



Enhanced Regulatory Outreach Program
Maricopa County Air Quality Department

Notice of Stakeholder Workshop

AQ-2015-008-Rule 352

Gasoline Cargo Tank Testing And Use

Date/Time: Monday, February 22, 2016 at 9:15 am

Location: 1001 N. Central Avenue, Floor 5 Classroom*

The Maricopa County Air Quality Department (department) will conduct a Stakeholder Workshop to discuss proposed revisions to AQ-2015-008-Rule 352.

Initially, the department proposed consolidating Rule 352 into Rule 351 and Rule 353. Further discussions determined it would be beneficial to Stakeholders and Staff to maintain Rule 352. Draft Rule 352 to be discussed during this workshop is attached to this announcement. Discussion will focus on:

- PROPOSE to move the exemptions from Section 305 into new Section 103 (Exemptions)
- PROPOSE to add the definition of “Coaxial”
- PROPOSE to delete the definition of “2-Point System” in Section 201 and replace it with the definition of a “Dual-Point Vapor Balance System”
- PROPOSE to revise the definition of “Excess Gasoline Drainage” for consistency throughout the rules

- PROPOSE to revise the definition of “Gasoline” for consistency throughout the rules
- PROPOSE to delete the definition of a “Gasoline Delivery Vessel” in Section 204 and replace it with the definition of a “Gasoline Cargo Tank”
- PROPOSE to add the definition of a “Gasoline Dispensing Facility” in Section 200 of this rule
- PROPOSE to add the word “liquid” in the definition of “Leak Free” in Section 206 of this rule
- PROPOSE to add the definition of “Submerged Filling” in Section 200 of this rule
- PROPOSE to revise Section 301 (Gasoline Cargo Tank Requirements) as follows:
 - PROPOSE Section 301.1 (Gasoline Cargo Tank Integrity)
 - PROPOSE Section 301.2 (Maricopa County Air Pollution Vapor Tightness Certification)
- PROPOSE to revise Section 302 (Gasoline Delivery Vessel Leak Test Required) as follows:
 - PROPOSE Section 302.1 (Loading of Gasoline at a Bulk Gasoline Plant) requirements
 - PROPOSE Section 302.2 (Loading of Gasoline at a Bulk Gasoline Terminal) requirements
 - PROPOSE Section 302.3 (Loading of Gasoline Into a Stationary Storage Tank at a Non-Retail Gasoline Dispensing Facility) requirements
 - PROPOSE Section 302.4 (Loading of Gasoline Into a Stationary Storage Tank at a Retail Gasoline Dispensing Facility) requirements
- PROPOSE to add the address of where test procedures and methods cited in Rule 352 can be obtained.
- PROPOSE to add the title of test methods referenced in Section 500.
- PROPOSE to revise the following throughout draft Rule 352:
 - PROPOSE to replace “gasoline delivery vessel” references throughout rule with “gasoline cargo tank”
 - PROPOSE to change the wording “driver/operator” to “owner or operator” throughout the rule
 - PROPOSE to change “subsection” to “section” throughout the rule

Additional information is available on the Enhanced Regulatory Outreach Program (EROP) website (www.maricopa.gov/regulations). The Stakeholder Workshop is an informal meeting for all interested parties, is free of charge and no advance registration or RSVP is required. If you would like to remotely attend this workshop, please contact Michelle Mada at (602) 372-1465.

*If you will be attending this workshop in-person, when you arrive at 1001 North Central Avenue, please check-in in Suite #125 then proceed to the Floor 5 classroom. Thank you for participating in the rulemaking process.

**AQ-2015-008-Rule 352**

Stakeholder Workshop: February 22, 2016

Contact: Cheri Dale – 602-506-3476

CheriDale@mail.maricopa.gov**Maricopa County Air Quality Dept.**

Planning & Analysis Division

1001 N. Central Ave. Ste. 125

Phoenix, AZ 85004

The Maricopa County Air Quality Department (department) is proposing revisions to Rule 352 (Gasoline Cargo Tank Testing And Use). Initially, the department proposed consolidating Rule 352 into Rule 351 and Rule 353. Further discussions determined it would be beneficial to Stakeholders and Staff to maintain Rule 352.

The following is a summary of revisions to draft Rule 352 dated February 22, 2016, since the previous workshop for draft Rule 352 conducted on September 14, 2015:

- PROPOSE to move the exemptions from Section 305 into new Section 103 (Exemptions)
- PROPOSE to add the definition of “Coaxial”
- PROPOSE to delete the definition of “2-Point System” in Section 201 and replace it with the definition of a “Dual-Point Vapor Balance System”
- PROPOSE to revise the definition of “Excess Gasoline Drainage” for consistency throughout the rules
- PROPOSE to revise the definition of “Gasoline” for consistency throughout the rules
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- PROPOSE to add the word “liquid” in the definition of “Leak Free” in Section 206 of this rule
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- PROPOSE to add the address of where test procedures and methods cited in Rule 352 can be obtained.
- PROPOSE to add the title of test methods referenced in Section 500.
- PROPOSE to revise the following throughout draft Rule 352:
 - PROPOSE to replace “gasoline delivery vessel” references throughout rule with “gasoline cargo tank”
 - PROPOSE to change the wording “driver/operator” to “owner or operator” throughout the rule
 - PROPOSE to change “subsection” to “section” throughout the rule



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

RULE 352
GASOLINE DELIVERY VESSEL CARGO TANK TESTING AND USE

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Revised 07/13/88
Revised 11/16/92
Revised 05/05/99
Revised 09/25/13

Revised 07/13/1988; Revised 11/16/1992; Revised 05/05/1999; Revised 09/25/2013; and Revised MM/DD/YYYY

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

**RULE 352
GASOLINE ~~DELIVERY VESSEL~~ CARGO TANK TESTING AND USE**

SECTION 100 – GENERAL

- 101 PURPOSE:** To limit emissions of volatile organic compounds (VOC) from gasoline ~~delivery vessels~~ cargo tanks.
- 102 APPLICABILITY:** This rule applies to any gasoline ~~delivery vessel~~ cargo tank which is used to receive or deliver gasoline within Maricopa County, and to all persons who own, operate, maintain, repair, or test such a ~~vessel~~ cargo tank.

103 PARTIAL EXEMPTIONS:

- 103.1** A gasoline cargo tank is exempt from pressure test requirements of Section 301 of this rule, if the gasoline cargo tank meets the requirements in Section 103.1(a), (b), or (c) of this rule.
- a.** A gasoline cargo tank is exempt from the Maricopa County pressure test requirements of Section 301 of this rule, if the gasoline cargo tank meets all of the following conditions:
- (1)** The gasoline cargo tank was placed in operation before July 13, 1988; **and**
 - (2)** The gasoline cargo tank transported gasoline within Maricopa County before January 1, 1998; **and**
 - (3)** The gasoline cargo tank never loads at a gasoline terminal; **and**
 - (4)** The gasoline cargo tank serves only farm tanks or those non-resale gasoline dispensing operations having a yearly throughput not exceeding 120,000 gallons of gasoline, verified by monthly records pursuant to Section 500 of this rule; **and**
 - (5)** The owner or officer of the gasoline cargo tank’s operating company submits a signed affidavit to the Control officer documenting compliance with Sections 103.1(a) through 103.1(d) of this rule; **and**
 - (6)** The owner or operator has a complete copy of the signed affidavit available in the vehicle for inspection by a bulk gasoline plant operator or the Control Officer. Maricopa County will not issue a decal to any vehicle claiming this exemption.
- b.** A gasoline cargo tank is exempt from the Maricopa County pressure test requirements of Section 301 of this rule, if at least one of the following conditions is met:
- (1)** The gasoline load originated solely in another state.
 - (2)** The gasoline load originated within Maricopa County but is not delivered within Maricopa County.
- c.** A gasoline cargo tank is exempt from the Maricopa County pressure test requirements of Section 301 of this rule, if the owner or operator of a gasoline cargo tank can provide



documentation from another agency that attests to the vapor integrity of the cargo tank. Maricopa County will issue a decal to any vehicle claiming this exemption upon submittal of pressure testing documentation.

103.2 An owner or operator of a gasoline cargo tank exempted by Section 103.1(a) of this rule is allowed to incidentally purge gasoline vapors from such vessel as a passive result of loading, or briefly when lids or ports must be open for inspection.

103.3 Opening Hatches on Non-Exempt Gasoline Cargo Tanks:

- a.** Owners or operators, their contractors, and authorized government agents may open vapor containment equipment on a nonexempt gasoline cargo tank while performing operations required by governmental agencies, but shall be restricted as follows, unless approved in advance by the Control Officer:
 - (1)** Wait at least 3 minutes before opening its hatch or other vapor seal on a gasoline cargo tank when:
 - (a)** Loading of gasoline is complete.
 - (b)** A gasoline cargo tank has stopped.
 - (2)** Reclose hatch or other sealing device within 3 minutes of completing the required procedures.
 - (3)** Limit windspeed at opened hatch or other opened sealing device to not more than 3 mph (1.34 m/sec), using a barrier if necessary.
- b.** **Loading:** Hatches of a gasoline cargo tank may be open for monitoring to prevent overflow during the period that the gasoline cargo tank is loading gasoline from a tank or other source, if so required by a local fire code or other ordinance.
- c.** **Connecting Coaxial Fittings:** Requirements for first connecting a vapor hose before a gasoline delivery hose do not apply to coaxial vapor recovery connection fittings.

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 **2-POINT SYSTEM:** A fill pipe and a vapor recovery pipe pair which are in close proximity to one another and are connected directly to and emerge directly above the tank they serve.

201 **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.

202 **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.

202 **203** **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 a gasoline delivery hose; or any quantity of gasoline ~~lost during those processes~~ 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 tube's spill containment receptacle.

203 **204** **GASOLINE:** Any petroleum distillate, petroleum distillate/alcohol blend, petroleum distillate/organic compound blend, or alcohol having or blend of petroleum distillate with other combustible liquid(s), such as alcohol, that is used as a fuel for internal combustion engines and has a Reid vapor pressure between 4.0



and 14.7 psi (200–760 mm Hg.) as determined by Section 505 of this rule, and which is used as a fuel for internal combustion engines. For the purposes of this rule, liquefied petroleum gas (LPG) is excluded.

~~204~~ **GASOLINE DELIVERY VESSEL:** Any vehicular mounted container such as a tanker truck, tank trailer, cargo tank or any other wheel mounted container used to transport gasoline. This includes any hoses the vessel carries through which deliveries must be made.

205 **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.

206 **GASOLINE DISPENSING FACILITY:** 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.

~~205~~ **207** **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.

~~206~~ **208** **LEAK FREE:** Having no single liquid gasoline leak of more than 3 drops per minute from a gasoline delivery vessel, including fill hose(s) and vapor hose(s), but not including the disconnecting or connecting of either a gasoline hose from a gasoline fill line or a vapor hose from a vapor line.

~~207~~ **209** **MARICOPA COUNTY (MC) PRESSURE VAPOR TIGHTNESS TEST:** The complete pressure, vacuum, and vapor-valve testing of a gasoline delivery vessel that is performed according to Maricopa County specifications as described in ~~subsection 302.2~~ Section 501 of this rule.

~~208~~ **210** **PURGING:** Removing, cleaning, or scouring out gasoline vapors from all or a portion of a ~~delivery vessel~~ gasoline cargo tank by active or passive means and emitting the vapors into the atmosphere.

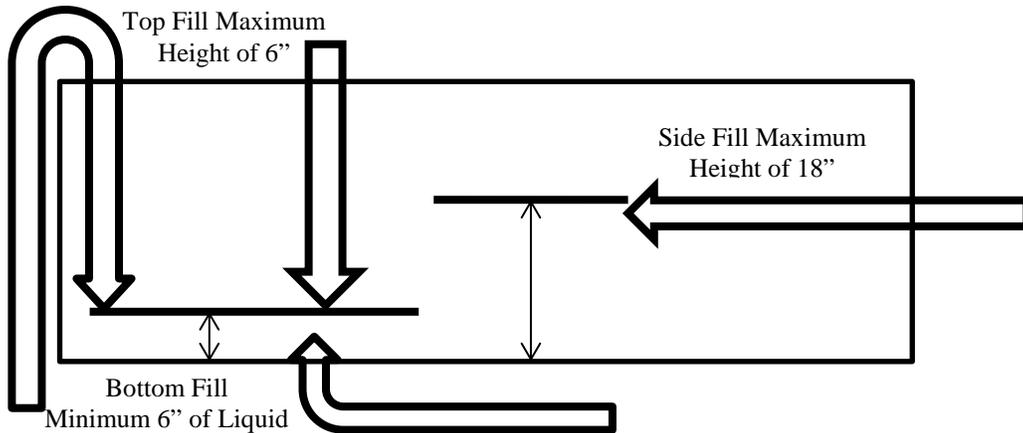
~~209~~ **211** **STAGE 1 VAPOR RECOVERY SYSTEM (VR SYSTEM):** Any piping, hoses, equipment, and/or devices which are used to collect, store, or process gasoline vapors displaced by the delivery of gasoline and also by the onloading of gasoline into a vapor laden ~~delivery vessel~~ gasoline cargo tank.

212 **SUBMERGED FILL:** Any discharge pipe or nozzle which meets the applicable specification as follows:

212.1 **Top-Fill Or Bottom-Fill Tanks:** The end of the discharge pipe or nozzle is totally submerged when the liquid level is six inches (15 cm) from the bottom of the tank.

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

212.3 **Horizontal Fill:** At its highest point within a floating roof tank 2,000,000 gallons or greater (7,580,000 l) capacity, the end of the discharge pipe or nozzle may be up to 39.4 inches (1 meter) above the tank bottom if the discharge pipe or nozzle is kept completely submerged, including when the roof rests on its legs, except when the tank is being emptied completely.



- 240 **213** **SWITCH LOADING:** Loading diesel fuel into a ~~delivery vessel~~ gasoline cargo tank whose previous load was gasoline; or loading any liquid not subject to this rule into a ~~delivery vessel~~ gasoline cargo tank whose previous load was gasoline.
- 244 **214** **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 LEL (lower explosive limit) subsequent to calibration with a gas specified by the manufacturer and is used according to the manufacturer's instructions.

SECTION 300 – STANDARDS

301 ~~PREVENT LEAKS AND SPILLS~~ **GASOLINE CARGO TANK REQUIREMENTS:**

301.1 ~~Vessel~~ **Gasoline Cargo Tank Integrity:** In Maricopa County, ~~no person~~ an owner or operator of a gasoline cargo tank shall not store or transport gasoline in or otherwise use or operate any gasoline ~~delivery vessel~~ cargo tank unless ~~such vessel~~:

- a.** The gasoline cargo tank is designed and maintained to be vapor tight and leak free.
- b.** The gasoline cargo tank passes the Maricopa County Vapor Tightness Test unless exempted by Section 103.1 of this rule.
- c.** A valid, permanently mounted Maricopa County Vapor Tightness Certification decal is clearly displayed near the front right (passenger) side of cargo tank, if not exempted by Section 103.1 of this rule.

301.2 ~~Onloading Measures:~~

301.2 **Maricopa County Air Pollution Vapor Tightness Certification:** A gasoline cargo tank shall pass the Maricopa County Air Pollution Vapor Tightness Test before loading gasoline within Maricopa County unless exempted by Section 103 of this rule.

- a.** **Testing:** The vapor tightness test shall be performed according to Section 501 of this rule.
 - (1)** Scheduling and notification of gasoline cargo tank vapor tightness testing shall be done in accordance with Section 401.1 of this rule.
 - (2)** A tester shall record the results of the vapor tightness test according to Section 502.2 of this rule.
 - (3)** If a gasoline cargo tank does not pass all three (3) subtests of the Maricopa County Air Pollution Vapor Tightness Test as listed in Section 502.2 of this rule, the gasoline cargo

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tank shall be repaired, retested, and pass all 3 subtests in the same testing period within 15 days of initial testing.

b. Maricopa County Vapor Tightness Certification Decal: An owner or operator of a delivery vessel shall:

- (1) Comply with Section 401.2 of this rule for registration requirements to obtain a valid Maricopa County Vapor Tightness Certification decal after passing the Maricopa County Air Pollution vapor tightness test; and
- (2) Each gasoline cargo tank shall clearly display a valid Maricopa County Vapor Tightness Certification decal that is permanently mounted near the front on the right (passenger) side of the vessel—unless exempted by Section 103 of this rule.

301.3 Purging:

a. An owner or operator shall not purge gasoline vapors into the atmosphere from a gasoline cargo tank unless the following conditions are met:

- (1) VOC emissions shall be reduced at least 90% by weight, including capture and processing, by a control device having a Maricopa County Air Pollution Permit; and
- (2) Such purging shall be done only after all delivery valves are opened and any liquid gasoline outflow is captured in a container having an attached lid which is kept closed when not receiving or pouring gasoline.

b. An owner or operator of a gasoline cargo tank shall not purge gasoline vapors from such tank as a passive result of switch loading, except for gasoline cargo tanks exempted by Section 103 of this rule.

302 LOADING OF GASOLINE

302.1 Loading of Gasoline at a Bulk Gasoline Plant: An owner or operator of a gasoline cargo tank shall not load gasoline at a bulk gasoline plant unless all of the following conditions are met:

a. The gasoline cargo tank integrity is maintained and verified by:

- (1) The display of a Maricopa County Vapor Tightness Certification decal on the gasoline cargo tank; or
- (2) An affidavit per Section 103.1(a)(6) of this rule is readily available.

a. At any bulk loading rack, connect a vapor return hose before connecting any loading hose.

b. A vapor return hose is connected prior to the connection of any gasoline loading hose.

b. c. At a bulk plant, connect Connect an additional vapor hose before connecting any additional gasoline loading hose, unless an assisted vapor return system is serving the vapor hose that is already connected.

d. Disconnect fill hoses and vapor recovery hoses in such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.

e. Use a bucket or other effective capture device to catch any liquid dripping during the connection or disconnection of both the gasoline loading hose from the truck and the vapor hose from the loading dock's vapor receiving pipe.

(1) Either dispose of the captured liquid in a tank designated for that purpose, or use a receptacle or a material designed to absorb the liquid.

(2) Any gasoline that escapes or spills must be collected and contained in a manner that will prevent evaporation into the atmosphere.



302.2 Loading of Gasoline at a Bulk Terminal: An owner or operator of a gasoline cargo tank shall not load gasoline at a gasoline bulk terminal unless all of the following conditions are met:

- a. The gasoline cargo tank integrity shall be maintained and verified by the display of a Maricopa County Vapor Tightness Certification decal on the gasoline cargo tank.
- b. A vapor return hose shall be connected prior to the connection of any gasoline loading hose.
- c. Connect an additional vapor hose before connecting any additional gasoline loading hose, unless an assisted vapor return system is serving the vapor hose that is already connected.
- d. Disconnect fill hoses and vapor recovery hoses in such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.
- e. Use a bucket or other effective capture device to catch any liquid dripping during the connection or disconnection of both the gasoline loading hose from the truck and the vapor hose from the loading dock's vapor receiving pipe.
 - (1) Either dispose of the captured liquid in a tank designated for that purpose, or use a receptacle or a material designed to absorb the liquid.
 - (2) Any gasoline that escapes or spills must be collected and contained.

302.3 Loading of Gasoline Into a Stationary Gasoline Storage Tank at a Non-Retail Gasoline Dispensing Facility: An owner or operator of a gasoline cargo tank shall comply with the following requirements:

- a. The gasoline cargo tank integrity is maintained and verified by:
 - (1) The display of a Maricopa County Vapor Tightness Certification decal on the gasoline cargo tank; or
 - (2) An affidavit per Section 103.1(a)(6) of this rule is readily available.
- b. A vapor return hose shall be connected prior to the connection of any gasoline loading hose if the stationary gasoline storage tank is configured to include a vapor return connection.
- c. **Vapor Recovery Systems Having Remote Vapor Return Lines:** If a gasoline cargo tank's vapor hose is connected to a vapor return line that is not part of a dual-point vapor balance system, then there shall not be more than one gasoline delivery hose connected to the gasoline cargo tank, and no additional hoses connected to a fill tube.
- d. An owner or operator shall not remove the lid of a fill tube unless every other fill tube either has a lid fastened in place or a delivery hose connecting it to the gasoline cargo tank.
- e. A portable fill tube shall be used to load gasoline into any stationary gasoline storage tank that is not equipped with a permanent submerged fill pipe.
- f. **Restriction on Multiple Connections:** A gasoline cargo tank shall not simultaneously have more than one gasoline delivery hose connected, unless each delivery hose is connected to a gasoline cargo tank's dual-point vapor balance system that already has a vapor hose connecting it to the gasoline cargo tank.

301.3 Prevent Spills and Excess Drainage: A driver/operator of a gasoline delivery vessel shall:

- a. ~~g.~~ Thoroughly drain a fill hose and a vapor recovery hose into the dispensing gasoline cargo tank before disconnecting it from the gasoline cargo tank's fittings.
- b. ~~h.~~ Disconnect fill hoses and vapor recovery hoses in such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.



- e. i. Spills and any gasoline that is deposited in or on an area other than within the ~~dispensing~~ gasoline cargo tank shall be collected and contained. This can include, but is not limited to, the correct use of buckets and/or absorbent material designed for the purpose, and the correct disposal of the collected gasoline.

302.4 Loading of Gasoline Into a Stationary Gasoline Storage Tank at a Retail Gasoline

Dispensing Facility: An owner or operator of a gasoline cargo tank shall comply with the following requirements:

- a. The gasoline cargo tank integrity is maintained and verified by the display of a Maricopa County Vapor Tightness Certification decal on the gasoline cargo tank.

301.4 Vapor Hose use Required at Retail Gas Stations:

- b. No delivery shall be made to a stationary gasoline storage tank at a retail tank gasoline dispensing facility if the stationary gasoline storage tank has one or more of the following:
 - (1) ~~it is~~ The stationary gasoline storage tank is not served by a vapor return, ~~or~~
 - (2) ~~if it has~~ The stationary gasoline storage tank has a locked cap that cannot be removed, ~~or~~
 - (3) ~~if~~ The stationary gasoline storage tank has broken or damaged fittings prevent preventing the correct connection of the vapor hose.

- a. ~~c.~~ A driver/operator An owner or operator shall not deliver gasoline to a dispensing stationary gasoline storage tank at a retail gas station gasoline dispensing facility unless a vapor hose is first connected from the vessel gasoline cargo tank to a vapor return-line serving the tank.

- d. **Vapor Recovery Systems Having Remote Vapor Return Lines:** If a gasoline cargo tank's vapor hose is connected to a vapor return line that is not part of a dual-point vapor balance system, then there shall not be more than one gasoline delivery hose connected to the gasoline cargo tank, and no additional hoses connected to a fill tube.

- e. An owner or operator shall not remove the lid of a fill tube unless every other fill tube either has a lid fastened in place or a delivery hose connecting it to the gasoline cargo tank.

- f. **Restriction on Multiple Connection:** A gasoline cargo tank shall not simultaneously have more than one gasoline delivery hose connected, unless each delivery hose is connected to a gasoline cargo tank's dual-point vapor balance system that already has a vapor hose connecting it to the gasoline cargo tank.

- g. Thoroughly drain a fill hose and a vapor recovery hose into the gasoline cargo tank before disconnecting it from the gasoline cargo tank's fittings.

- h. Disconnect a delivery hose from a stationary gasoline storage tank before disconnecting the vapor recovery hose.

- i. Disconnect fill hoses and vapor recovery hoses in such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.

- j. Spills and any gasoline that are deposited in or on an area other than within the gasoline cargo tank shall be collected and contained. This can include, but is not limited to, the correct use of buckets and/or absorbent material designed for the purpose, and the correct disposal of the collected gasoline.

301.5 Prevent Vapor Escape During Deliveries: For gasoline dispensing storage tanks that are equipped with a Stage 1 vapor recovery system (VR System):

- a. ~~During delivery, the vessel gasoline cargo tank owner or operator shall not remove the lid of a fill tube unless every other fill tube either has a lid fastened in place or a delivery hose connecting it to the delivery vessel gasoline cargo tank.~~

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- b. ~~Connect a vapor recovery hose before connecting any gasoline delivery hose.~~
 - e. ~~Disconnect a delivery hose from a tank before disconnecting the vapor recovery hose.~~
 - d. ~~Restriction on Multiple Connection: A delivery vessel shall not simultaneously have more than one gasoline delivery hose connected, unless each delivery hose is connected to a dispensing tank's 2 point system that already has a vapor hose connecting it to the vessel.~~
- 301.6 ~~Vapor Recovery Systems Having Remote Vapor Return Lines: If a delivery vessel's vapor hose is connected to a vapor return line that is not part of a 2 point system, then there shall not be more than one gasoline delivery hose connected to the vessel, and no other hoses connected to a fill tube; viz., no more than one compartment of the delivery vessel shall be emptied at a time.~~
- 302 ~~GASOLINE DELIVERY VESSEL LEAK TEST REQUIRED: A gasoline delivery vessel shall first pass the MC Pressure Test before delivering or unloading gasoline within Maricopa County, and to continue, must pass the MC Pressure Test each year thereafter. This does not apply to loads that originate solely in another state, nor to loads originating in Maricopa County that are not delivered in Maricopa County.~~
- 302.1 ~~Testing: The MC Pressure Test shall be performed according to subsection 302.2.~~
- a. ~~Scheduling and notification of an initial test or annual retest shall be done in accordance with subsection 401.1 and subsection 401.3.~~
 - b. ~~A tester shall record the results of a Pressure Test according to the format in subsection 501.2.~~
 - e. ~~A valid Maricopa County Air Quality Department decal shall be affixed to the vessel consequent to passing the MC Pressure Test before the vessel may deliver or unload gasoline.~~
 - d. ~~An owner or operator of a delivery vessel shall comply with subsection 401.2 registration requirements to obtain a valid Maricopa County Air Quality Department decal after a successful MC Pressure Test.~~
- 302.2 ~~MC Pressure Test: A vessel that is being MC Pressure Tested shall pass all 3 of the following pressure subtests, in the following order, and use the same vapor hose during the test as will be used for deliveries by that same unit:~~
- a. ~~Positive Pressure Subtest: Lose no more than 1.0 inch (25.4 mm) of water column in 5.0 minutes, when pressurized to a gauge pressure of 18 inches (45.7 cm) of water in 2 consecutive runs according to procedures in subsections 5.1.1 through 5.2.7 of EPA Method 27, as incorporated by reference in Section 504 of this rule; and~~
 - b. ~~Vapor Valve Subtest: Lose no more than 5.0 inches (127 mm) of water column in 5.0 minutes, measured in the vapor system after the vessel compartments are first collectively pressurized to a gauge pressure of 18 inches (45.7 cm) of water and then the vapor valves are closed, per subsection 503.2 of this Rule 352; and~~
 - e. ~~Partial Vacuum Subtest: Gain no more than 1.0 inch (25.4 mm) of water column in 5.0 minutes, when initially evacuated to a gauge pressure of 6 inches (15.2 cm) of water, in 2 consecutive runs, per subsections 5.3.1 through 5.3.7 of EPA Method 27, as incorporated by reference in Section 504 of this rule.~~
 - d. ~~Pressure Instability: A subtest is invalidated if during either of the pressure subtests, more than 1/2 inch water pressure is gained, or if during the vacuum test the vacuum is increased by more than minus 1/2 inch.~~
- 302.3 ~~A vessel shall be repaired, retested, and pass all 3 subtests in the same testing period within 15 days of testing if it does not pass all 3 subtests of subsection 302.2 of this rule.~~
- 303 ~~DISPLAY A VALID DECAL: Each gasoline delivery vessel shall clearly display a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the vessel.~~

**AQ-2015-008-Rule 352**

Stakeholder Workshop: February 22, 2016

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304 PURGING PROHIBITED:

- 304.1 No person shall purge gasoline vapors into the atmosphere from a delivery vessel unless the following conditions are met:
- a. VOC emissions shall be reduced at least 90% by weight, including capture and processing, by a control device having a Maricopa County Air Pollution Permit; and
 - b. Such purging shall be done only after all delivery valves are opened and any liquid gasoline outflow is captured in a container having an attached lid which is kept closed when not receiving or pouring gasoline.
- 304.2 An operator of a delivery vessel shall not purge gasoline vapors from such vessel as a passive result of switch loading, except for vessels exempted by subsection 305.1.

305 EXEMPTIONS:

- 305.1 A delivery vessel is exempt from pressure test requirements of Section 302 if all of the following conditions are met:
- a. The vessel was placed in operation before July 13, 1988; and
 - b. The vessel transported gasoline within Maricopa County before January 1, 1998; and
 - c. The vessel never loads at a gasoline terminal; and
 - d. The vessel serves only farm tanks and/or those non-resale dispensing operations having a yearly throughput not exceeding 120,000 gallons of gasoline, verified by monthly records pursuant to subsection 501.1a; and
 - e. The vessel either has a sticker affixed to it that indicates to a bulk plant operator that the vessel may be loaded in Maricopa County, or has an affidavit signed by an owner or officer of the operating company filed with the Maricopa County Air Quality Department, with a complete copy of the signed affidavit available in the vehicle for inspection by a bulk plant operator or the Control Officer.
- 305.2 An operator of a delivery vessel exempted by subsection 305.1 is allowed to incidentally purge gasoline vapors from such vessel as a passive result of loading, or briefly when lids/ports must be open for inspection.
- 305.3 Opening Hatches on Non-Exempt Vessels:
- a. Required by Rule: Owners/operators, their contractors, and authorized government agents may open vapor containment equipment on a nonexempt gasoline delivery vessel while performing operations required by governmental agencies, but shall be restricted as follows, unless approved in advance by the Control Officer:
 - (1) Wait at least 3 minutes after unloading is complete and after a delivery vessel has stopped before opening its hatch or other vapor seal.
 - (2) Reclose hatch or other sealing device within 3 minutes of completing the required procedures.
 - (3) Limit windspeed at opened hatch or other opened sealing device to not more than 3 mph (1.34 m/sec), using a barrier if necessary.
 - b. Defueling: Hatches of a delivery vessel may be open for monitoring to prevent overflow during the period that the vessel is receiving gasoline from a tank or other source, if so required by a local fire code or other ordinance.
 - c. Connecting Coaxial Fittings: Requirements for first connecting a vapor hose before a gasoline delivery hose do not apply to coaxial VR connection fittings.



SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 TESTING: Testing required by ~~subsections 302.2a, b, and e~~ Section 301.2 of this rule, shall be conducted by the owner or operator of the ~~delivery vessel~~ gasoline cargo tank, or by a consultant, at the expense of the owner or operator. The Control Officer may at any time observe the tests. An owner or operator shall comply with the following provisions:

401.1 Notification of Required Testing: The owner, operator, or tester shall notify the Control Officer as follows for each ~~vessel~~ gasoline cargo tank being tested to meet requirements of ~~Section 302 or subsection 301.2~~ Section 301 of this rule:

- a. Contact the Control Officer during normal business hours of the Department at least 4 hours prior to gasoline cargo tank vapor tightness testing; ~~and~~
- b. ~~Give~~ Provide an estimated start time that is no more than 1 hour prior to actual gasoline cargo tank vapor tightness testing start time; ~~and~~
- c. Except for weekend testing, the Control Officer shall be notified no more than ~~24 hours in advance of~~ 72 hours prior to gasoline cargo tank vapor tightness testing; ~~and~~
- d. For weekend testing, the notification shall be given, along with the date of testing, prior to 2 PM on Friday (or Thursday, if Friday is a County holiday); ~~and~~
- e. Give the location of the testing; ~~and~~
- f. Any testing that is performed in the 8 hour period between 9 PM and 5 AM is not valid for purposes of satisfying ~~Section 302~~ 301.2 of this rule requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

401.2 Registration: To obtain a Maricopa County Vapor Tightness Certification decal, ~~do~~ the following information shall be submitted to the Department for each vessel and each vapor recovery hose that passes the required ~~annual~~ gasoline cargo tank vapor tightness test:

- a. ~~Assemble in 1 packet the following 3 items: (1) A properly~~ A completed “APPLICATION FOR AIR POLLUTION VAPOR ~~RECOVERY~~ TIGHTNESS CERTIFICATION” (~~also called “The Application”~~ application), ~~and that includes, at a minimum, all of the following information required by Section 502.2 of this rule.~~
- (2) ~~b.~~ b. A ~~properly~~ completed copy of the MCESD “Maricopa County Air Quality Department Gasoline Cargo Tank Vapor Tightness “Tank Truck Leak Certification Check List” (checklist), and
- (3) ~~c.~~ c. The annual fee remittance. (The fee amount appears in Rule 280.)
- b. ~~Send or convey this single packet to the Maricopa County Air Quality Department at the address on the top of the application.~~
- e. ~~d.~~ d. Upon receipt of ~~these 3 properly completed items~~ the completed application, checklist and fee remittance, a Maricopa County Vapor Tightness Certification decal will be issued by the Control Officer.

401.3 Expiration:

- a. A Maricopa County Vapor Tightness Certification decal that is issued to a ~~vessel~~ gasoline cargo tank that passed its test in the 4-month period between March 1 through June 30 shall expire at 11:59 PM on June 30 of the following year.
- b. A Maricopa County Vapor Tightness Certification decal that is issued to a ~~vessel~~ gasoline cargo tank that passed its test in the period after June 30 of the previous year and before March 1 of the current year shall expire at 11:59 PM on June 30 of the year. ~~For example, if the test is passed between July 1, 2000, through February 28, 2001, the decal expires on June 30, 2001.~~



401.4 Loss, Defaced or Destroyed Maricopa County Vapor Tightness Certification Decal:

- a. An owner or operator shall notify the Control Officer immediately if a valid ~~decal/sticker~~ Maricopa County Vapor Tightness Certification decal is lost, defaced, or destroyed.
- b. The Control Officer may require a demonstration of need for replacement.
- c. If Rule 280 so provides, the Control Officer may charge a fee for reissue or substitute issue of a lost, defaced, or destroyed ~~decal/sticker~~ Maricopa County Vapor Tightness Certification Decal, if the Control Officer determines that the Department is not at fault.

402 TIME FRAME FOR INSTALLATION OF CONTROL DEVICE: An owner or operator of a ~~vessel~~ gasoline cargo tank testing operation who chooses to comply with the Section ~~304~~ 301.3 of this rule purging provisions through the use of a control device shall submit ~~by August 1, 1999,~~ an application for a Maricopa County Air Pollution Control Permit and an Operation and Maintenance Plan for the control device. ~~The device shall be fully functioning by May 1, 2000.~~

SECTION 500 – RECORDS AND MONITORING

501 GASOLINE CARGO TANK VAPOR TIGHTNESS TESTING REQUIREMENT:

501.1 Each gasoline cargo tank shall pass all of the vapor tightness tests in the listed order of Section 501.1 of this rule, using the same vapor hose during each test as will be used for loading. If more than one vapor recovery hose is used for loading, the sequence of tests shall be performed for each vapor hose.

- a. **Pressure Test:** Lose no more than 1.0 inch (25.4 mm) of water column in 5.0 minutes, when pressurized to a gauge pressure of 18 inches (45.7 cm) of water in 2 consecutive runs according to procedures in subsections 5.1.1 through 5.2.7 of EPA Method 27, as incorporated by reference in Section 505 of this rule; and
- b. **Vapor Valve Loss Test:** Lose no more than 5.0 inches (127 mm) of water column in 5.0 minutes, measured in the vapor system after the vessel compartments are first collectively pressurized to a gauge pressure of 18 inches (45.7 cm) of water and then the vapor valves are closed, per Section 504.2 of this rule; and
- c. **Vacuum Test:** Gain no more than 1.0 inch (25.4 mm) of water column in 5.0 minutes, when initially evacuated to a gauge pressure of 6 inches (15.2 cm) of water, in 2 consecutive runs, per subsections 5.3.1 through 5.3.7 of EPA Method 27, as incorporated by reference in Section 505 of this rule.
- d. **Pressure Instability:** A test is invalidated if during the positive pressure test or the vapor valve loss test, more than ½ inch water pressure is gained. A test is invalid if during the vacuum test the vacuum is increased by more than minus ½ inch.

501.2 A vessel shall be repaired, retested, and pass all three (3) tests in the same testing period within 15 days of testing if it does not pass all three (3) tests of Section 501.1 of this rule.

502 RECORDKEEPING AND REPORTING REQUIREMENTS:

501.1 502.1 The owner or operator of a gasoline ~~delivery vessel~~ gasoline cargo tank subject to this rule shall maintain records of all certification, testing, and repairs.

- a. Such records must be maintained in a legible, readily available condition for at least 5 years after the date the testing and repair is completed.
- b. Upon verbal or written request by the Control Officer, or a designee of the Control Officer, records shall be provided within a reasonable time. If the Control Officer is at the site where requested records are kept, records shall be provided without delay.

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- 501.2 **502.2** The records of the gasoline cargo tank vapor tightness certification testing required by Section 302 301 of this rule, must be recorded in both of the following documents: the “Application for Air Pollution Vapor ~~Recovery~~ Tightness Certification” and the “Maricopa County Air Quality Department Gasoline Cargo Tank Vapor Tightness ~~“Tank Truck Leak Certification Check List”~~”. Pressure and vacuum shall be recorded to no less than the nearest quarter inch or half-centimeter of water column. The minimum requirements for each of these 2 documents follow:
- a. For the “Application for Air Pollution Vapor ~~Recovery~~ Tightness Certification”:
- (1) Owner's name and address.
 - (2) ~~Tank ID number, the location of the test, the time of the test, and the date of the test. The manufacturer's Tank ID-gasoline cargo tank serial number,.~~
 - (3) The location of the test.
 - (4) The time of the test.
 - (5) The date of the test.
- (3) (6) For the pressure ~~subtest~~ test, 2 two (2) readings: the change in pressure (in inches ~~H₂O~~ of water) for Run 1 and the change in pressure for Run 2.
- (4) (7) For the vapor-valve ~~loss test~~ subtest (~~subsection 302.2b~~), 1 one (1) reading: the total change in pressure during the test.
- (5) (8) For the vacuum test, 2 two (2) readings: the total change in vacuum during Run 1 and the same for Run 2.
- (9) The signature of the person conducting the vapor tightness test.
- b. The “Maricopa County Air Quality Department Gasoline Cargo Tank Vapor Tightness ~~“Tank Truck Leak Certification Check List”~~ ~~(or its successor document)~~ shall contain at least the following information:
- (1) ~~The same information required in subsections a(1) and a(2) of this subsection 501.2; and~~
 - (2) ~~The time the subtest began, the initial pressure of the subtest, the finish time, the final pressure of the subtest, and the pressure change between the start and end of the subtest; the vessel's unit number, manufacturer's serial number, the tank capacity, whether the tank was purged of gasoline vapors, and the date of the next leakage test if the set of 3 subtests are not all passed.~~
 - (3) ~~If the initial pressure test was not passed, one set of readings in the row “Initial Test”, also giving the elapsed time if the pressure reached zero before 5 minutes. For example, the row marked “Initial Test” will normally contain the results of the initial failed subtest if any repairs were made subsequent to any pressurization or evacuation of the tank.~~
- (1) Owner's name and address.
 - (2) Manufacturer's gasoline cargo tank serial number.
 - (3) The gasoline cargo tank unit number.
 - (4) The gasoline cargo tank capacity.
 - (5) Whether the gasoline cargo tank was purged of gasoline vapors.
 - (6) The location of the test,
 - (7) The time of the test, and
 - (8) The date of the test.
 - (9) Initial testing information:



- (a) The time the test began;
- (b) The initial pressure in inches of water;
- (c) The finish time of the test;
- (d) The final pressure of the test; and
- (e) The pressure change between the start and end of the test.
- (f) If the initial pressure test failed:
 - (i) Record one set of readings in the row “Initial Test.”
 - (ii) Record the elapsed time if the pressure reached zero before five (5) minutes.
 - (iii) Record any repairs conducted.
- (10) Testing Information for each test:
 - (a) The time the test began;
 - (b) The initial pressure in inches of water;
 - (c) The finish time of the test;
 - (d) The final pressure of the test; and
 - (e) The pressure change between the start and end of the test.
- (11) The date of the next leakage test if the set of three (3) subtests are not all passed.
- (12) The signature of the person conducting the vapor tightness test.

502 503

MONITORING FOR LEAKS: The Control Officer may at any time monitor a ~~delivery vessel~~ gasoline cargo tank, including the vapor collection system, for vapor and liquid leaks to ascertain if it is vapor tight and leak free. ~~Leakage of vapor exceeding 1/5 of the lower explosive limit, or 10,000 ppm as methane, when performed according to subsection 504.4, shall be an exceedance of the vapor tight standard of subsection 301.1.~~ The Control Officer may use one or more of the following to determine vapor tight and leak free conditions:

503.1 Combustible gas detector or an organic vapor analyzer:

- a. Calibration:** Within 4 hours prior to monitoring, the combustible gas detector or organic vapor analyzer shall be suitably calibrated for a 20 percent LEL response, or to 10,000 ppm with methane.
- b. Probe Distance:** The probe inlet shall be 1 inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be 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 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 a potential or actual 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 a leak such that the central axis of the probe-tube inlet shall be positioned coaxially with the path of the most concentrated vapors.
- e. 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.



- 503 **504** **COMPLIANCE:** ~~When more than one test method is permitted for a determination, an exceedance of the limits established in the rule determined by any of the applicable test methods constitutes a violation of this rule.~~ An exceedance of the limits established in this rule, determined by any of the applicable test methods, constitutes a violation of this rule. The EPA test methods, ASTM International (ASTM) standards and other documents as they exist in the Code of Federal Regulations (CFR) as listed below, are adopted and incorporated by reference in Appendix G of the Maricopa County Air Pollution Control Regulations. These documents are available at the Maricopa County Air Quality Department, 1001 N. Central Ave., Phoenix, AZ 85004. ASTM standards are also available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428, or from its website at www.astm.org.
- 503.1 **504.1** **Pressure and Vacuum Tests:** The subtests to determine compliance with ~~subsection 302.2a and subsection 302.2e~~ Section 301 of this rule shall be performed according to EPA Method 27 - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test, except that the definition of gasoline shall be according to this ~~Rule 352 rule~~.
- 503.2 **504.2** **Test of Internal Vapor Valves:** The test to determine compliance with ~~subsection 302.2b~~ Section 301 of this rule, shall be performed immediately after successfully passing the pressure subtest (~~pursuant to subsection 302.2a~~), without performing any intervening maintenance or repair on the vapor valves.
- 503.3 **504.3** Confirmation of a vapor leak detected on a vessel during ~~onloading~~ loading shall be determined by properly deploying a pressure tap adapter that conforms to Method 27 provisions, and demonstrating the leak according to ~~subsection 504.4~~ Section 505.4 of this rule, while the pressure is less than 20 inches of water column.
- 503.4 **504.4** Pursuant to Section 203, Reid vapor pressure shall be determined using ~~American Society for Testing and Materials (ASTM) Method D 323-90~~ ASTM D323 - 15a: Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).
- 504 **505** **TEST METHODS:** The EPA test method as it exists in the Code of Federal Regulations (CFR) (~~July 1, 1998~~ July 1, 2016), as listed below, is adopted by reference. The other test methods listed here are also adopted by reference, each having paired with it a specific date that identifies the particular version/revision of the method that is adopted by reference. These adoptions by reference include no future editions or amendments. Copies of test methods referenced in this Section 504 are available at the Maricopa County Air Quality Department, 1001 N. Central Ave., Phoenix, Arizona 85004.
- 504.1 **505.1** EPA Method 27 (~~“Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test”~~) in 40 CFR 60, Appendix A. - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test
- 504.2 **505.2** ~~American Society for Testing and Materials (ASTM) Method D 323-90, 1990 (Reid vapor pressure)~~ ASTM D323 - 15a: Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).
- 504.3 **505.3** **Test of Internal Vapor Valves:**
- Pressurize the delivery vessel to 18 inches (45.7 cm) of water column, using the first 2 procedures of the "Pressure Test" section of EPA Method 27.
 - Close all the vessel's internal valves, including the internal vapor valves, thereby isolating the vapor system (vapor return line plus vapor manifold) from the compartments.
 - Relieve the pressure in the vapor return line (to atmospheric pressure).
 - Seal the vapor return line and after 5.0 minutes record the pressure present in the vapor system.
- 504.4 **505.4** **Delivery Vessel Vapor Tightness Test:** A vapor tight condition will be determined for vessels by the following method:

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- a. **Calibration:** Within 4 hours prior to monitoring, the combustible gas detector or organic vapor analyzer shall be suitably calibrated for a 20 percent LEL response, or to 10,000 ppm with methane.
- b. **Probe Distance:** The probe inlet shall be 1 inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be 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 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 a potential or actual 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 a leak such that the central axis of the probe-tube inlet shall be positioned coaxially with the path of the most concentrated vapors.
- e. **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.