

**MARICOPA COUNTY  
AIR POLLUTION CONTROL REGULATIONS  
REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 353  
STORAGE AND LOADING OF GASOLINE AT GASOLINE DISPENSING  
FACILITIES**

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**RULE 353  
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FACILITIES**

**SECTION 100 – GENERAL**

- 101 PURPOSE:** To limit emissions of volatile organic compounds (VOCs) during storage and loading of gasoline at gasoline dispensing facilities.
- 102 APPLICABILITY:** This rule applies to an owner or operator who operates a gasoline dispensing facility (GDF) at which gasoline is stored in and loaded into stationary gasoline dispensing tanks with a capacity of more than 250 gallons (946 l), including those located at airports.
- 103 EXEMPTIONS:**
- 103.1** This rule does not apply to the storage and loading of the following fuels:
- a. Diesel.
  - b. Liquefied petroleum gas (LPG).
- 103.2 Aviation Gasoline Loaded at Airports:** The loading of aviation gasoline into stationary storage tanks at airports, and the subsequent loading of aviation gasoline within the airport, is exempt from Section 304 and Section 305.1 of this rule. The storage of aviation gas at airports is subject to this rule.
- 103.3 Bulk Gasoline Plant or Bulk Gasoline Terminal:** This rule does not apply to a bulk gasoline plant or a bulk gasoline terminal as defined in Rule 351 of these rules.
- 103.4 Stationary Gasoline Dispensing Tanks for Farm Operations:** Any stationary gasoline dispensing tank used exclusively for the fueling of implements of normal farm operations must comply with Section 302 (General Housekeeping Requirements), but is exempt from all other requirements of this rule.
- 103.5 Stage 1 Vapor Recovery System (VR System):** The VR System provisions of Section 305 of this rule shall not apply to the following stationary gasoline dispensing tanks:
- a. Non-Resale Gasoline Dispensing Facilities: Any stationary GDF receiving less than 120,000 gallons (454,250 l) of gasoline in any twelve (12) consecutive calendar months, dispensing no resold gasoline, and having each stationary gasoline dispensing tank equipped with a permanent submerged fill pipe, is exempt from Section 305 of this rule. A facility shall become subject to the provisions of Section 305 of this rule by exceeding the 120,000 gallon (454,250 l)

threshold and shall remain subject to such provisions even if annual amount of gasoline received later falls below this threshold.

- b. Stationary Gasoline Dispensing Tanks of 1000 Gallons (3785 l) or Less: Any stationary gasoline dispensing tank having a capacity of 1000 gallons (3785 l) or less which was installed prior to October 2, 1978, provided that such tank is equipped with a permanent submerged fill pipe is exempt from Section 305 of this rule. Where, because of government regulation including, but not limited to, Fire Department codes, such a fill pipe cannot be installed, the gasoline shall be delivered into the tank using a nozzle extension that reaches within six (6) inches (15.24 cm) of the tank bottom.

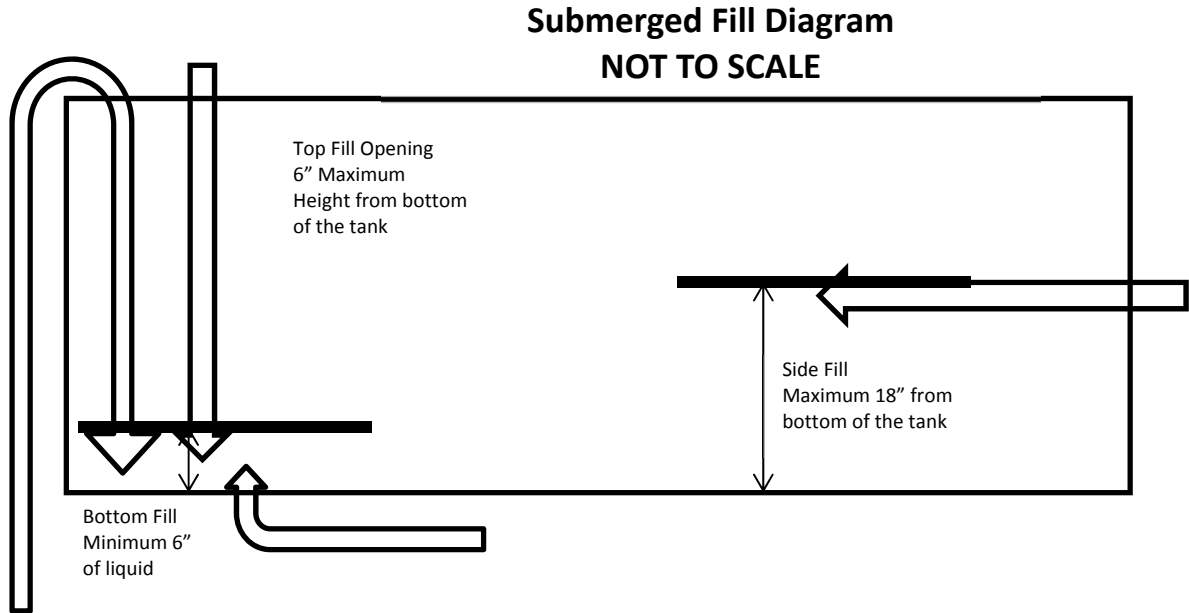
**103.6 Loading of Gasoline:** The owner or operator of a stationary GDF that is unattended or when there is only one owner or operator under control of the stationary GDF present, the owner or operator of the stationary GDF is exempt from Section 304 of this rule.

**SECTION 200 – DEFINITIONS:** For the purpose of this rule, the following definitions shall apply, in addition to those definitions found in Rule 100 (General Provisions and Definitions) of these rules. In the event of any inconsistency between any of the Maricopa County Air Pollution Control Rules, the definitions in this rule take precedence.

- 201 AVIATION GASOLINE (AVGAS):** A type of gasoline used to fuel a piston engine aircraft.
- 202 CARB-CERTIFIED:** A vapor control system, subsystem, or component that has been specifically approved by system configuration and manufacturer's name and model number in an executive order of the California Air Resources Board (CARB), pursuant to Section 41954 of the California Health and Safety Code.
- 203 COAXIAL VAPOR BALANCE SYSTEM:** A type of vapor balance system in which the gasoline vapors are removed through the same opening through which the fuel is delivered.
- 204 DUAL-POINT VAPOR BALANCE SYSTEM:** A type of vapor balance system in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection.
- 205 EXCESS GASOLINE DRAINAGE:** More than 10 milliliters (2 teaspoonsful) of liquid gasoline lost from the end of a fill hose or vapor hose in the process of connecting or disconnecting the hose; or any quantity of gasoline escaping out the end of such a hose that wets any area(s) on the ground having an aggregate area greater than 113 square inches, or the perimeter of which would encompass a circle of 12 inches (30.5 cm) diameter. This does not include drainage into a fill pipe's spill containment receptacle.
- 206 GASOLINE:** Any petroleum distillate, petroleum distillate/alcohol blend, petroleum distillate/organic compound blend, or alcohol having a Reid vapor pressure between 4.0 and 14.7 psi (200–760 mm Hg.), as determined by Section 504.2 of this rule, and which is used as a fuel for internal combustion engines.

- 207 GASOLINE CARGO TANK:** A delivery tank truck or railcar which is loading or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load. This includes any hoses the vessel carries through which deliveries must be made.
- 208 GASOLINE DISPENSING FACILITY (GDF):** Any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline fueled engines and equipment.
- 209 GASOLINE VAPORS:** Vapors, originating from liquid gasoline, that are usually found in mixture with air. Included are any droplets of liquid gasoline or of gasoline vapor condensate that are entrained by the vapor.
- 210 LEAK-FREE:** A condition in which there is no liquid gasoline escape or seepage of more than 3 drops per minute from gasoline storage, handling, and ancillary equipment, including, but not limited to, seepage and escapes from above ground fittings.
- 211 MARICOPA COUNTY (MC) VAPOR TIGHTNESS TEST:** The complete pressure, vacuum, and vapor-valve testing of a gasoline cargo tank that is performed according to Maricopa County specifications as described in Rule 352 of these rules.
- 212 POPPETTED DRY BREAK:** A type of vapor loss control equipment that opens only by connection to a mating device to ensure that no gasoline vapors escape from the stationary gasoline dispensing tank before the vapor recovery line is connected.
- 213 PURGING:** Removing, cleaning, or scouring out gasoline vapors from all or a portion of a gasoline cargo tank by active or passive means and emitting the vapors into the atmosphere.
- 214 STAGE 1 VAPOR RECOVERY SYSTEM (VR SYSTEM):** At a stationary GDF, the use of installed vapor recovery equipment designed to reduce by at least 95% the VOC vapor that would otherwise be displaced into the atmosphere from a stationary gasoline dispensing tank when gasoline is delivered into the tank by a gasoline cargo tank. This reduction may be done either by capturing the displaced vapors within the gasoline cargo tank, and or by processing the vapors on site with an emission processing device.
- 215 STATIONARY GASOLINE DISPENSING TANK:** Any stationary tank which dispenses gasoline directly into a motorized vehicle's fuel tank, dispenses gasoline into an aircraft's fuel tank, or dispenses gasoline into a watercraft's fuel tank that directly fuels its engine(s).
- 216 SUBMERGED FILL:** Any discharge pipe or nozzle which meets the applicable specification as follows:
- 216.1 Top-Fill or Bottom-Fill:** The end of the discharge pipe or nozzle is totally submerged when the liquid level is six (6) inches (15 cm) from the bottom of the tank.

**216.2 Side-Fill:** At its highest point within the stationary gasoline dispensing tank less 2,000,000 gallon capacity, the end of the discharge pipe or nozzle is totally submerged when the liquid level is eighteen (18) inches (46 cm) from the bottom of the tank.



- 217 TANK CAPACITY:** The maximum volume of liquid gasoline a particular tank is allowed to store while still complying with all applicable rules, including local, state, and Federal rules.
- 218 VAPOR LOSS CONTROL EQUIPMENT:** Any piping, hoses, equipment, or devices which are used to collect, store and/or process VOC vapors at a service station or other gasoline dispensing facility.
- 219 VAPOR TIGHT:** A condition in which a suitable detector at the site of (potential) leakage of vapor shows less than 10,000 ppmv when calibrated with methane or the detector shows less than 1/5 lower explosive limit (LEL) when calibrated with a gas specified by the manufacturer and used according to the manufacturer's instructions.

## SECTION 300 – STANDARDS

### 301 MANUFACTURERS, SUPPLIERS, AND OWNER OR OPERATOR:

- 301.1** A manufacturer, supplier, owner or operator shall not supply, offer for sale, sell, install or allow the installation of an above ground or underground storage tank, any type of VR System or any of its components unless the tank, system and components meet the following:
- a. **Replacement Components for a VR System:** After June 16, 1999, a VR System for which there is a CARB specification shall be replaced with components that comply with one of the following:
    - (1) The equipment is supplied by the manufacturer as a CARB-certified component; or

- (2) The equipment is rebuilt by a person who is authorized by CARB to rebuild that specific CARB-certified component; or
  - b. All vapor recovery lines from stationary gasoline dispensing tanks shall be equipped with CARB-certified, spring-loaded, vapor tight, poppetted dry breaks.
  - c. After November 2, 2016, each new or rebuilt installed component shall be clearly identified with a permanent identification affixed by the certified manufacturer or rebuilder.
- 301.2** Only a State of Arizona licensed Vapor Recovery Registered Service Representative (RSR) shall install an above ground or underground storage tank or vapor recovery system components.
- 301.3** An owner or operator shall not:
- a. Install a coaxial fill pipe in a new installation (after June 16, 1999); or
  - b. Reinstall a coaxial fill pipe during any changes to the stationary gasoline dispensing tank when the top of the tank is exposed and the vapor port bung is pre-configured to accept vapor recovery piping.
- 301.4** The owner or operator of a stationary gasoline dispensing tank shall verify that vapor recovery equipment (unless exempted by this rule) is properly connected and in use at all times while gasoline is actively being loaded. If the stationary GDF is unattended or there is only one owner or operator under control of the stationary GDF on-site, the owner or operator of the gasoline cargo tank is responsible for the proper connection and use of the vapor recovery equipment (unless exempted by this rule) while gasoline is being actively loaded.
- 301.5** An owner or operator shall only load, allow the loading, or provide equipment for the loading of gasoline from only a gasoline cargo tank identified with a valid Maricopa County (MC) Vapor Tightness Test decal into any stationary gasoline storage tank.
- 302 GENERAL HOUSEKEEPING REQUIREMENTS:** An owner or operator shall not store gasoline or permit the loading of gasoline in any stationary gasoline dispensing tank located above or below ground unless all of the following conditions are met:
- 302.1.** Minimize gasoline spills;
  - 302.2** Clean up spills as expeditiously as practicable;
  - 302.3** Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
  - 302.4** Minimize gasoline sent to waste collection systems that collect and transport gasoline to reclamation and recycling equipment, such as oil/water separators;
  - 302.5** Properly dispose of any VOC containing material.
- 303 GASOLINE STORAGE EQUIPMENT AND OPERATION REQUIREMENTS:**
- 303.1 Underground Storage Tank (UST):** By December 2, 2016, an UST with a capacity more than 250 gallons (946 l) must meet all of the following conditions unless exempt from the VR System requirements per Section 103.5 of this rule:

- a. The UST is equipped and maintained according to Section 301 of this rule;
- b. For an existing stationary GDF, maintain a dual-point VR System or a coaxial vapor balance system. For new installations (after June 16, 1999) or modifications to an existing stationary GDF (after June 16, 1999), install and maintain a dual-point vapor balance system with separate fill and vapor connection points;
- c. A pressure-vacuum vent is installed and maintained per manufacturer's specifications;
- d. The VR System is maintained and operated according to the manufacturer's specifications and the applicable CARB Executive Orders including the corresponding CARB approved Installation, Operation and Maintenance Manual;
- e. A permanent submerged fill pipe is installed and maintained to ensure the highest point of the discharge opening is no more than six inches (6") from the bottom of the UST;
- f. Each fill pipe is equipped with gasketed vapor tight cap;
- g. After December 2, 2016, each poppetted dry break is equipped with vapor tight seal and gasketed vapor tight cap;
- h. Each gasketed vapor tight cap is maintained in a closed position except when the fill pipe or poppetted dry break it serves is actively in use;
- i. The fill pipe assembly, including fill pipe, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the VR System; and
- j. A spill containment receptacle is installed and maintained free of standing liquid, debris and other foreign matter. The spill containment receptacle shall be equipped with an integral drain valve or other CARB-certified equipment, to return spilled gasoline to the UST. The drain valve shall be maintained closed and free of vapor emissions at all times except when the valve is actively in use.

**303.2 Above Ground Storage Tank (AST):** By December 2, 2016, an AST with a capacity more than 250 gallons (946 l) must meet all of the following conditions:

- a. A permanent submerged fill pipe is installed and maintained to ensure the highest point of the discharge opening is no more than six inches (6") from the bottom of the AST. If the AST is side filled, the fill pipe discharge opening is no more than 18 inches (18") above the tank bottom;
- b. A pressure-vacuum vent is installed and maintained per manufacturer's specifications;
- c. Each fill pipe is equipped with a gasketed vapor tight cap;
- d. All threads, gaskets, and mating surfaces of the fill pipe assembly shall prevent liquid or vapor leakage at the joints of the assembly;
- e. Each gasketed vapor tight cap is maintained in a closed position except when actively in use;



- f. Prior to November 2, 2016, if an AST is equipped with a spill containment receptacle, it shall be maintained to be free of standing liquid, debris and other foreign matter. On or after November 2, 2016, a newly installed AST shall be equipped with a spill containment receptacle that is maintained to be free of standing liquid, debris and other foreign matter;
- g. A spill containment receptacle is installed at each fill pipe; and
- h. Any overfill prevention equipment shall be approved, installed and maintained vapor tight to the atmosphere. Any device mounted within the fill pipe shall be so designed and maintained that no vapor from the vapor space above the gasoline within the tank can penetrate into the fill pipe or through any of the fill pipe assembly into the atmosphere.

**304    LOADING OF GASOLINE:** Prior to accepting a load of gasoline, an owner or operator of a stationary GDF shall verify all of the following unless exempted in Section 103 of this rule:

- 304.1** The gasoline cargo tank clearly displays a valid Maricopa County Vapor Tightness Certification decal that is permanently mounted near the front on the right (passenger) side of the vessel.
- 304.2** The owner or operator of the gasoline cargo tank connects the vapor recovery hose prior to connecting loading hose.

**305    CONTROL OF VOC VAPORS:**

**305.1** Gasoline vapors displaced from a stationary gasoline dispensing tank while being loaded shall be handled by a VR System, unless the tank is exempted by Section 103.5 of this rule.

**305.2   VR System Configuration:**

- a. Replacement: After June 16, 1999, no part of a VR System for which there is a CARB specification shall be replaced with anything but CARB-certified components.
- b. Vapor Valves:
  - (1) All vapor recovery lines from a stationary gasoline dispensing tank shall be equipped with CARB-certified, spring-loaded, vapor-tight, poppetted dry breaks.
  - (2) Vapor valves shall be inspected pursuant to Section 401 of this rule to determine if closure is complete and gaskets are intact; a record shall be made pursuant to Section 502 of this rule.
- c. AST: After June 16, 1999, an AST shall have CARB-certified fittings wherever CARB so specifies.
- d. By December 2, 2016, each AST and UST shall use CARB-certified fittings exclusively wherever CARB so specifies, and:
  - (1) Shall have its own separate, functioning dual-point vapor return line;

- (2) Is allowed to have a combination vapor recovery system that in addition to having a separate dual-point vapor recovery line, also has vapor piping/fittings linking it to one or more (other) stationary gasoline dispensing tanks.

**305.3 Equipment Maintenance and Use Required:**

- a. All vapor loss control equipment shall be:
  - (1) Installed as required;
  - (2) Operated as recommended by the manufacturer; and
  - (3) Maintained leak-free, vapor tight and in good working order.
- b. Coaxial Systems: Both spring-loaded and fixed coaxial fill pipes shall be
  - (1) Maintained according to the standards of their manufacturer(s); and
  - (2) Be operated so that there is no obstruction of vapor passage from the stationary gasoline dispensing tank to the gasoline cargo tank.

**SECTION 400 – ADMINISTRATIVE REQUIREMENTS**

**401 INSPECTIONS:** The owner or operator of a GDF shall conduct inspections. A record shall be made pursuant to Section 503 of this rule.

**401.1** The inspection shall include, but is not limited to all of the following:

- a. The spill containment receptacle shall be:
  - (1) Free of cracks, rust and defects;
  - (2) Free of foreign material;
  - (3) Empty of liquid, including gasoline;
  - (4) If necessary, installed with a drain valve that properly seals.
- b. The external fittings of the fill pipe assembly shall be:
  - (1) Intact and not loose;
  - (2) Covered with a gasketed cap that fits securely onto the fill pipe.
- c. The poppetted dry break shall be:
  - (1) Equipped with a vapor tight seal;
  - (2) Covered with a gasketed cap that fits securely onto the poppetted dry break.

**401.2** The inspections shall be conducted:

- a. At least once per calendar week; or
- b. If the gasoline dispensing facility receives gasoline loads less than once per calendar week, the inspection shall take place upon completion of the receipt of the load of gasoline.

**402 BURDEN OF PROOF:**

**402.1 Proving Exempt Status:** The burden of proof of eligibility for exemption from a provision of this rule is on the owner or operator. An owner or operator seeking such an exemption shall maintain adequate records and furnish them to the Control Officer upon request.

**402.2 Providing Proof of Equipment Compliance:** It is the responsibility of the owner or operator to provide proof, when requested by the Control Officer, that a vapor recovery system or its modifications meet the requirements of this Rule 353.

**403 CARB DECERTIFICATION:** An owner or operator shall not install or reinstall a component related to vapor recovery that has been decertified by CARB.

**404 OTHER AGENCIES' REQUIREMENTS:** Compliance with this rule does not relieve or otherwise affect the owner or operator's obligation to comply with any other applicable federal, state, or local legal requirement, including, but not limited to, rules promulgated by the Arizona Department of Agriculture, Weights and Measures Services Division; local fire department codes; and local zoning ordinances.

## **SECTION 500 – MONITORING AND RECORDS:**

**501 DETERMINING VAPOR TIGHT STATUS:** An owner or operator or Control Officer shall follow the test procedure in Section 501.1 of this rule and shall use one or more of the methods listed in Sections 501.2 or 501.3 of this rule to determine the vapor tight status on a VR System or spill containment equipment at a stationary GDF or on a gasoline cargo tank.

**501.1 Combustible Gas Detector (CGD) or Organic Vapor Analyzer (OVA)-Test Procedure:** During loading of gasoline into stationary gasoline dispensing tanks, the peripheries of all potential sources of leakage during loading at the GDF are checked with a CGD or OVA as follows:

- a. Calibration:** Within four (4) hours prior to monitoring, the CGD or OVA shall be properly calibrated for a 20 percent LEL response or to 10,000 ppm with methane.
- b. Probe Distance:** The probe inlet shall be one (1) inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be one (1) inch (2.5 cm) from the leak source when the highest detector reading is being determined for a discovered leak. When the probe is obstructed from moving within one (1) inch (2.5 cm) of an actual or potential leak source, the closest practicable probe distance shall be used.
- c. Probe Movement:** The probe shall be moved slowly, not faster than 1.6 inches per second (4 centimeters per second). If there is any meter deflection at an actual or potential leak source, the probe shall be positioned to locate the point of highest meter response.
- d. Probe Position:** The probe inlet shall be positioned in the path of the vapor flow from an actual or potential leak such that the central axis of the probe-tube inlet shall be positioned coaxially with the path of the most concentrated vapors.

- e. **Wind:** Wind shall be blocked as much as possible from the space being monitored. The annual leak detection test required by Section 401 of this rule shall be valid only when wind speed in the space being monitored is five (5) mph or less.
- f. **Data Recording:** The highest detector reading and location for each incidence of detected leakage shall be recorded, along with the date and time. If no gasoline vapor is detected, that fact shall be entered into the record.

**501.2 Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3:**

- a. Spray a soap solution over all potential leak sources. The soap solution may be a commercially available leak detection solution or may be prepared using concentrated detergent and water. A pressure sprayer or squeeze bottle may be used to dispense the solution.
- b. Observe the potential leak sites to determine if any bubbles are formed.
  - (1) If no bubbles are observed, the source is presumed to have no detectable vapor leaks.
  - (2) If any bubbles are observed, the instrument techniques of Section 501.1 of this rule shall be used to verify if a vapor leak exists.

**501.3 Optical Gas Imaging:** A certified operator of a calibrated optical gas imaging device may use an optical gas imaging instrument to identify vapor leaks. If a vapor leak is detected, the instrument techniques listed in Section 501.1 of this rule shall be used to verify if a vapor leak exists.

**502 COMPLIANCE INSPECTIONS:** Any stationary gasoline dispensing tank required by this rule to be equipped with a VR system may be subject to monitoring for vapor tightness and liquid leak tightness during any working hours. Such a tank may be opened for gauging or inspection when loading operations are not in progress, provided that such tank is part of an open system or is served by a positive-pressure relief valve with a relief setting not exceeding +1/2 lb psig.

**503 GDF RECORDKEEPING:** The owner or operator of each stationary GDF in Maricopa County shall maintain records as follows:

- 503.1** The total amount of gasoline received each month shall be recorded by the end of the following month.
- 503.2** The owner or operator of a stationary GDF shall record inspections in a permanent record or log book:
  - a. By the end of Saturday of the following week; or
  - b. If the gasoline dispensing facilities receives gasoline loads less than once per calendar week, the owner or operator shall record the inspection within three days after the receipt of the load of gasoline.
- 503.3** These records and any reports or supporting information required by this rule or by the Control Officer shall be retained for at least five (5) years.

**503.4** Records of the past twelve (12) months shall be in a readily accessible location and must be made available to the Control Officer without delay upon verbal or written request.

#### **504 COMPLIANCE DETERMINATION**

**504.1** Control efficiency of vapor loss control equipment and vapor collection/ processing systems shall be determined according to EPA Method 2A and either EPA Method 25A or by CARB-approved test methods. EPA Method 2B shall be used for vapor incineration devices.

**504.2** Vapor pressure of gasoline shall be determined using ASTM D323-15a Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method) or ASTM D4953-15, Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method). ASTM D323-15a shall be used for gasoline either containing no oxygenates or MTBE (methyl tertiary butyl ether) as the sole oxygenate. ASTM 4953-15 shall be used for oxygenated gasoline.

#### **504.3 Vapor Leaks:**

- a. If a determination of vapor tight status is to be made on a VR system or spill containment equipment at a stationary GDF or on a gasoline cargo tank at the station, at least one of the test methods listed in Section 501 of this rule shall be used.
- b. Section 501.1 of this rule probe distance and movement parameters notwithstanding, if it has been established that there are no other interfering vapor escapes, it is an exceedance if a reading by the Control Officer from an established vapor escape above 1/5 LEL (or 10,000 ppm as methane) is sustained for at least five (5) seconds, and the probe is either consistently further than one (1) inch from the source and/or the probe is consistently being moved faster than four centimeters (4 cm) per second.
- c. The Control Officer may count it as a failure to perform weekly inspections pursuant to Section 305.2 of this rule if foreign material is found in a spill containment receptacle and there is no record of an inspection's being performed in the preceding ten (10) days.

**505 TEST METHODS INCORPORATED BY REFERENCE:** The following test methods are approved for use for the purpose of determining compliance with this rule. The test methods are adopted by reference in Appendix G of the Maricopa County Air Pollution Control Regulations. Alternative test methods as approved by the Administrator or other EPA-approved test methods may be used upon prior written approval from the Control Officer. When more than one test method is permitted for the same determination, an exceedance under any method will constitute a violation. Copies of test methods referenced in this section are available at the Maricopa County Air Quality Department.

#### **505.1 EPA Test Methods:**

- a. EPA Methods 2a ("Direct Measurement of Gas Volume Through Pipes and Small Ducts"), and 2b ("Determination of Exhaust-Gas Volume Flow-Rate from Gasoline Vapor Incinerators"). (40 CFR 60, Appendix A)

- b. EPA Method 21-Determination of Volatile Organic Compound Leaks.
- c. EPA Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3
- d. EPA Method 25 (“Determination of Total Gaseous Nonmethane Organic Emissions as Carbon”) and its submethods (40 CFR 60, Appendix A).
- e. EPA Method 27 (“Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test”) in 40 CFR 60, Appendix A.
- f. Optical Gas Imaging: Alternative Work Practice for Monitoring Equipment Leaks, 40 CFR 60.18(g). An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, Appendix A-7, Method 21 to monitor for equipment volatile organic compound leaks.

**505.2 ASTM Standards:**

- a. ASTM D323-15a “Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).
- b. ASTM D4953-15 “Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)

**505.3 CARB Certification and Test Procedures for Gasoline Vapor Recovery Systems:**

- a. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1B, Static Torque of Rotatable Phase 1 Adaptors, October 8, 2003 edition, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.
- b. California Air Resources Board Vapor Recovery Test Procedure TP-201.1,- Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003.
- c. California Air Resources Board Vapor Recovery Test Procedure TP-201.1A- “Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities with Assist Processors”.
- d. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1E, Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, October 8, 2003 edition.
- e. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1C, Leak Rate of Drop Tube/Drain Valve Assembly, October 8, 2003, edition.
- f. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1D, Leak Rate of Drop Tube Overflow Protection Devices and Spill Container Drain Valves, October 8, 2003 edition.
- g. California Air Resources Board Vapor Recovery Test Procedure TP-201.3,- Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended March 17, 1999.

- h.** Bay Area Air Quality Management District Source Test Procedure ST-30-Static Pressure Integrity Test-Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994.

**505.4 Additional Test Methods:**

- a.** American Petroleum Institute Standard API STD 650 Welded Tanks for Oil Storage, Twelfth Edition, Includes Errata 1 (2013), Errata 2 (2014), and Addendum 1 (2014).
- b.** San Diego County Air Pollution Control District Test Procedure TP-96-1, March 1996, Third Revision.