within one (1) hour.
  - (ii) An annual test of the operation of the leak detector must be conducted by simulating a leak in accordance with the manufacturer's requirements.
  - (iii) Automatic line leak detectors installed on or after September 22, 1991 must be capable of detecting the leak rate with a probability of detection of 0.95 and a probability of false alarm of 0.05.
  - (iv) A hydrostatic line tightness test must be performed annually by a certified tester.
- (B) Sump sensors with automatic line leak detectors
  - (i) Double walled piping with sump sensors, floats or similar mechanical devices at each dispenser, transition and tank sump may be used in lieu of annual line tightness testing except at marinas where a line tightness test is required by April 1 of each year.
  - (ii) The sump sensors, floats or other mechanical devices used must be tested annually according to manufacturer's requirements. Sensors status and alarm history reports must be printed and retained each month.
  - (iii) An annual function test of the operation of the leak detector must be conducted by simulating a leak in accordance with the manufacturer's requirements.
- (C) Electronic line leak detection

A certified electronic line leak detector may be used in lieu of a mechanical line leak detector and annual tightness test only if:

  - (i) The system is capable of detecting and tests for a leak of three (3) gallons per hour before or after each operation of the submersible turbine pump; and
  - (ii) The system is capable of detecting and tests for a leak of 0.2 gallons per hour at least once every month; and
  - (iii) The system is capable of detecting and tests for a leak of 0.1 gallons per hour annually; and
  - (iv) The system must be function tested annually by simulating a leak in accordance with manufacturer's specifications. If the system has printer capabilities, attach the electronic line leak detector printout documenting the system shutdown or alarmed when tested.

**(4) Methods of release detection for suction piping.**

Each method of release detection for underground suction piping must be performed in accordance with the following requirements.

- (A) Sump Sensors
  - (i) Double walled piping with sump sensors, floats or similar mechanical devices at each dispenser, transition and tank sump may be used in lieu of

annual line tightness testing except at marinas where a line tightness test is required by April 1 of each year.

(ii) The sump sensors, floats or other mechanical devices used must be tested annually according to manufacturer's requirements. Sensors status and alarm history reports must be printed and retained each month.

**(B) Annual Line Tightness Testing**

A hydrostatic line tightness test must be performed annually by a certified tester.

**Corrosion Protection Requirements (165:26-2-40 through 165:26-2-42)**

Aboveground storage tanks and/or piping constructed of steel that are in direct contact with the soil 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 three (3) years. The test must be recorded on the OCC CP Recertification form and a copy of the last three (3) 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 (2) months by recording the volt, amp, 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.

**Temporary Closure (165:26-2-212 & 165:26-2-213)**

When an AST 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 and 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, if applicable.
- 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 (165:26-2-212.1)**

If a facility is out of use for 12 months or more a tightness test must be completed on the underground portion of the out of service systems if more than 12 months has elapsed since the last tightness test. Copies of these tests must be submitted with the return to service form.

**Release Reporting (165:26-3-77)**

All AST owners, operators, their employees, 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 aboveground storage tank system facility or in the surrounding area (such as the presence of free product or vapors in soils, basements, crawlspaces, sewer, 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 aboveground 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.
- (3) In the case of inventory control, two (2) consecutive months where the Total Gallons Over/Short is greater than the "Leak Check" one (1) percent of product sales plus 130 gallons) must be reported to PSTD within 24 hours of the owner or operator knowing the inventory control results.
- (4) 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.

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.

### **Release Investigation and Confirmation (165:26-3-171)**

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 seven (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 three (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.

<b>Contact</b>	<b>Regarding</b>	<b>Phone Number</b>
	Main number	405-521-4683