Enhanced Regulatory Outreach Program
Maricopa County Air Quality Department

Notice of Stakeholder Workshops

Date: Monday, September 14, 2015
Location: 1001 North Central Avenue, Floor 5 Classroom*

The Maricopa County Air Quality Department will conduct Stakeholder Workshops regarding **AQ-2015-008-Organic Liquids And Gasoline Rulemaking** to discuss rule revisions being proposed since the first workshops were held on June 29 and 30, 2015. The workshops schedule and a description of the rules to be discussed are listed below. The draft rules associated with the workshops are attached to this announcement.

9:00 am – 10:30 am **Gasoline Bulk Tanks And Terminals – Rule 350 (Storage Of Organic Liquids At Bulk Plants And Terminals) And Rule 351 (Loading Of Organic Liquids)**

Discussion will focus on:

- Proposed Applicability section particularly regarding gasoline bulk plants and gasoline bulk terminals
- Proposed Exemptions section
- Storage tank standards
- General requirements for loading facilities
- Operating requirements for vapor loss control devices
- Definitions

11:00 am – 12:30 pm **Gasoline Dispensing Facilities And Gasoline Cargo Tanks – Rule 352 (Gasoline Delivery Vessel Testing And Use) And Rule 353 (Gasoline In Stationary Dispensing Tanks)**

Discussion will focus on:

- Proposed Applicability section particularly regarding dispensing tanks and cargo tanks
- Proposed Exemptions section
- Gasoline storage equipment and operation requirements for underground storage tanks and above ground storage tanks
- Storage tank leak test requirements
- Gasoline storage test methods
- Definitions

1:30 pm – 3:00 pm **Organic Liquid Distribution – Rule 350 (Storage Of Organic Liquids At Bulk Plants And Terminals) And Rule 351 (Loading Of Organic Liquids)**

Discussion will focus on:

- Proposed Applicability section particularly regarding distinction between gasoline and non-gasoline operations
- Proposed Exemption section
- Compliance determination test methods
- Definitions

Additional information about these draft rules is available on the Enhanced Regulatory Outreach Program (EROP) website (http://www.maricopa.gov/regulations).

To enhance the discussion and cost savings, as well as support the county's sustainability initiative, information will be electronically displayed during the workshops. If you prefer a hardcopy of the documentation, please print the information from this announcement.

*When you arrive at 1001 North Central Avenue, please check-in in Suite #125 then proceed to the Floor 5 classroom.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

REGULATION III – CONTROL OF AIR CONTAMINANTS

RULE 350
STORAGE AND TRANSFER OF ORGANIC (NON-GASOLINE) LIQUIDS AT ~~BULK PLANTS AND BULK TERMINALS~~ORGANIC LIQUID DISTRIBUTION OPERATIONS

INDEX

NOTE: Current Rule 350 is PROPOSED to be separated out into two rules; PROPOSED Rule 350 Storage and Transfer of Organic Liquids (non-gasoline) at Organic Liquid Distribution Operations; and PROPOSED Rule 351: Storage and Loading of Gasoline at Bulk Plants and Bulk Terminals.

Maricopa County Air Quality Dept.
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~~Revised 07/13/88~~
~~Revised 04/06/92~~

Revised 07/13/88; Revised 04/06/92; **Revised MM/DD/YY**

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

RULE 350
STORAGE AND TRANSFER OF ORGANIC (NON-GASOLINE) LIQUIDS AT ~~BULK PLANTS AND TERMINALS~~ ORGANIC LIQUID DISTRIBUTION OPERATIONS

SECTION 100 – GENERAL

101 **PURPOSE:** To limit emissions of volatile organic compounds from organic (non-gasoline) liquids under actual storage and transfer conditions.

102 **APPLICABILITY:** This rule is applicable to the ~~transfer and~~ storage and transfer of any organic (non-gasoline) liquid ~~in a bulk plant or bulk terminal stationary storage tank which is used primarily to fill delivery vessels.~~at an organic liquids distribution operation. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Sources Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants. (NESHAP). In such cases, the most stringent standard shall apply.

103 **EXEMPTIONS:**

103.1 **Organic Liquids** having a true vapor pressure less than 0.5 psia as determined by test methods in *(PROPOSED)* Rule 350, Section 500 are exempt from the organic liquid transfer requirements of *(PROPOSED)* Rule 350, Section 3XX.

103.2 **Gasoline Facilities:** Gasoline bulk plants and bulk terminals are not subject to the requirements of this rule but are subject to *(PROPOSED)* Rule 351.

103.3 **Small Transportable Containers** with a capacity of less than 30 gallons~~**(114 L):**~~ are exempt from in *(PROPOSED)* Rule 350, Section 3XX.

103.4 **A Pressure Tank** maintaining working pressure sufficient at all times to prevent organic vapor or gas loss to the atmosphere is exempt from in *(PROPOSED)* Rule 350, Sections ~~301, 302, 303, and 304~~.

103.5 **A Floating Roof** is exempt from the requirement that the roof be floating when the tank is being drained completely and when it is being filled, as long as both processes are accomplished continuously and as rapidly as practicable.

104 **AVAILABILITY OF INFORMATION:** Copies of the code of federal regulations are available electronically at: ecfr.gpoaccess.gov; at the Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 125, Phoenix, AZ, 85004; or by calling (602) 506-6010 for information. ASTM standards are available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428, or from its website at www.astm.org.

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.

NOTE: Current Rule 350 is PROPOSED to be separated out into two rules; PROPOSED Rule 350 Storage and Transfer of Organic Liquids (non-gasoline) at Organic Liquid Distribution Operations; and PROPOSED Rule 351: Storage and Loading of Gasoline at Bulk Plants and Bulk Terminals.

~~**201** **BULK PLANT** - Any organic liquid distribution operation which has an annual throughput of not more than 6,000,000 gallons of organic (non-gasoline) liquid with a true vapor pressure of 0.5 psia. loading facility at which gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual storage conditions are received from delivery vessels for storage in on-site stationary tanks, and from which such liquids also are transferred to delivery vessels.~~

~~**202** **BULK TERMINAL** - Any primary distributing loading facility which has ever received in any consecutive 30-day period over 600,000 gallons (2,271,180 l) of gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual storage conditions; or any loading facility where delivery of such liquids to the facility is primarily by pipeline. Any organic liquid distribution operation which has an annual throughput of 6,000,000 gallons or more of organic (non-gasoline) liquids with a true vapor pressure of 0.5 psia or greater.~~

~~**203** **DELIVERY VESSEL** - Any vehicular-mounted container such as a railroad tank car, tanker truck, tank-trailer or any other mobile container used to transport organic liquids.~~

XXX **CARGO TANK** – A liquid-carrying tank permanently attached and forming an integral part of a motor vehicle or truck trailer. For the purposes of this rule, vacuum trucks used exclusively for maintenance or spill response are not considered cargo tanks.

XXX **CLOSED VENT SYSTEM** – A system that is not open to the atmosphere and is composed of piping, ductwork, connections and flow-inducing devices that transport vapors from an emission point to a control device.

XXX **CONTAINER** – A portable unit in which a material can be stored, transported, treated, disposed of, or otherwise handled. Examples of containers include, but are not limited to, drums and portable cargo containers known as "portable tanks" or "totes."

~~**204** **GAS TIGHT** - Having no leak of gaseous organic compound(s) exceeding 10,000 ppm above background when measurements are made using EPA Method 21 with a methane calibration standard.~~

~~**205**~~**XXX** **GASOLINE** – Any petroleum distillate~~,~~or petroleum distillate/alcohol blend~~, petroleum distillate/organic compound blend, or alcohol having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual conditions of storage and handling,~~having a Reid vapor pressure of 27.6 kilopascals (4.0 pounds per square inch absolute (psia)) or greater and which is used as a fuel for internal combustion engines. For the purposes of this rule, aviation gasoline (av-gas) is included in this definition.

~~**206** **LOADING FACILITY** - Any operation or facility such as a gasoline storage tank farm, pipeline terminal, bulk plant, loading dock or combination thereof, where organic liquids are transferred or loaded into or out of delivery vessels for future distribution. Included are all related pollutant-emitting activities which are located on one or more contiguous or adjacent properties, and are under the control of the same person or persons under common control.~~

~~**207**~~**XXX** **ORGANIC LIQUID** – Any organic compound which exists as a liquid under any actual conditions of use, transport or storage~~.~~ For the purposes of this rule, gasoline, as defined in this rule, is not considered an organic liquid.

XXX **ORGANIC LIQUID DISTRIBUTION (OLD) OPERATION** – The combination of activities and equipment used to store or transfer organic liquids into, out of, or within a plant site regardless of the specific activity being performed. Activities include, but are not limited to, storage, transfer, blending, compounding and packaging.

~~**208**~~**207** **STATIONARY STORAGE TANK** - Any tank, reservoir or other container used to store, but not transport, organic liquids.

NOTE: Current Rule 350 is PROPOSED to be separated out into two rules; PROPOSED Rule 350 Storage and Transfer of Organic Liquids (non-gasoline) at Organic Liquid Distribution Operations; and PROPOSED Rule 351: Storage and Loading of Gasoline at Bulk Plants and Bulk Terminals.

~~209~~208 **SUBMERGED FILL PIPE** - Any discharge pipe or nozzle which meets the applicable specification as follows:

~~209.1~~208.1 **Top-Filled Or Bottom-Filled 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.

~~209.2~~208.2 **Side-Filled:** At its highest point within the storage tank less 2,000,000 gallon capacity, the~~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.

208.3 **Horizontal Filled:** 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.

~~210 **TRUE VAPOR PRESSURE (TVP)** - Absolute vapor pressure of a liquid at its existing temperature of storage and handling.~~

~~211 **VAPOR LOSS CONTROL DEVICE** - Any piping, hoses, equipment, and devices which are used to collect, store and/or process organic vapors at a bulk terminal, bulk plant, service station or other operation handling gasoline and/or other organic liquids.~~

~~212 **VAPOR TIGHT** - A condition where no organic vapor leak reaches or exceeds 100 percent of the lower explosive limit at a distance of one inch (2.5 cm) from a leak when measured with a combustible gas detector or an organic vapor analyzer, both calibrated with propane.~~

SECTION 300 – STANDARDS

301 **STORAGE AND TRANSFER OF ORGANIC LIQUIDS REQUIREMENTS APPLICABLE TO ALL STORAGE CONTAINERS AND STORAGE TANKS:** A person shall handle organic liquids in a manner that would result in vapor releases to the atmosphere by:

301.1 Minimize organic liquid spills; and

301.2 Clean up spills as expeditiously as practicable; and

301.3 Cover all open organic liquid containers and all organic storage tank fill-pipes with a gasketed seal when not in use; and

301.4 Minimize organic liquid sent to open waste collection systems that collect and transport organic liquid to reclamation and recycling devices.

~~301~~302 **ALL STORAGE TANKS ~~GREATER THAN 250 GALLONS (946 L):~~** No person shall install or use a stationary storage tank ~~with a capacity greater than 250 gallons (946 l)~~ for storing organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or more unless such a tank meets the ~~following~~ requirements the table below:

~~301.1 The tank has a submerged fill pipe; and~~

~~**Note**[1]~~

~~301.2 The tank has a pressure/vacuum valve which is set within ten percent of the tank's maximum, safe working pressure.~~

Table 350-1 STORAGE TANK CONTROL REQUIREMENTS

~~[1] This note is not part of Rule 350, but is provided for the reader's convenience. The requirement of subsection 301.2 for a pressure/vacuum valve is not applicable to floating roof tanks.~~

Tank Capacity	True Vapor Pressure of Organic Liquid In Tank		
	<0.5 TO <1.5 psia	<1.5 to <11.0 psia	≥11.0 psia
<250 gallons	Cover with gasketed seal	Cover with gasketed seal	Pressure tank or approved emission control system
≥250 gallons to <40,000	Submerged fill pipe	Submerged Fill Pipe; and Vapor Recovery System; Pressure Vacuum Valve; or one of the following: Internal Floating Roof; or External Floating Roof; or Vapor Collection Processing System.	Pressure tank or approved emission control system
≥40,000 gallons	Submerged Fill Pipe; Pressure Vacuum Valve; and one of the following: Internal Floating Roof; or External Floating Roof; or Vapor Collection Processing System.	Submerged Fill Pipe; Pressure Vacuum Valve; and one of the following: Internal Floating Roof; or External Floating Roof; or Vapor Collection Processing System.	Pressure tank or approved emission control system

Pressure vacuum valves:

302.1 The tank has a pressure/vacuum valve which is maintained in good working order and set:

a. within ten percent of the tank's maximum, safe working-pressure; or

b. at least 25.8 mm Hg (0.5 psia)

~~**302 GASOLINE STORAGE TANKS BETWEEN 250 AND 40,000 GALLONS (946 - 151,400 L):** No person shall store gasoline in a stationary storage tank with a capacity less than 40,000 gallons (151,400 l) but greater than 250 gallons (946 l) unless the tank is equipped with a vapor recovery system which collects and returns displaced vapors to the delivery vessel using vapor tight fittings and lines; or such tank uses at least one of the vapor loss control methods in Sections 306, 307, or 308 of this rule.~~

~~**303 ORGANIC LIQUID STORAGE TANKS OF 20,000 THROUGH 39,999 GALLONS CAPACITY (75,700 - 151,396 L):** No person shall store organic liquids with a true vapor pressure (TVP) of 1.5 through 11.0 psia (77.5 - 569 mm Hg) in a stationary tank with a capacity from 20,000 through 39,999 gallons (75,700 - 151,396 l) unless the tank is equipped with a vapor recovery system which collects and returns displaced vapors to the delivery vessel using vapor tight fittings and lines; or such tank uses at least one of the vapor loss control methods specified in Sections 306, 307, or 308 of this rule.~~

~~**304 STORAGE TANKS OF 40,000 GALLONS (151,400 L) OR MORE:** No person shall place, store or hold in any stationary storage tank having a capacity of 40,000 gallons (151,400 L) or more, any gasoline or organic liquid having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual storage conditions, unless such storage tank is equipped with at least one of the vapor loss control devices specified in Sections 306, 307, or 308 of this rule.~~

~~**305 TANKS STORING LIQUIDS HAVING VAPOR PRESSURES EXCEEDING 11 PSIA:** No person shall place, store, or hold in a stationary tank having a capacity over 250 gallons (946 l) organic liquid(s) with a true vapor pressure above 11.0 psia (569 mm Hg) unless such a tank is either a pressure tank maintaining working pressure sufficient at all times to prevent organic vapor/gas loss to the atmosphere or is equipped with a vapor collection/processing system specified in Section 308 of this rule.~~

~~**306 EXTERNAL FLOATING ROOF STORAGE TANKS:** This vapor loss control device is an uncovered floating roof consisting of either a pontoon type or a double deck type roof. It must rest on and be supported by the surface of the liquid contents, be equipped with a continuous primary seal to close the~~

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~~space between the roof eave and tank wall, except as provided in subsection 309.1 and have a continuous secondary seal which is of a design that is in accordance with accepted standards of the petroleum industry. The secondary seal shall meet the following requirements:~~

~~**306.1** The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge or primary seal and the tank wall, except as provided in subsection 306.2 of this rule. Storage tanks constructed after July 13, 1988, shall have a secondary seal that is rim-mounted. Except for tanks having metallic shoe primary seals onto which secondary seals were installed prior to July 13, 1988, by October 6, 1993 no person shall operate an external floating roof tank subject to the provisions of this rule unless a secondary seal extends from the roof to the tank shell (a rim-mounted seal) and is not attached to the primary seal.~~

~~**306.2** The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 1.0 square inch per foot (21.2 cm^2 per meter) of tank diameter. Determinations of gap area shall only be made at the point(s) where the gaps exceed 1/8 inch (3 mm). The width of any portion of any gap shall not exceed 1/2 inch (1.27 cm).~~

~~**306.3** The owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.~~

~~**307**~~**303** **INTERNAL FLOATING ROOF TANKS WITH FIXED COVERING:** This vapor loss control device is a covered tank with an internal floating roof resting on the contained liquid. This tank and its appurtenances shall meet the applicable requirements as follows:

~~**307.1**~~**303.1** Bulk terminal tanks for which construction, reconstruction or modification commenced after July 23, 1984, must comply with all applicable requirements of the EPA New Source Performance Standard (NSPS), 40 CFR Part 60, Subpart Kb.

~~**307.2**~~**303.2** All tanks not subject to subsection ~~307.1~~303.1 must comply with one of the following:

a. Comply with 40 CFR Part 60, Subpart Kb, notwithstanding the type of facility and the date of tank construction, reconstruction or modification; or

b. Have at least one continuous seal which completely covers the space between the roof edge and tank wall, except as provided in subsection 309.1, and meet at least one of the following requirements:

(1) Have a contact-type roof resting completely on the liquid surface.

(2) Have a liquid mounted seal.

(3) Have two seals, a primary and a secondary.

~~**308**~~**304** **VAPOR COLLECTION/PROCESSING SYSTEM:** This vapor loss control device consists of a vapor gathering subsystem capable of collecting the organic vapors and organic gases plus a second subsystem capable of processing such vapors and gases, preventing at least 95 percent by weight of the volatile organic compounds entering it from escaping to the atmosphere.

~~**308.1**~~**304.1** The vapor processing subsystem shall be gas-tight except for the designated exhaust.

~~**308.2**~~**304.2** Any tank gauging or sampling device on a tank, vented to such a vapor collection/processing system, shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling procedures.

~~**308.3**~~**304.3** All pressure-vacuum valves shall be constructed and maintained in a gas tight condition except when the operating pressure exceeds the valve release setting.

~~**309**~~**305 ADDITIONAL REQUIREMENTS:**

~~**309.1**~~**305.1 Prohibition – Floating Roof Openings:** Floating roof tanks subject to the provisions of Section 306 or 307 of this rule shall have no visible holes, tears or other openings in the seal or in any seal fabric. The accumulated area of gaps between a tank's wall and primary seal shall not exceed 10 square inches per foot of tank diameter (212 cm^2 per meter) and the width of any portion of any gap shall not exceed 1½ inches (3.8 cm). Where applicable, all openings except drains shall be equipped with a cover seal or lid. The cover seal or lid shall be in a closed position at all times, except when the device is in actual use. Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports. Rim vents, if provided, shall be set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

~~**309.2**~~**305.2** Tanks and all required emission control equipment shall be properly installed, properly maintained and be properly operating.

~~**310 EXEMPTIONS:**~~

~~**310.1** A pressure tank maintaining working pressure sufficient at all times to prevent organic vapor or gas loss to the atmosphere is exempt from Sections 301, 302, 303, and 304 of this rule.~~

~~**310.2** During the following periods a floating roof is exempt from the requirement that its roof be floating: when the tank is being drained completely and when it is being filled, as long as both processes are accomplished continuously and as rapidly as practicable.~~

~~**310.3** A horizontal filling nozzle at its highest point within a floating roof tank exceeding 2,000,000 gallons (7,580,000 l) capacity may be up to 39.4 inches (1 meter) above the tank bottom if: except when the tank is emptied completely, the nozzle is kept completely submerged, including when the roof rests on its legs.~~

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 ANNUAL INSPECTIONS OF EXTERNAL FLOATING ROOF TANKS: The owner or operator of any tank which uses an external floating roof to meet the vapor loss control requirements of this rule shall make the primary seal envelope and the secondary seal available for unobstructed inspection by the Control Officer on an annual basis. The primary seal envelope shall be made available for inspection at a minimum of four locations selected along its circumference at random by the Control Officer. If the Control Officer detects a violation as a result of any such inspection, the Control Officer may require such further unobstructed inspection of the seals as may be necessary to determine the seal condition for its entire circumference.

402 ANNUAL INSPECTIONS OF INTERNAL FLOATING ROOF TANKS: The owner or operator of any tank which uses an internal floating roof to meet the vapor loss control requirements of this rule shall make the entire tank including the internal floating roof available for inspection prior to filling. It shall be made available for visual inspection through the manholes or roof hatches on the fixed covering on an annual basis. Roofs which practicably can be walked on shall annually be made available for hands-on inspection.

403 FIVE-YEAR, FULL CIRCUMFERENCE INSPECTIONS: As of July 13, 1988, the owner or operator of a floating roof tank of 20,000 gallons (75,700 l) or more storing an organic liquid with a TVP of 1.5 psia (77.5 mm Hg) or greater shall make the primary seal envelope available for inspection by the Control Officer for its full length every five years. However, if prior thereto the secondary seal is removed or if the

tank is drained and cleaned by the owner or operator for any reason, it shall be made available for such inspection at that time. The owner or operator shall provide notification to the Control Officer no less than seven working days prior to removal of the secondary seal. The owner or operator shall perform a complete inspection of the primary seal and floating roof, including measurement of gap area and maximum gap, whenever the tank is emptied for non-operational reasons or at least every five years, whichever is more frequent.

404 **SEMI-ANNUAL INSPECTIONS BY OWNER OR OPERATOR:** The owner or operator of any floating roof tank subject to this rule shall inspect the tank and seals at least once every six months to determine ongoing compliance with both the applicable standards of this rule and any permit conditions pertaining to the tank. Determinations of secondary seal gap area on external floating roofs need be made only once per year. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.

~~**405** **COMPLIANCE SCHEDULE:** By October 6, 1992, any person subject to Section 300 who does not comply with all its provisions shall submit to the Control Officer for approval an emission control plan describing the method(s) to be used to achieve full compliance by October 6, 1993. This plan shall specify dates for completing increments of progress, such as the contractual arrival date of new control equipment. The Control Officer may require a person submitting such an emission control plan to submit subsequent reports on progress in achieving compliance.~~

SECTION 500 – MONITORING AND RECORDS

501 **VAPOR PRESSURE RECORDS:** A person whose tanks are subject to the provisions of this rule shall keep accurate records of liquids stored in such tanks including ~~either~~ the true ~~or the Reid~~ vapor pressure ranges of each such liquid. The temperature of the contents of each affected tank located at bulk terminals shall be recorded at least weekly and the true vapor pressure of each shall be recorded at least once each month. These records shall be kept a minimum of ~~three~~five years.

502 **LEAK CONCENTRATIONS:** Any instrument used for the measurement of organic compound concentration shall be calibrated according to manufactures instructions or in accordance with EPA Reference Method 21 as incorporated by reference in Maricopa County Air Pollution Control Regulations, Appendix G, Incorporated Materials.

~~502~~503 **COMPLIANCE DETERMINATION – TEST METHODS:** When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.

~~**502.1 Determination Of Vapor-Tight Condition:** Applicable procedures of Rule 351, Section 501.~~

~~502.2~~502.1 **Emission Rates and Control Device Efficiency:** EPA Reference Methods 2A, 2B, 18 and 25A.

~~502.3~~502.2 **Gaseous Leak Detection and Determination of Gas-Tight Condition:** EPA Method 21.

~~**502.4 Reid Vapor Pressure:** Reid vapor pressure shall be determined by ASTM Method D323-82D323-08 (Reapproved 2014) or by ASTM Method D-5191.~~

~~502.5~~502.3 **True Vapor Pressure:** True vapor pressure shall be determined by ASTM Method 2879-83 and by temperature measurement under actual conditions using an instrument accurate to within ± 1 degree Fahrenheit or ± 0.5 degree Celsius. For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February, 1980, to determine true vapor pressure, unless the Control Officer specifies ASTM Method 2879-83.

~~Last Formatted – Fall 1997~~

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

NOTE: THIS IS DRAFT RULE 350

Underlined text (new text) and Strikeout text (deleted language) are not shown in this draft for ease of reading, reviewing and commenting on.

REGULATION III – CONTROL OF AIR CONTAMINANTS

RULE 350
STORAGE AND TRANSFER OF ORGANIC (NON-GASOLINE) LIQUIDS AT ORGANIC LIQUID DISTRIBUTION OPERATIONS

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SECTION 100 – GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds from organic (non-gasoline) liquids under actual storage and transfer conditions.

102 APPLICABILITY: This rule is applicable to the storage and transfer of any organic (non-gasoline) liquid at an organic liquids distribution operation. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Sources Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants. (NESHAP). In such cases, the most stringent standard shall apply.

103 EXEMPTIONS:

103.1 Organic Liquids having a true vapor pressure less than 0.5 psia as determined by test methods in (*PROPOSED)* Rule 350, Section 500 are exempt from the organic liquid transfer requirements of (*PROPOSED)* Rule 350, Section 3XX.

103.2 Gasoline Facilities: Gasoline bulk plants and bulk terminals are not subject to the requirements of this rule but are subject to (*PROPOSED)* Rule 351.

103.3 Small Transportable Containers with a capacity of less than 30 gallons~~**(114 L):**~~ are exempt from in (*PROPOSED)* Rule 350, Section 3XX.

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XXX **ORGANIC LIQUID DISTRIBUTION (OLD) OPERATION –** The combination of activities and equipment used to store or transfer organic liquids into, out of, or within a plant site regardless of the specific activity being performed. Activities include, but are not limited to, storage, transfer, blending, compounding and packaging.

207 **STATIONARY STORAGE TANK -** Any tank, reservoir or other container used to store, but not transport, organic liquids.

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

208.1 **Top-Filled Or Bottom-Filled 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.

208.2 **Side-Filled:** At its highest point within the storage tank less 2,000,000 gallon capacity, the ~~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.

208.3 **Horizontal Filled:** 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.

SECTION 300 – STANDARDS

301 **STORAGE AND TRANSFER OF ORGANIC LIQUIDS REQUIREMENTS APPLICABLE TO ALL STORAGE CONTAINERS AND STORAGE TANKS:** A person shall handle organic liquids in a manner that would result in vapor releases to the atmosphere by:

301.1 Minimize organic liquid spills; and

301.2 Clean up spills as expeditiously as practicable; and

301.3 Cover all open organic liquid containers and all organic storage tank fill-pipes with a gasketed seal when not in use; and

301.4 Minimize organic liquid sent to open waste collection systems that collect and transport organic liquid to reclamation and recycling devices.

NOTE: Current Rule 350 is PROPOSED to be separated out into two rules; PROPOSED Rule 350 Storage and Transfer of Organic Liquids (non-gasoline) at Organic Liquid Distribution Operations; and PROPOSED Rule 351: Storage and Loading of Gasoline at Bulk Plants and Bulk Terminals.

302 ALL STORAGE TANKS - No person shall install or use a stationary storage tank for storing organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or more unless such a tank meets the requirements the table below:

Table 350-1 STORAGE TANK CONTROL REQUIREMENTS

Tank Capacity	True Vapor Pressure of Organic Liquid In Tank		
	<0.5 TO <1.5 psia	<1.5 to <11.0 psia	≥11.0 psia
<250 gallons	Cover with gasketed seal	Cover with gasketed seal	Pressure tank or approved emission control system
≥250 gallons to <40,000	Submerged fill pipe	Submerged Fill Pipe; and Vapor Recovery System; Pressure Vacuum Valve; or one of the following: Internal Floating Roof; or External Floating Roof; or Vapor Collection Processing System.	Pressure tank or approved emission control system
≥40,000 gallons	Submerged Fill Pipe; Pressure Vacuum Valve; and one of the following: Internal Floating Roof; or External Floating Roof; or Vapor Collection Processing System.	Submerged Fill Pipe; Pressure Vacuum Valve; and one of the following: Internal Floating Roof; or External Floating Roof; or Vapor Collection Processing System.	Pressure tank or approved emission control system

Pressure vacuum valves:

302.1 The tank has a pressure/vacuum valve which is maintained in good working order and set:

a. within ten percent of the tank's maximum, safe working-pressure; or

b. at least 25.8 mm Hg (0.5 psia)

303 INTERNAL FLOATING ROOF TANKS WITH FIXED COVERING: This vapor loss control device is a covered tank with an internal floating roof resting on the contained liquid. This tank and its appurtenances shall meet the applicable requirements as follows:

303.1 Bulk terminal tanks for which construction, reconstruction or modification commenced after July 23, 1984, must comply with all applicable requirements of the EPA New Source Performance Standard (NSPS), 40 CFR Part 60, Subpart Kb.

303.2 All tanks not subject to subsection 303.1 must comply with one of the following:

a. Comply with 40 CFR Part 60, Subpart Kb, notwithstanding the type of facility and the date of tank construction, reconstruction or modification; or

b. Have at least one continuous seal which completely covers the space between the roof edge and tank wall, except as provided in subsection 309.1, and meet at least one of the following requirements:

(1) Have a contact-type roof resting completely on the liquid surface.

(2) Have a liquid mounted seal.

(3) Have two seals, a primary and a secondary.

304 VAPOR COLLECTION/PROCESSING SYSTEM: This vapor loss control device consists of a vapor gathering subsystem capable of collecting the organic vapors and organic gases plus a second subsystem capable of processing such vapors and gases, preventing at least 95 percent by weight of the volatile organic compounds entering it from escaping to the atmosphere.

304.1 The vapor processing subsystem shall be gas-tight except for the designated exhaust.

304.2 Any tank gauging or sampling device on a tank, vented to such a vapor collection/processing system, shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling procedures.

304.3 All pressure-vacuum valves shall be constructed and maintained in a gas tight condition except when the operating pressure exceeds the valve release setting.

305 ADDITIONAL REQUIREMENTS:

305.1 Prohibition – Floating Roof Openings: Floating roof tanks subject to the provisions of Section 306 or 307 of this rule shall have no visible holes, tears or other openings in the seal or in any seal fabric. The accumulated area of gaps between a tank's wall and primary seal shall not exceed 10 square inches per foot of tank diameter (212 cm^2 per meter) and the width of any portion of any gap shall not exceed 1½ inches (3.8 cm). Where applicable, all openings except drains shall be equipped with a cover seal or lid. The cover seal or lid shall be in a closed position at all times, except when the device is in actual use. Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports. Rim vents, if provided, shall be set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

305.2 Tanks and all required emission control equipment shall be properly installed, properly maintained and be properly operating.

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 ANNUAL INSPECTIONS OF EXTERNAL FLOATING ROOF TANKS: The owner or operator of any tank which uses an external floating roof to meet the vapor loss control requirements of this rule shall make the primary seal envelope and the secondary seal available for unobstructed inspection by the Control Officer on an annual basis. The primary seal envelope shall be made available for inspection at a minimum of four locations selected along its circumference at random by the Control Officer. If the Control Officer detects a violation as a result of any such inspection, the Control Officer may require such further unobstructed inspection of the seals as may be necessary to determine the seal condition for its entire circumference.

402 ANNUAL INSPECTIONS OF INTERNAL FLOATING ROOF TANKS: The owner or operator of any tank which uses an internal floating roof to meet the vapor loss control requirements of this rule shall make the entire tank including the internal floating roof available for inspection prior to filling. It shall be made available for visual inspection through the manholes or roof hatches on the fixed covering on an annual basis. Roofs which practicably can be walked on shall annually be made available for hands-on inspection.

403 FIVE-YEAR, FULL CIRCUMFERENCE INSPECTIONS: As of July 13, 1988, the owner or operator of a floating roof tank of 20,000 gallons (75,700 l) or more storing an organic liquid with a TVP of 1.5 psia (77.5 mm Hg) or greater shall make the primary seal envelope available for inspection by the Control Officer for its full length every five years. However, if prior thereto the secondary seal is removed or if the tank is drained and cleaned by the owner or operator for any reason, it shall be made available for such inspection at that time. The owner or operator shall provide notification to the Control Officer no less than seven working days prior to removal of the secondary seal. The owner or operator shall perform a complete

inspection of the primary seal and floating roof, including measurement of gap area and maximum gap, whenever the tank is emptied for non-operational reasons or at least every five years, whichever is more frequent.

404 **SEMI-ANNUAL INSPECTIONS BY OWNER OR OPERATOR:** The owner or operator of any floating roof tank subject to this rule shall inspect the tank and seals at least once every six months to determine ongoing compliance with both the applicable standards of this rule and any permit conditions pertaining to the tank. Determinations of secondary seal gap area on external floating roofs need be made only once per year. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.

SECTION 500 – MONITORING AND RECORDS

501 **VAPOR PRESSURE RECORDS:** A person whose tanks are subject to the provisions of this rule shall keep accurate records of liquids stored in such tanks including the true vapor pressure ranges of each such liquid. The temperature of the contents of each affected tank located at bulk terminals shall be recorded at least weekly and the true vapor pressure of each shall be recorded at least once each month. These records shall be kept a minimum of five years.

502 **LEAK CONCENTRATIONS:** Any instrument used for the measurement of organic compound concentration shall be calibrated according to manufactures instructions or in accordance with EPA Reference Method 21 as incorporated by reference in Maricopa County Air Pollution Control Regulations, Appendix G, Incorporated Materials.

503 **COMPLIANCE DETERMINATION – TEST METHODS:** When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.

503.1 **Emission Rates and Control Device Efficiency:** EPA Reference Methods 2A, 2B, 18 and 25A.

503.2 **Gaseous Leak Detection and Determination of Gas-Tight Condition:** EPA Method 21.

503.3 **True Vapor Pressure:** True vapor pressure shall be determined by ASTM Method 2879-83 and by temperature measurement under actual conditions using an instrument accurate to within ± 1 degree Fahrenheit or ± 0.5 degree Celsius. For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February, 1980, to determine true vapor pressure, unless the Control Officer specifies ASTM Method 2879-83.

NOTE: Current Rule 350 is PROPOSED to be separated out into two rules; PROPOSED Rule 350 Storage and Transfer of Organic Liquids (non-gasoline) at Organic Liquid Distribution Operations; and PROPOSED Rule 351: Storage and Loading of Gasoline at Bulk Plants and Bulk Terminals.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

REGULATION III - CONTROL OF AIR CONTAMINANTS

~~RULE 350~~ RULE 351
STORAGE AND LOADING OF ~~ORGANIC LIQUIDS~~GASOLINE AT BULK PLANTS AND BULK TERMINALS

INDEX

NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

508 COMPLIANCE DETERMINATION - TEST METHODS

509 GASOLINE STORAGE TANK TEST METHODS

510 VAPOR CONTROL SYSTEMS

511 GASOLINE CARGO TANK TEST METHODS:

NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

~~Revised 07/13/88~~
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MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS

~~RULE 350~~RULE 351
STORAGE AND LOADING OF ~~ORGANIC LIQUIDS~~GASOLINE AT BULK PLANTS AND BULK TERMINALS

SECTION 100 - GENERAL

101 **PURPOSE:** To limit emissions of volatile organic compounds from ~~organic liquids under actual storage conditions~~ gasoline under actual storage and loading at bulk plants and bulk terminals.

102 **APPLICABILITY:** This rule is applicable to:

102.1 The ~~the transfer~~loading of gasoline at a bulk plant or bulk terminal;

102.2 The ~~and~~ storage of ~~any organic liquid~~gasoline in a bulk plant or bulk terminal. ~~stationary storage tank which is used primarily to fill delivery vessels.~~; and

102.3 The cargo tanks that load gasoline at a bulk plant or bulk terminal.

103 **EXEMPTIONS:**

103.1 The owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.

103.2 A pressure tank maintaining working pressure sufficient at all times to prevent gas loss to the atmosphere is exempt from Sections [list out] of this rule.

103.3 A floating roof is exempt from the requirement that its roof be floating as long as either of the following processes is accomplished continuously and as rapidly as practicable:

a. When the tank is being drained completely.

b. When the tank is being filled.

103.4 **Bulk Plants with a Throughput of Less Than 120,000 Gallons Per 30-Day Period:** At bulk plants built before October 2, 1978, vapor loss control specified in Section 301.2b is not required at the outloading rack when all of the following are complied with:

a. After April 6, 1992, the bulk plant loads less than 120,000 gallons (454,800 l) of gasoline into delivery vessels in any consecutive 30-day period. Any plant that becomes subject to all of the provisions of Section 301.2b by exceeding this threshold will remain subject to these provisions even if its output later falls below the threshold.

b. Keep current records of amount of gasoline loaded and keep them readily accessible to the Department upon request for at least three (3) years.

c. Load gasoline using submerged fill only.

d. The owners or operators of the bulk plant or the owners or operators of the cargo tank shall observe all parts of the gasoline loading process and shall discontinue the gasoline loading if any leaks are observed.

SECTION 200 - DEFINITIONS: ~~For the purpose of this rule, the following definitions shall apply:~~ For the purpose of this rule, the following definitions shall apply, in addition to those definitions found in Rule 100 (General Provisions and Definitions); 40 CFR 60, Subparts K, Ka and Kb; and 40 CFR 63, Subpart BBBBBB. In the event of

NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

any inconsistency between any of the Maricopa County air pollution control rules and the CFR, the definitions in this rule take precedence.

201 ~~**BULK PLANT** – Any loading facility at which gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual storage conditions are received from delivery vessels for storage in on-site stationary tanks, and from which such liquids also are transferred to delivery vessels.~~ **BULK GASOLINE PLANT:** Any gasoline storage and distribution facility that receives gasoline by pipeline, rail, or cargo tank, and subsequently loads the gasoline into gasoline cargo tanks for transport to gasoline dispensing facilities, and has a gasoline throughput of less than 20,000 gallons per day.

202 **BULK TERMINAL~~–~~:** Any ~~primary~~gasoline storage and distribution ~~distributing loading~~ facility that receives gasoline by pipeline, rail or cargo tank and has a gasoline throughput of 20,000 gallons per day or greater.~~which has ever received in any consecutive 30-day period over 600,000 gallons (2,271,180 l) of gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual storage conditions; or any loading facility where delivery of such liquids to the facility is primarily by pipeline.~~

203 ~~**DELIVERY VESSEL** – Any vehicular-mounted container such as a railroad tank car, tanker truck, tank-trailer or any other mobile container used to transport organic liquids.~~ **GASOLINE CARGO TANK:** A delivery tank truck or railcar which is loading gasoline or which has loaded gasoline on the immediately previous load.

204 **GAS TIGHT~~–~~:** Having no leak of gaseous organic compound(s) exceeding 10,000 ppm above background when measurements are made using EPA Method 21 with a methane calibration standard.

205 **GASOLINE -** Any petroleum distillate, petroleum distillate/alcohol blend, petroleum distillate/organic compound blend, or alcohol having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual conditions of storage and handling, and which is used as a fuel for internal combustion engines.

206 **GASOLINE LOADING FACILITY~~–~~:** Any operation or facility such as a gasoline storage tank farm, pipeline terminal, bulk plant, loading dock or combination thereof, where ~~organic liquids are transferred or~~ gasoline is loaded into or out of ~~delivery vessels~~cargo tanks for future ~~distrbution~~distribution. Included are all related pollutant-emitting activities which are located on one or more contiguous or adjacent properties, and are under the control of the same person or persons under common control.

~~**207** **ORGANIC LIQUID** – Any organic compound which exists as a liquid under any actual conditions of use, transport or storage.~~

~~**208**~~**207** **STATIONARY STORAGE TANK~~–~~:** Any tank, reservoir or other container used to store, but not transport, ~~organic liquids~~gasoline.

~~**209**~~**208** **SUBMERGED FILL PIPE -** ~~Any discharge pipe or nozzle which meets the applicable specification as follows:~~ The end of the discharge pipe or nozzle is totally submerged when the gasoline is loaded.

~~**209.1** **Top-Filled Or Bottom-Filled 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.~~

~~**209.2** **Side-Filled:** 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.~~

~~**210** **TRUE VAPOR PRESSURE (TVP)** – Absolute vapor pressure of a liquid at its existing temperature of storage and handling.~~

~~**211**~~**209** **VAPOR LOSS CONTROL DEVICE~~–~~:** Any piping, hoses, equipment, and devices which are used to collect, store and/or process organic vapors at a bulk terminal, bulk plant, service station or other operation handling gasoline. ~~and/or other organic liquids.~~

~~212~~210 **VAPOR TIGHT~~–~~:** A condition where no organic vapor leak reaches or exceeds 100 percent of the lower explosive limit at a distance of one inch (2.5 cm) from a leak when measured with a combustible gas detector or an organic vapor analyzer, both calibrated with propane.

SECTION 300 – STANDARDS

301 FEDERAL STANDARDS OF PERFORMANCE FOR GASOLINE BULK PLANTS AND BULK TERMINALS: An owner or operator of a gasoline bulk plant or gasoline terminal must meet the federal standards of performance set forth in 40 CFR 60, Subparts K, Ka and Kb; and the national emission standards set forth in 40 CFR 63, Subpart BBBBBB, and all accompanying appendices, excluding the authorities that cannot be delegated to the department. These federal standards are adopted and incorporated by reference in Rule 360 and Rule 370.

302 STORAGE TANK STANDARDS:

302.1 SUBMERGED FILL PIPES: No persons shall load gasoline into storage tanks and cargo tanks without meeting at least one of the following requirements:

a. Top-Filled Or Bottom-Filled Tanks: The end of the fill pipe is totally submerged when the liquid level is no more than six inches (15 cm) from the bottom of the tank.

b. Side-Filled: The end of the fill pipe is totally submerged when the liquid level is no more than 18 inches (46 cm) from the bottom of the tank.

c. Horizontal Filled: The end of the fill pipe at its highest point within a floating roof tank exceeding 2,000,000 gallons (7,580,000 l) capacity may be up to 39.4 inches (1 meter) above the tank bottom if the nozzle is kept completely submerged, including when the roof rests on its legs except when the tank is emptied completely.

~~**301 ALL STORAGE TANKS GREATER THAN 250 GALLONS (946 L):** No person shall install or use a stationary storage tank with a capacity greater than 250 gallons (946 l) for storing organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or more unless such a tank meets the following requirements:~~

~~**301.1** The tank has a submerged fill pipe; and~~

~~**301.2** The tank has a pressure/vacuum valve which is set within ten percent of the tank's maximum, safe working pressure.~~

~~**302 GASOLINE STORAGE TANKS BETWEEN 250 AND 40,000 GALLONS (946–151,400 L):** No person shall store gasoline in a stationary storage tank with a capacity less than 40,000 gallons (151,400 l) but greater than 250 gallons (946 l) unless the tank is equipped with a vapor recovery system which collects and returns displaced vapors to the delivery vessel using vapor-tight fittings and lines; or such tank uses at least one of the vapor loss control methods in Sections 306, 307, or 308 of this rule.~~

~~**303 ORGANIC LIQUID STORAGE TANKS OF 20,000 THROUGH 39,999 GALLONS CAPACITY (75,700 – 151,396 L):** No person shall store organic liquids with a true vapor pressure (TVP) of 1.5 through 11.0 psia (77.5 – 569 mm Hg) in a stationary tank with a capacity from 20,000 through 39,999 gallons (75,700 – 151,396 l) unless the tank is equipped with a vapor recovery system which collects and returns displaced vapors to the delivery vessel using vapor-tight fittings and lines; or such tank uses at least one of the vapor loss control methods specified in Sections 306, 307, or 308 of this rule.~~

~~**Note**[1]~~

~~**304 STORAGE TANKS OF 40,000 GALLONS (151,400 L) OR MORE:** No person shall place, store or hold in any stationary storage tank having a capacity of 40,000 gallons (151,400 L) or more, any gasoline or organic liquid having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual storage~~

~~[1] This note is not part of Rule 350, but is provided for the reader's convenience. The requirement of subsection 301.2 for a pressure/vacuum valve is not applicable to floating roof tanks.~~

~~conditions, unless such storage tank is equipped with at least one of the vapor loss control devices specified in Sections 306, 307, or 308 of this rule.~~

~~**305** **TANKS STORING LIQUIDS HAVING VAPOR PRESSURES EXCEEDING 11 PSIA:** No person shall place, store, or hold in a stationary tank having a capacity over 250 gallons (946 l) organic liquid(s) with a true vapor pressure above 11.0 psia (569 mm Hg) unless such a tank is either a pressure tank maintaining working pressure sufficient at all times to prevent organic vapor/gas loss to the atmosphere or is equipped with a vapor collection/processing system specified in Section 308 of this rule.~~

~~**306** **EXTERNAL FLOATING ROOF STORAGE TANKS:** This vapor loss control device is an uncovered floating roof consisting of either a pontoon type or a double deck type roof. It must rest on and be supported by the surface of the liquid contents, be equipped with a continuous primary seal to close the space between the roof eave and tank wall, except as provided in subsection 309.1 and have a continuous secondary seal which is of a design that is in accordance with accepted standards of the petroleum industry. The secondary seal shall meet the following requirements:~~

~~**306.1** The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge or primary seal and the tank wall, except as provided in subsection 306.2 of this rule. Storage tanks constructed after July 13, 1988, shall have a secondary seal that is rim mounted. Except for tanks having metallic shoe primary seals onto which secondary seals were installed prior to July 13, 1988, by October 6, 1993 no person shall operate an external floating roof tank subject to the provisions of this rule unless a secondary seal extends from the roof to the tank shell (a rim mounted seal) and is not attached to the primary seal.~~

~~**306.2** The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 1.0 square inch per foot (21.2 cm^2 per meter) of tank diameter. Determinations of gap area shall only be made at the point(s) where the gaps exceed 1/8 inch (3 mm). The width of any portion of any gap shall not exceed 1/2 inch (1.27 cm).~~

~~**306.3** The owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.~~

~~**307** **INTERNAL FLOATING ROOF TANKS WITH FIXED COVERING:** This vapor loss control device is a covered tank with an internal floating roof resting on the contained liquid. This tank and its appurtenances shall meet the applicable requirements as follows:~~

~~**307.1** Bulk terminal tanks for which construction, reconstruction or modification commenced after July 23, 1984, must comply with all applicable requirements of the EPA New Source Performance Standard (NSPS), 40 CFR Part 60, Subpart Kb.~~

~~**307.2** All tanks not subject to subsection 307.1 must comply with one of the following:~~

~~**a.** Comply with 40 CFR Part 60, Subpart Kb, notwithstanding the type of facility and the date of tank construction, reconstruction or modification; or~~

~~**b.** Have at least one continuous seal which completely covers the space between the roof edge and tank wall, except as provided in subsection 309.1, and meet at least one of the following requirements:~~

~~**(1)** Have a contact type roof resting completely on the liquid surface.~~

~~**(2)** Have a liquid mounted seal.~~

~~**(3)** Have two seals, a primary and a secondary.~~

302.2 **BULK TANKS:** An owner or operator of a gasoline bulk plant or gasoline terminal, as defined in 40 CFR §63.11100, must comply with the requirements of Section 301 and Section 302 of this rule, notwithstanding the type of facility and the date of tank construction, reconstruction or modification.

~~**308 VAPOR COLLECTION/PROCESSING SYSTEM:** This vapor loss control device consists of a vapor gathering subsystem capable of collecting the organic vapors and organic gases plus a second subsystem capable of processing such vapors and gases, preventing at least 95 percent by weight of the volatile organic compounds entering it from escaping to the atmosphere.~~

~~**308.1** The vapor processing subsystem shall be gas-tight except for the designated exhaust.~~

~~**308.2** Any tank gauging or sampling device on a tank, vented to such a vapor collection/processing system, shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling procedures.~~

~~**308.3** All pressure-vacuum valves shall be constructed and maintained in a gas tight condition except when the operating pressure exceeds the valve release setting.~~

~~**309 ADDITIONAL REQUIREMENTS:**~~

~~**309.1 Prohibition - Floating Roof Openings:** Floating roof tanks subject to the provisions of Section 306 or 307 of this rule shall have no visible holes, tears or other openings in the seal or in any seal fabric. The accumulated area of gaps between a tank's wall and primary seal shall not exceed 10 square inches per foot of tank diameter (212 cm^2 per meter) and the width of any portion of any gap shall not exceed 1½ inches (3.8 cm). Where applicable, all openings except drains shall be equipped with a cover seal or lid. The cover seal or lid shall be in a closed position at all times, except when the device is in actual use. Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports. Rim vents, if provided, shall be set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.~~

~~**309.2** Tanks and all required emission control equipment shall be properly installed, properly maintained and be properly operating.~~

~~**310 EXEMPTIONS:**~~

~~**310.1** A pressure tank maintaining working pressure sufficient at all times to prevent organic vapor or gas loss to the atmosphere is exempt from Sections 301, 302, 303, and 304 of this rule.~~

~~**310.2** During the following periods a floating roof is exempt from the requirement that its roof be floating: when the tank is being drained completely and when it is being filled, as long as both processes are accomplished continuously and as rapidly as practicable.~~

~~**310.3** A horizontal filling nozzle at its highest point within a floating roof tank exceeding 2,000,000 gallons (7,580,000 l) capacity may be up to 39.4 inches (1 meter) above the tank bottom if: except when the tank is emptied completely, the nozzle is kept completely submerged, including when the roof rests on its legs.~~

303 GENERAL REQUIREMENTS FOR LOADING FACILITIES: All gasoline bulk terminals and plants must have submerged fill pipes in all gasoline storage tanks over 250 gallons (946 l), observe designated procedures and be equipped with applicable equipment as follows:

303.1 Loading of Gasoline:

a. Connect a vapor return hose before connecting any loading hose.

b. Connect an additional vapor hose before connecting any additional loading hose, unless an assisted vapor return system is serving the vapor hose that is already connected.

c. Use a bucket or other effective capture device to catch any liquid dripping during the connection or disconnection of both the 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.

303.2 **Bulk Terminals:** No person shall load gasoline into any cargo tank from a stationary storage tank at a bulk terminal unless the vessel bears a current Maricopa County pressure-test decal issued by the Control Officer and the terminal uses a vapor collection/processing system which reduces the emissions of volatile organic compounds to not more than .08 pounds per 1000 gallons of such liquids loaded (10 grams per 1000 liters). Switch loading shall be subject to this standard. The terminal owner or operator and the operator of the receiving cargo tank shall act to ensure that the vapor line is connected before gasoline is loaded.

303.3 **Bulk Plant Tanks Over 250 Gallons (>946 L):**

a. **Loading of Bulk Plant Tanks:** No person shall load gasoline from a cargo tank into a bulk plant tank that exceeds 250 gallon (946 l) capacity unless the cargo tank bears a current Maricopa County pressure-test decal and uses a vapor balance system equipped with fittings which are vapor tight; or, alternatively, a vapor loss control system is used which emits to atmosphere less than 0.6 pound of volatile organic compounds per 1000 gallons loaded (72 grams per 1000 liters).

b. **Loading From Bulk Plant Tanks:** No person shall load gasoline from a bulk plant tank that exceeds 250 gallons (946 l) capacity into a cargo tank unless both the loading rack and cargo tank use a vapor balance system equipped with fittings which are vapor tight; or, alternatively, a vapor loss control system is used which emits to atmosphere less than 0.6 pounds of volatile organic compounds per 1000 gallons loaded (72 grams per 1000 liters).

304 **OPERATING REQUIREMENTS FOR VAPOR LOSS CONTROL DEVICES:** The owner or operator of a vapor loss control device subject to this rule shall operate the device and gasoline loading equipment as follows:

304.1 Loading shall be accomplished in a manner that prevents gauge pressure from exceeding 18 inches of water (33.6 mm Hg) and vacuum from exceeding six inches of water (11.2 mm Hg) in the cargo tank. Each owner or operator of a facility shall act to ensure that any vapor recovery system required by this Rule 351 is connected between the cargo tank and the storage tank during all loading of gasoline.

304.2 Loading shall be accomplished in a manner that prevents overfills, fugitive liquid leaks or excess gasoline liquid drainage. Owners or operators of bulk plants or operators of cargo tanks shall observe all parts of the loading and shall discontinue loading if any liquid or vapor leaks are observed. Measures shall be taken to prevent liquid leaks from the loading device when it is not in use, and to complete drainage before the loading device is disconnected. During loading operations, potential leak sources shall be vapor tight as demonstrated by the test procedure described in Section 501 of this rule.

304.3 Loading operations which use vapor collection/processing equipment shall be accomplished in such a manner that the displaced vapor and air will be vented only to the vapor collection/processing system, which shall be operated gas-tight and in a manner such that the vapor processing capacity is not exceeded. Diaphragms used in vapor storage tanks shall be maintained gas-tight.

304.4 Vapor recovery lines shall be equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection. Vapor balance systems shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

305 **REPAIR AND RETESTING REQUIREMENT:** Except as superseded by Department actions pursuant to the procedures of Rule 100, Section 501 ("Malfunctions"), the owner/operator of a vapor loss control device that exceeds the standards of this rule shall notify the Control Officer and observe the following time schedule in ending such exceedances:

305.1 Concentrations at or above the lower explosive limit must be brought into compliance within 24 hours of detection.

305.2 Leak concentrations exceeding 10,000 ppm but less than 50,000 ppm as methane for vapor collection/processing equipment subject to gas-tight standard shall be brought into compliance within 5 days of detection.

305.3 Except as the Control Officer otherwise specifies, a leak source subject to Sections 303.1 or 303.2 must be tested after presumed leak-correction within 15 minutes of recommencing use; if leak standards are exceeded in this test, the use of the faulty equipment shall be discontinued within 15 minutes until correction is verified by retesting.

306 **EQUIPMENT MAINTENANCE AND OPERATING PRACTICES:** All equipment associated with loading operations shall be maintained to be leak free, vapor tight and in good working order. Gasoline shall not be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation to the atmosphere. Purging of gasoline vapors and of JP-4 (jet petrol) vapors is prohibited.

~~**305** **EXEMPTIONS:**~~

~~**305.1** **Less Than 120,000 Gallons Per 30-Day Period:** At bulk plants built before October 2, 1978, vapor-loss control specified in Section 301.2b is not required at the outloading rack when all of the following are complied with:~~

- ~~**a.** After April 6, 1992, the bulk plant loads less than 120,000 gallons (454,800 l) of gasoline into delivery vessels in any consecutive 30-day period. Any plant that becomes subject to all of the provisions of Section 301.2b by exceeding this threshold will remain subject to these provisions even if its output later falls below the threshold.~~
- ~~**b.** Keep current records of amount of gasoline loaded and keep them readily accessible to the Division upon request for at least three (3) years.~~
- ~~**c.** Load outgoing gasoline using submerged fill only.~~
- ~~**d.** The owners or operators of the bulk plant or the owners or operators of the delivery vessel shall observe all parts of the transfer and shall discontinue the transfer if any leaks are observed.~~

307 **CARGO TANKS**

307.1 A gasoline cargo tank shall:

- **a.** Be designed and maintained to be vapor tight and leak free; and
- **b.** Clearly display a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the cargo tank.

307.2 Opening Hatches on Non-Exempt Cargo Tanks:

- **a.** **Required by Rule:** Owners/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 after a cargo tank 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.** **Loading:** Hatches of a cargo tank may be open for monitoring to prevent overflow during the period that the cargo tank is receiving gasoline from a tank or other source, if so required by a local fire code or other ordinance.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS:

401 An owner or operator of a gasoline bulk plant or gasoline terminal shall submit the following to the Control Officer:

401.1 An operation and maintenance (O&M) plan as described in Section XXX of this rule by [+XX days after BOS adoption of rule] or within XX days of construction, reconstruction or modification, whichever comes last.

401.2 Any required notifications of compliance status.

401.3 Notice of performance testing.

401.4 Any additional information requested by the Control Officer.

401.5 **OTHER AGENCIES' REQUIREMENTS:** Compliance with this rule does not relieve or otherwise affect a person'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 Weights and Measures, local fire department codes, and local zoning ordinances.

402 **CARGO TANK TESTING:** Testing required by Section XXX of this rule, shall be conducted by the owner or operator of the 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:

402.1 **Notification of Required Testing:** The owner, operator, or tester shall notify the Department in the method and manner prescribed by the Control Officer for each cargo tank to be tested in order to meet the requirements of this rule.

a. Contact the Control Officer during normal business hours of the Department and at least 4 hours prior to testing; and

b. Give an estimated start time that is no more than 1 hour prior to actual start time;

c. Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

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);

e. Give the location of the testing;

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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

402.2 **To Obtain a Vapor Recovery Certification Decal:** For each cargo tank that was pressure tested and passed the required test per Section 305.4 of this rule, submit the following:

a. A completed "APPLICATION FOR AIR POLLUTION VAPOR RECOVERY CERTIFICATION" and

b. The annual fee remittance. (The fee amount appears in Rule 280.)

402.3 **Expiration:**

a. A decal that is issued to a 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 decal that is issued to a 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 current year.

402.4 **Replacement of Decal:**

a. An owner or operator shall submit an application for the replacement of a vapor recovery decal to the Control Officer if a valid decal is lost, defaced, or destroyed.

b. The owner or operator shall certify:

(1) The information in the application is true, accurate and complete; and

(2) The cargo tank described in the application has been pressure tested according to the test procedures in Section 305.4 of this rule.

c. The Control Officer may require verification of pressure testing prior to decal replacement.

403 **Notification of Required Testing:** The owner, operator, or tester within Maricopa County shall notify the Control Officer as follows for each ~~vessel~~ cargo tank being tested to meet requirements of Section 302 or subsection 304.1 of this rule:

403.1 Contact the Control Officer during normal business hours of the Department at least 4 hours prior to testing; and

403.2 Give an estimated start time that is no more than 1 hour prior to actual start time;

403.3 Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

403.4 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);

403.5 Give the location of the testing;

403.6 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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

403.7 If the test fails, the test site has until the end of day to retest. If a retest is needed then the test site must call in to notify within 4 hours. Test must be from 5 am through 9 PM

~~**401** **ANNUAL INSPECTIONS OF EXTERNAL FLOATING ROOF TANKS:** The owner or operator of any tank which uses an external floating roof to meet the vapor loss control requirements of this rule shall make the primary seal envelope and the secondary seal available for unobstructed inspection by the Control Officer on an annual basis. The primary seal envelope shall be made available for inspection at a minimum of four locations selected along its circumference at random by the Control Officer. If the Control Officer detects a violation as a result of any such inspection, the Control Officer may require such further unobstructed inspection of the seals as may be necessary to determine the seal condition for its entire circumference.~~

~~**402** **ANNUAL INSPECTIONS OF INTERNAL FLOATING ROOF TANKS:** The owner or operator of any tank which uses an internal floating roof to meet the vapor loss control requirements of this rule shall make the entire tank including the internal floating roof available for inspection prior to filling. It shall be made available for visual inspection through the manholes or roof hatches on the fixed covering on an annual basis. Roofs which practicably can be walked on shall annually be made available for hands on inspection.~~

~~**403** **FIVE-YEAR, FULL CIRCUMFERENCE INSPECTIONS:** As of July 13, 1988, the owner or operator of a floating roof tank of 20,000 gallons (75,700 l) or more storing an organic liquid with a TVP of 1.5 psia (77.5 mm Hg) or greater shall make the primary seal envelope available for inspection by the Control Officer for its full length every five years. However, if prior thereto the secondary seal is removed or if the tank is drained and cleaned by the owner or operator for any reason, it shall be made available for such inspection at that time. The owner or operator shall provide notification to the Control Officer no less than seven working days prior to removal of the secondary seal. The owner or operator shall perform a complete inspection of the primary seal and floating roof, including measurement of gap area and maximum gap, whenever the tank is emptied for non-operational reasons or at least every five years, whichever is more frequent.~~

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

~~**404** **SEMI-ANNUAL INSPECTIONS BY OWNER OR OPERATOR:** The owner or operator of any floating roof tank subject to this rule shall inspect the tank and seals at least once every six months to determine ongoing compliance with both the applicable standards of this rule and any permit conditions pertaining to the tank. Determinations of secondary seal gap area on external floating roofs need be made only once per year. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.~~

~~**405** **COMPLIANCE SCHEDULE:** By October 6, 1992, any person subject to Section 300 who does not comply with all its provisions shall submit to the Control Officer for approval an emission control plan describing the method(s) to be used to achieve full compliance by October 6, 1993. This plan shall specify dates for completing increments of progress, such as the contractual arrival date of new control equipment. The Control Officer may require a person submitting such an emission control plan to submit subsequent reports on progress in achieving compliance.~~

SECTION 500 - MONITORING AND RECORDS: In addition to any federal testing, monitoring and recording requirements, an owner or operator of a gasoline bulk plant or gasoline bulk terminal shall comply with the following:

501 **PROVIDING AND MAINTAINING MONITORING DEVICES:** An owner or operator who is required to use an approved emission control system to control particulate emissions shall

501.1 Provide an approved emission control system;

501.2 Properly install the system;

501.3 Properly operate the system;

501.4 Maintain the system in calibration and in good working order.

501.5 Install devices for indicating temperatures, pressures, loading rates, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained as described in an approved O&M Plan.

502 **ANNUAL INSPECTIONS OF EXTERNAL FLOATING ROOF TANKS:** The owner or operator of any tank which uses an external floating roof to meet the vapor loss control requirements of this rule shall make the primary seal envelope and the secondary seal available for unobstructed inspection by the Control Officer on an annual basis. The primary seal envelope shall be made available for inspection at a minimum of four locations selected along its circumference at random by the Control Officer. If the Control Officer detects a violation as a result of any such inspection, the Control Officer may require such further unobstructed inspection of the seals as may be necessary to determine the seal condition for its entire circumference.

503 **ANNUAL INSPECTIONS OF INTERNAL FLOATING ROOF TANKS:** The owner or operator of any tank which uses an internal floating roof to meet the vapor loss control requirements of this rule shall make the entire tank including the internal floating roof available for inspection prior to filling. It shall be made available for visual inspection through the manholes or roof hatches on the fixed covering on an annual basis. Roofs which practicably can be walked on shall annually be made available for hands-on inspection.

504 **FIVE-YEAR, FULL CIRCUMFERENCE INSPECTIONS:** The owner or operator of a floating roof tank of 20,000 gallons (75,700 l) or more storing gasoline, shall make the primary seal envelope available for inspection by the Control Officer for its full length every five years. However, if the secondary seal is removed or if the tank is drained and cleaned by the owner or operator for any reason prior to the five year time frame, the primary seal envelope shall be made available inspection at that time. The owner or

operator shall provide notification to the Control Officer no less than seven working days prior to removal of the secondary seal.

505 **SEMI-ANNUAL INSPECTIONS BY OWNER OR OPERATOR:** The owner or operator of any floating roof tank subject to this rule shall inspect the tank and seals at least once every six months to determine ongoing compliance with both the applicable standards of this rule and any permit conditions pertaining to the tank. Determinations of secondary seal gap area on external floating roofs need be made only once per year. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.

~~501~~506 **VAPOR PRESSURE RECORDS:** A person whose tanks are subject to the provisions of this rule shall keep accurate records of ~~liquids~~gasoline stored in such tanks including ~~either the true or~~ the Reid vapor pressure ~~ranges of each such liquid~~. The temperature of the contents of each ~~affected~~gasoline tank located at bulk terminals shall be recorded at least weekly and the true vapor pressure of each shall be recorded at least once each month. These records shall be kept a minimum of three years.

507 **CARGO TANK RECORDKEEPING AND REPORTING:**

507.1 The owner or operator of a gasoline ~~delivery vessel~~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.

507.2 The records of the certification testing required by Section ~~302~~XXX must be recorded on the "Application for Air Pollution Vapor Recovery Certification". Pressure and vacuum shall be recorded to no less than the nearest quarter inch or half-centimeter of water column. The minimum requirements for this document are:

a. Owner's name and address.

b. Tank ID number, the location of the test, the time of the test, and the date of the test.

c. For the pressure subtest, 2 readings: the change in pressure (in inches H2O) for Run 1 and the change in pressure for Run 2.

d. For the vapor-valve subtest (subsection 302.2b), 1 reading: the total change in pressure during the test.

e. For the vacuum test, 2 readings: the total change in vacuum during Run 1 and the same for Run 2.

f. The owner or operator of a gasoline cargo tank shall record the following:

a. The occurrence and duration of each malfunction of operation of the cargo tank; and

b. The corrective action taken to restore the cargo tank to a vapor tight or liquid leak free status.

~~502~~508 **COMPLIANCE DETERMINATION - TEST METHODS:** When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.

509 GASOLINE **STORAGE TANK TEST METHODS:**The EPA test method as it exists in the Code of Federal Regulations (CFR) (~~July 1, 1998~~), 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, AZ 85004.

~~**502.1 Determination Of Vapor-Tight Condition:** Applicable procedures of Rule 351, Section 501.~~

~~**509.2**~~**509.1 Emission Rates and Control Device Efficiency:** EPA Reference Methods 2A, 2B, 18 and 25A.

~~**509.3**~~**509.2 Gaseous Leak Detection and Determination of Gas-Tight Condition:** EPA Method 21.

~~**509.4**~~**509.3 Reid Vapor Pressure:** Reid vapor pressure shall be determined by ASTM Method D323-82 or by ASTM Method ~~D 5191~~ D323-94.

~~**509.5**~~**509.4 True Vapor Pressure:** True vapor pressure shall be determined by ASTM Method 2879-83 and by temperature measurement under actual conditions using an instrument accurate to within ± 1 degree Fahrenheit or ± 0.5 degree Celsius. For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February, 1980, to determine true vapor pressure, unless the Control Officer specifies ASTM Method 2879-83.

509.5 Optical Gas Imaging

510 VAPOR CONTROL SYSTEMS:

510.1 Vapor Collection/Processing System: Control efficiency of a vapor collection/processing system shall be determined according to EPA Reference Method 25A or Method 25B subsequent to the Control Officer's approval of the test protocol. Leak tests to verify a gas-tight state of the equipment associated with the vapor collection/processing device, including the piping outside of the loading area, shall be conducted according to EPA Reference Method 21. Gas volume flow rates shall be determined by Method 2B for a thermal oxidizer; otherwise, by Method 2A.

510.2 Vapor Balance And Loading Systems: Vapor tightness shall be determined using the method described in Section 501 of this rule.

510.3 True Vapor Pressure shall be determined by ASTM Method 2879-83 and by temperature measurement under actual conditions using an instrument accurate to within ±1 degree Fahrenheit or ±0.5 degree Celsius. For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February, 1980, to determine true vapor pressure, unless the Control Officer specifies ASTM Method 2879-83.

510.4 Reid Vapor Pressure shall be determined by ASTM Method D 323-82 or by ASTM Method D 5191.

511 GASOLINE CARGO TANK TEST METHODS:

511.1 Maricopa County Pressure Test: A cargo tank that tested per MC test procedure shall pass all 3 of the following pressure subtests, in the following sequence using the vapor hose for the test that is used to load gasoline. If more than one hose is used for gasoline loading, each hose shall be tested separately using the following test sequence:

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 cargo tank 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

c. 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 ½ inch.

511.2 A cargo tank 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.

511.3 EPA Method 27 ("Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test") in 40 CFR 60, Appendix A.

511.4 Confirmation of a vapor leak detected on a ~~vessel~~cargo tank 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, while the pressure is less than 20 inches of water column.

511.5 **ASTM** D323-15a "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).

511.6 EPA Method 27 ("Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test") in 40 CFR 60, Appendix A.

511.7 ASTM D4953-15 "Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)

511.8 **Test of Internal Vapor Valves:**

a. Pressurize the cargo tank to 18 inches (45.7 cm) of water column, using the first 2 procedures of the "Pressure Test" section of EPA Method 27.

b. Close all the cargo tank's internal valves, including the internal vapor valves, thereby isolating the vapor system (vapor return line plus vapor manifold) from the compartments.

c. Relieve the pressure in the vapor return line (to atmospheric pressure).

d. Seal the vapor return line and after 5.0 minutes record the pressure present in the vapor system.

511.9 **Cargo Tank Vapor Tightness Test:** A vapor tight condition will be determined for ~~vessels~~cargo tanks by the following method:

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.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

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NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

NOTE: THIS IS DRAFT RULE 351

Underlined text (new text) and Strikeout text (deleted language) are not shown in this draft for ease of reading, reviewing and commenting on.

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 351
STORAGE AND LOADING OF GASOLINE AT BULK PLANTS AND BULK TERMINALS

INDEX

NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

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Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

509 GASOLINE STORAGE TANK TEST METHODS

510 VAPOR CONTROL SYSTEMS

511 GASOLINE CARGO TANK TEST METHODS:

NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

Revised 07/13/1988; Revised 04/06/1992; **Revised MM/DD/YYYY**

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

RULE 351
STORAGE AND LOADING OF GASOLINE AT BULK PLANTS AND BULK TERMINALS

SECTION 100 - GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds from gasoline under actual storage and loading at bulk plants and bulk terminals.

102 APPLICABILITY: This rule is applicable to:

102.1 The loading of gasoline at a bulk plant or bulk terminal;

102.2 The storage of gasoline in a bulk plant or bulk terminal; and

102.3 The cargo tanks that load gasoline at a bulk plant or bulk terminal.

103 EXEMPTIONS:

103.1 The owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.

103.2 A pressure tank maintaining working pressure sufficient at all times to prevent gas loss to the atmosphere is exempt from Sections [list out] of this rule.

103.3 A floating roof is exempt from the requirement that its roof be floating as long as either of the following processes is accomplished continuously and as rapidly as practicable:

a. When the tank is being drained completely.

b. When the tank is being filled.

103.4 Bulk Plants with a Throughput of Less Than 120,000 Gallons Per 30-Day Period: At bulk plants built before October 2, 1978, vapor loss control specified in Section 301.2b is not required at the outloading rack when all of the following are complied with:

a. After April 6, 1992, the bulk plant loads less than 120,000 gallons (454,800 l) of gasoline into delivery vessels in any consecutive 30-day period. Any plant that becomes subject to all of the provisions of Section 301.2b by exceeding this threshold will remain subject to these provisions even if its output later falls below the threshold.

b. Keep current records of amount of gasoline loaded and keep them readily accessible to the Department upon request for at least three (3) years.

c. Load gasoline using submerged fill only.

d. The owners or operators of the bulk plant or the owners or operators of the cargo tank shall observe all parts of the gasoline loading process and shall discontinue the gasoline loading if any leaks are observed.

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); 40 CFR 60, Subparts K, Ka and Kb; and 40 CFR 63, Subpart BBBBBB. In the event of any inconsistency between any of the Maricopa County air pollution control rules and the CFR, the definitions in this rule take precedence.

NOTE: this document will be referred to as **pr351** as to not confuse it with current rule 351.

201 **BULK GASOLINE PLANT -** Any gasoline storage and distribution facility that receives gasoline by pipeline, rail, or cargo tank, and subsequently loads the gasoline into gasoline cargo tanks for transport to gasoline dispensing facilities, and has a gasoline throughput of less than 20,000 gallons per day.

202 **BULK TERMINAL -** Any gasoline storage and distribution facility that receives gasoline by pipeline, rail or cargo tank and has a gasoline throughput of 20,000 gallons per day or greater.

203 **GASOLINE CARGO TANK:** A delivery tank truck or railcar which is loading gasoline or which has loaded gasoline on the immediately previous load.

204 **GAS TIGHT -** Having no leak of gaseous organic compound(s) exceeding 10,000 ppm above background when measurements are made using EPA Method 21 with a methane calibration standard.

205 **GASOLINE -** Any petroleum distillate, petroleum distillate/alcohol blend, petroleum distillate/organic compound blend, or alcohol having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual conditions of storage and handling, and which is used as a fuel for internal combustion engines.

206 **GASOLINE LOADING FACILITY -** Any operation or facility such as a gasoline storage tank farm, pipeline terminal, bulk plant, loading dock or combination thereof, where gasoline is loaded into or out of cargo tanks for future distribution. Included are all related pollutant-emitting activities which are located on one or more contiguous or adjacent properties, and are under the control of the same person or persons under common control.

207 **STATIONARY STORAGE TANK -** Any tank, reservoir or other container used to store, but not transport, gasoline.

208 **SUBMERGED FILL PIPE -** The end of the discharge pipe or nozzle is totally submerged when the gasoline is loaded.

209 **VAPOR LOSS CONTROL DEVICE -** Any piping, hoses, equipment, and devices which are used to collect, store and/or process organic vapors at a bulk terminal, bulk plant, service station or other operation handling gasoline.

210 **VAPOR TIGHT -** A condition where no organic vapor leak reaches or exceeds 100 percent of the lower explosive limit at a distance of one inch (2.5 cm) from a leak when measured with a combustible gas detector or an organic vapor analyzer, both calibrated with propane.

SECTION 300 – STANDARDS

301 **FEDERAL STANDARDS OF PERFORMANCE FOR GASOLINE BULK PLANTS AND BULK TERMINALS:** An owner or operator of a gasoline bulk plant or gasoline terminal must meet the federal standards of performance set forth in 40 CFR 60, Subparts K, Ka and Kb; and the national emission standards set forth in 40 CFR 63, Subpart BBBBBB, and all accompanying appendices, excluding the authorities that cannot be delegated to the department. These federal standards are adopted and incorporated by reference in Rule 360 and Rule 370.

302 **STORAGE TANK STANDARDS:**

302.1 **SUBMERGED FILL PIPES:** No persons shall load gasoline into storage tanks and cargo tanks without meeting at least one of the following requirements:

a. Top-Filled Or Bottom-Filled Tanks: The end of the fill pipe is totally submerged when the liquid level is no more than six inches (15 cm) from the bottom of the tank.

b. Side-Filled: The end of the fill pipe is totally submerged when the liquid level is no more than 18 inches (46 cm) from the bottom of the tank.

c. Horizontal Filled: The end of the fill pipe at its highest point within a floating roof tank exceeding 2,000,000 gallons (7,580,000 l) capacity may be up to 39.4 inches (1 meter) above the tank bottom if the nozzle is kept completely submerged, including when the roof rests on its legs except when the tank is emptied completely.

302.2 **BULK TANKS:** An owner or operator of a gasoline bulk plant or gasoline terminal, as defined in 40 CFR §63.11100, must comply with the requirements of Section 301 and Section 302 of this rule, notwithstanding the type of facility and the date of tank construction, reconstruction or modification.

303 **GENERAL REQUIREMENTS FOR LOADING FACILITIES:** All gasoline bulk terminals and plants must have submerged fill pipes in all gasoline storage tanks over 250 gallons (946 l), observe designated procedures and be equipped with applicable equipment as follows:

303.1 **Loading of Gasoline:**

a. Connect a vapor return hose before connecting any loading hose.

b. Connect an additional vapor hose before connecting any additional loading hose, unless an assisted vapor return system is serving the vapor hose that is already connected.

c. Use a bucket or other effective capture device to catch any liquid dripping during the connection or disconnection of both the 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.

303.2 **Bulk Terminals:** No person shall load gasoline into any cargo tank from a stationary storage tank at a bulk terminal unless the vessel bears a current Maricopa County pressure-test decal issued by the Control Officer and the terminal uses a vapor collection/processing system which reduces the emissions of volatile organic compounds to not more than .08 pounds per 1000 gallons of such liquids loaded (10 grams per 1000 liters). Switch loading shall be subject to this standard. The terminal owner or operator and the operator of the receiving cargo tank shall act to ensure that the vapor line is connected before gasoline is loaded.

303.3 **Bulk Plant Tanks Over 250 Gallons (>946 L):**

a. **Loading of Bulk Plant Tanks:** No person shall load gasoline from a cargo tank into a bulk plant tank that exceeds 250 gallon (946 l) capacity unless the cargo tank bears a current Maricopa County pressure-test decal and uses a vapor balance system equipped with fittings which are vapor tight; or, alternatively, a vapor loss control system is used which emits to atmosphere less than 0.6 pound of volatile organic compounds per 1000 gallons loaded (72 grams per 1000 liters).

b. **Loading From Bulk Plant Tanks:** No person shall load gasoline from a bulk plant tank that exceeds 250 gallons (946 l) capacity into a cargo tank unless both the loading rack and cargo tank use a vapor balance system equipped with fittings which are vapor tight; or, alternatively, a vapor loss control system is used which emits to atmosphere less than 0.6 pounds of volatile organic compounds per 1000 gallons loaded (72 grams per 1000 liters).

304 **OPERATING REQUIREMENTS FOR VAPOR LOSS CONTROL DEVICES:** The owner or operator of a vapor loss control device subject to this rule shall operate the device and gasoline loading equipment as follows:

304.1 Loading shall be accomplished in a manner that prevents gauge pressure from exceeding 18 inches of water (33.6 mm Hg) and vacuum from exceeding six inches of water (11.2 mm Hg) in the cargo tank. Each owner or operator of a facility shall act to ensure that any vapor recovery system required by this Rule 351 is connected between the cargo tank and the storage tank during all loading of gasoline.

304.2 Loading shall be accomplished in a manner that prevents overfills, fugitive liquid leaks or excess gasoline liquid drainage. Owners or operators of bulk plants or operators of cargo tanks shall observe all parts of the loading and shall discontinue loading if any liquid or vapor leaks are observed. Measures shall be taken to prevent liquid leaks from the loading device when it is not in use, and to complete drainage before the loading device is disconnected. During loading operations, potential leak sources shall be vapor tight as demonstrated by the test procedure described in Section 501 of this rule.

304.3 Loading operations which use vapor collection/processing equipment shall be accomplished in such a manner that the displaced vapor and air will be vented only to the vapor collection/processing system, which shall be operated gas-tight and in a manner such that the vapor processing capacity is not exceeded. Diaphragms used in vapor storage tanks shall be maintained gas-tight.

304.4 Vapor recovery lines shall be equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection. Vapor balance systems shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

305 REPAIR AND RETESTING REQUIREMENT: Except as superseded by Department actions pursuant to the procedures of Rule 100, Section 501 ("Malfunctions"), the owner/operator of a vapor loss control device that exceeds the standards of this rule shall notify the Control Officer and observe the following time schedule in ending such exceedances:

305.1 Concentrations at or above the lower explosive limit must be brought into compliance within 24 hours of detection.

305.2 Leak concentrations exceeding 10,000 ppm but less than 50,000 ppm as methane for vapor collection/processing equipment subject to gas-tight standard shall be brought into compliance within 5 days of detection.

305.3 Except as the Control Officer otherwise specifies, a leak source subject to Sections 303.1 or 303.2 must be tested after presumed leak-correction within 15 minutes of recommencing use; if leak standards are exceeded in this test, the use of the faulty equipment shall be discontinued within 15 minutes until correction is verified by retesting.

306 EQUIPMENT MAINTENANCE AND OPERATING PRACTICES: All equipment associated with loading operations shall be maintained to be leak free, vapor tight and in good working order. Gasoline shall not be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation to the atmosphere. Purging of gasoline vapors and of JP-4 (jet petrol) vapors is prohibited.

307 CARGO TANKS

307.1 A gasoline cargo tank shall:

a. Be designed and maintained to be vapor tight and leak free; and

b. Clearly display a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the cargo tank.

307.2 Opening Hatches on Non-Exempt Cargo Tanks:

a. Required by Rule: Owners/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 after a cargo tank 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. Loading: Hatches of a cargo tank may be open for monitoring to prevent overflow during the period that the cargo tank is receiving gasoline from a tank or other source, if so required by a local fire code or other ordinance.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS:

401 An owner or operator of a gasoline bulk plant or gasoline terminal shall submit the following to the Control Officer:

401.1 An operation and maintenance (O&M) plan as described in Section XXX of this rule by [+XX days after BOS adoption of rule] or within XX days of construction, reconstruction or modification, whichever comes last.

401.2 Any required notifications of compliance status.

401.3 Notice of performance testing.

401.4 Any additional information requested by the Control Officer.

401.5 OTHER AGENCIES' REQUIREMENTS: Compliance with this rule does not relieve or otherwise affect a person'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 Weights and Measures, local fire department codes, and local zoning ordinances.

402 CARGO TANK TESTING: Testing required by Section XXX of this rule, shall be conducted by the owner or operator of the 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:

402.1 Notification of Required Testing: The owner, operator, or tester shall notify the Department in the method and manner prescribed by the Control Officer for each cargo tank to be tested in order to meet the requirements of this rule.

a. Contact the Control Officer during normal business hours of the Department and at least 4 hours prior to testing; and

b. Give an estimated start time that is no more than 1 hour prior to actual start time;

c. Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

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);

e. Give the location of the testing;

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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

402.2 To Obtain a Vapor Recovery Certification Decal: For each cargo tank that was pressure tested and passed the required test per Section 305.4 of this rule, submit the following:

a. A completed "APPLICATION FOR AIR POLLUTION VAPOR RECOVERY CERTIFICATION" and

b. The annual fee remittance. (The fee amount appears in Rule 280.)

402.3 Expiration:

a. A decal that is issued to a 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 decal that is issued to a 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 current year.

402.4 Replacement of Decal:

a. An owner or operator shall submit an application for the replacement of a vapor recovery decal to the Control Officer if a valid decal is lost, defaced, or destroyed.

b. The owner or operator shall certify:

(1) The information in the application is true, accurate and complete; and

(2) The cargo tank described in the application has been pressure tested according to the test procedures in Section 305.4 of this rule.

c. The Control Officer may require verification of pressure testing prior to decal replacement.

403 Notification of Required Testing: The owner, operator, or tester within Maricopa County shall notify the Control Officer as follows for each vessel cargo tank being tested to meet requirements of Section 302 or subsection 304.1 of this rule:

403.1 Contact the Control Officer during normal business hours of the Department at least 4 hours prior to testing; and

403.2 Give an estimated start time that is no more than 1 hour prior to actual start time;

403.3 Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

403.4 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);

403.5 Give the location of the testing;

403.6 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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

403.7 If the test fails, the test site has until the end of day to retest. If a retest is needed then the test site must call in to notify within 4 hours. Test must be from 5 am through 9 PM

SECTION 500 - MONITORING AND RECORDS: In addition to any federal testing, monitoring and recording requirements, an owner or operator of a gasoline bulk plant or gasoline bulk terminal shall comply with the following:

501 PROVIDING AND MAINTAINING MONITORING DEVICES: An owner or operator who is required to use an approved emission control system to control particulate emissions shall

501.1 Provide an approved emission control system;

501.2 Properly install the system;

501.3 Properly operate the system;

501.4 Maintain the system in calibration and in good working order.

501.5 Install devices for indicating temperatures, pressures, loading rates, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained as described in an approved O&M Plan.

502 **ANNUAL INSPECTIONS OF EXTERNAL FLOATING ROOF TANKS:** The owner or operator of any tank which uses an external floating roof to meet the vapor loss control requirements of this rule shall make the primary seal envelope and the secondary seal available for unobstructed inspection by the Control Officer on an annual basis. The primary seal envelope shall be made available for inspection at a minimum of four locations selected along its circumference at random by the Control Officer. If the Control Officer detects a violation as a result of any such inspection, the Control Officer may require such further unobstructed inspection of the seals as may be necessary to determine the seal condition for its entire circumference.

503 **ANNUAL INSPECTIONS OF INTERNAL FLOATING ROOF TANKS:** The owner or operator of any tank which uses an internal floating roof to meet the vapor loss control requirements of this rule shall make the entire tank including the internal floating roof available for inspection prior to filling. It shall be made available for visual inspection through the manholes or roof hatches on the fixed covering on an annual basis. Roofs which practicably can be walked on shall annually be made available for hands-on inspection.

504 **FIVE-YEAR, FULL CIRCUMFERENCE INSPECTIONS:** The owner or operator of a floating roof tank of 20,000 gallons (75,700 l) or more storing gasoline, shall make the primary seal envelope available for inspection by the Control Officer for its full length every five years. However, if the secondary seal is removed or if the tank is drained and cleaned by the owner or operator for any reason prior to the five year time frame, the primary seal envelope shall be made available inspection at that time. The owner or operator shall provide notification to the Control Officer no less than seven working days prior to removal of the secondary seal.

505 **SEMI-ANNUAL INSPECTIONS BY OWNER OR OPERATOR:** The owner or operator of any floating roof tank subject to this rule shall inspect the tank and seals at least once every six months to determine ongoing compliance with both the applicable standards of this rule and any permit conditions pertaining to the tank. Determinations of secondary seal gap area on external floating roofs need be made only once per year. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.

506 **VAPOR PRESSURE RECORDS:** A person whose tanks are subject to the provisions of this rule shall keep accurate records of gasoline stored in such tanks including the Reid vapor pressure. The temperature of the contents of each gasoline tank located at bulk terminals shall be recorded at least weekly and the true vapor pressure of each shall be recorded at least once each month. These records shall be kept a minimum of three years.

507 **CARGO TANK RECORDKEEPING AND REPORTING:**

507.1 The owner or operator of a 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.

507.2 The records of the certification testing required by Section XXX must be recorded on the "Application for Air Pollution Vapor Recovery Certification". Pressure and vacuum shall be recorded to no less than the nearest quarter inch or half-centimeter of water column. The minimum requirements for this document are:

a. Owner's name and address.

b. Tank ID number, the location of the test, the time of the test, and the date of the test.

c. For the pressure subtest, 2 readings: the change in pressure (in inches H2O) for Run 1 and the change in pressure for Run 2.

d. For the vapor-valve subtest (subsection 302.2b), 1 reading: the total change in pressure during the test.

e. For the vacuum test, 2 readings: the total change in vacuum during Run 1 and the same for Run

f. The owner or operator of a gasoline cargo tank shall record the following:

g. The occurrence and duration of each malfunction of operation of the cargo tank; and

h. The corrective action taken to restore the cargo tank to a vapor tight or liquid leak free status.

508 COMPLIANCE DETERMINATION - TEST METHODS: When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.

509 GASOLINE STORAGE TANK TEST METHODS: The EPA test method as it exists in the Code of Federal Regulations (CFR) (Date of this rule), 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, AZ 85004.

509.1 Emission Rates and Control Device Efficiency: EPA Reference Methods 2A, 2B, 18 and 25A.

509.2 Gaseous Leak Detection and Determination of Gas-Tight Condition: EPA Method 21.

509.3 Reid Vapor Pressure: Reid vapor pressure shall be determined by ASTM Method D323-82 or by ASTM Method D323-94.

509.4 True Vapor Pressure: True vapor pressure shall be determined by ASTM Method 2879-83 and by temperature measurement under actual conditions using an instrument accurate to within ± 1 degree Fahrenheit or ± 0.5 degree Celsius. For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February, 1980, to determine true vapor pressure, unless the Control Officer specifies ASTM Method 2879-83.

509.5 Optical Gas Imaging

510 VAPOR CONTROL SYSTEMS:

510.1 Vapor Collection/Processing System: Control efficiency of a vapor collection/processing system shall be determined according to EPA Reference Method 25A or Method 25B subsequent to the Control Officer's approval of the test protocol. Leak tests to verify a gas-tight state of the equipment associated with the vapor collection/processing device, including the piping outside of the loading area, shall be conducted according to EPA Reference Method 21. Gas volume flow rates shall be determined by Method 2B for a thermal oxidizer; otherwise, by Method 2A.

510.2 Vapor Balance and Loading Systems: Vapor tightness shall be determined using the method described in Section 501 of this rule.

510.3 True Vapor Pressure shall be determined by ASTM Method 2879-83 and by temperature measurement under actual conditions using an instrument accurate to within ±1 degree Fahrenheit or ±0.5 degree Celsius. For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February, 1980, to determine true vapor pressure, unless the Control Officer specifies ASTM Method 2879-83.

510.4 Reid Vapor Pressure shall be determined by ASTM Method D 323-82 or by ASTM Method D 5191.

511 GASOLINE CARGO TANK TEST METHODS:

511.1 **Maricopa County Pressure Test:** A cargo tank that tested per MC test procedure shall pass all 3 of the following pressure subtests, in the following sequence using the vapor hose for the test that is used to load gasoline. If more than one hose is used for gasoline loading, each hose shall be tested separately using the following test sequence:

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 cargo tank 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

c. **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 ½ inch.

511.2 A cargo tank 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.

511.3 EPA Method 27 (“Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test”) in 40 CFR 60, Appendix A.

511.4 Confirmation of a vapor leak detected on a cargo tank during 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, while the pressure is less than 20 inches of water column.

511.5 ASTM D323-15a “Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).

511.6 EPA Method 27 (“Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test”) in 40 CFR 60, Appendix A.

511.7 ASTM D4953-15 “Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)

511.8 **Test of Internal Vapor Valves:**

a. Pressurize the cargo tank to 18 inches (45.7 cm) of water column, using the first 2 procedures of the "Pressure Test" section of EPA Method 27.

b. Close all the cargo tank’s internal valves, including the internal vapor valves, thereby isolating the vapor system (vapor return line plus vapor manifold) from the compartments.

c. Relieve the pressure in the vapor return line (to atmospheric pressure).

d. Seal the vapor return line and after 5.0 minutes record the pressure present in the vapor system.

511.9 **Cargo Tank Vapor Tightness Test:** A vapor tight condition will be determined for cargo tanks by the following method:

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

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.

NOTE: THIS IS A REVISED PROPOSED RULE 352

(FORMERLY PROPOSED as RULE 352 with Rule 353 information included at Workshop 1)

~~REGULATION III – CONTROL OF AIR CONTAMINANTS~~

~~RULE 352~~
~~GASOLINE DELIVERY VESSEL TESTING AND USE~~

~~INDEX~~

~~502 MONITORING FOR LEAKS~~

~~503 COMPLIANCE DETERMINATION~~

~~504 TEST METHODS~~

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

~~MARICOPA COUNTY~~
~~AIR POLLUTION CONTROL REGULATIONS~~

~~REGULATION III – CONTROL OF AIR CONTAMINANTS~~

~~RULE 352~~
~~GASOLINE DELIVERY VESSEL TESTING AND USE~~

~~SECTION 100 – GENERAL~~

~~**101 PURPOSE:** To limit emissions of volatile organic compounds (VOC) from gasoline delivery vessels.~~

~~**102 APPLICABILITY:** This rule applies to any gasoline delivery vessel 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.~~

~~**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.~~

~~**202 EXCESS GASOLINE DRAINAGE:** More than 10 milliliters (2 teaspoonsful) of liquid gasoline lost in the process of connecting or disconnecting a gasoline delivery hose, or any quantity of gasoline lost during those processes 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.~~

~~**203 GASOLINE:** Any petroleum distillate 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.) 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 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 LEAK FREE: Having no single 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 MARICOPA COUNTY (MC) PRESSURE 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 of this rule.

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

209 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.

210 SWITCH LOADING: Loading diesel fuel into a delivery vessel whose previous load was gasoline; or loading any liquid not subject to this rule into a delivery vessel whose previous load was gasoline.

211 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:

301.1 Vessel Integrity: In Maricopa County, no person shall store or transport gasoline in or otherwise use or operate any gasoline delivery vessel unless such vessel is designed and maintained to be vapor tight and leak free.

301.2 Onloading Measures:

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

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

c. Use a bucket or other effective capture device to catch any liquid dripping during the connection or disconnection of both the 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.

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

a. Thoroughly drain a fill hose and a vapor recovery hose into the dispensing tank before disconnecting it from the tank's fittings.

b. Connect and 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.

c. Spills and any gasoline that is deposited in or on an area other than within the dispensing 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.

301.4 Vapor Hose use Required at Retail Gas Stations:

a. A driver/operator shall not deliver gasoline to a dispensing tank at a retail gas station unless a vapor hose is first connected from the vessel to a vapor return-line serving the tank.

b. No delivery shall be made to a retail tank if:

(1) it is not served by a vapor return, or

(2) if it has a locked cap that cannot be removed, or

(3) if broken fittings prevent correct connection of the vapor hose.

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

a. During delivery, the vessel 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.

b. Connect a vapor recovery hose before connecting any gasoline delivery hose.

c. 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 onloading 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.

c. 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 onload 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

c. 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 ½ 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.

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 onloading 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 c shall be conducted by the owner or operator of the delivery vessel, 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 being tested to meet requirements of Section 302 or subsection 304.1 of this rule:

a. Contact the Control Officer during normal business hours of the Department at least 4 hours prior to testing; and

b. Give an estimated start time that is no more than 1 hour prior to actual start time;

c. Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

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);

e. Give the location of the testing;

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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

401.2 Registration: To obtain a decal, do the following for each vessel that passes the required annual test:

a. Assemble in 1 packet the following 3 items:

(1) A properly completed "APPLICATION FOR AIR POLLUTION VAPOR RECOVERY CERTIFICATION" (also called "The Application"),

(2) A properly completed copy of the Maricopa County Air Quality "Tank Truck Leak Certification Check List", and

(3) 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.

c. Upon receipt of these 3 properly completed items, a decal will be issued by the Control Officer.

401.3 Expiration:

a. A decal that is issued to a vessel 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 decal that is issued to a vessel 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:

a. An owner or operator shall notify the Control Officer immediately if a valid decal/sticker 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, 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 testing operation who chooses to comply with the Section 304 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 RECORDKEEPING AND REPORTING REQUIREMENTS:

501.1 The owner or operator of a gasoline delivery vessel 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.

501.2 The records of the certification testing required by Section 302 must be recorded in both of the following documents: the "Application for Air Pollution Vapor Recovery Certification" and the "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 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.

(3) For the pressure subtest, 2 readings: the change in pressure (in inches H2O) for Run 1 and the change in pressure for Run 2.

(4) For the vapor-valve subtest (subsection 302.2b), 1 reading: the total change in pressure during the test.

(5) For the vacuum test, 2 readings: the total change in vacuum during Run 1 and the same for Run 2.

b. The "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.

502 MONITORING FOR LEAKS: The Control Officer may at any time monitor a delivery vessel, 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.

503 COMPLIANCE DETERMINATION: 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.

503.1 Pressure and Vacuum Tests: The subtests to determine compliance with subsection 302.2a and subsection 302.2c of this rule shall be performed according to EPA Method 27, except that the definition of gasoline shall be according to this Rule 352.

503.2 Test of Internal Vapor Valves: The test to determine compliance with subsection 302.2b 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 Confirmation of a vapor leak detected on a vessel during onloading 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, while the pressure is less than 20 inches of water column.

503.4 Pursuant to Section 203, Reid vapor pressure shall be determined using American Society for Testing and Materials (ASTM) Method D 323-90.

504 TEST METHODS: The EPA test method as it exists in the Code of Federal Regulations (CFR) (July 1, 1998), 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 ~~EPA Method 27 ("Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test") in 40 CFR 60, Appendix A.~~

504.2 ~~American Society for Testing and Materials (ASTM) Method D 323-90, 1990 (Reid vapor pressure).~~

504.3 ~~Test of Internal Vapor Valves:~~

a. ~~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.~~

b. ~~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.~~

c. ~~Relieve the pressure in the vapor return line (to atmospheric pressure).~~

d. ~~Seal the vapor return line and after 5.0 minutes record the pressure present in the vapor system.~~

504.4 ~~Delivery Vessel Vapor Tightness Test:~~ ~~A vapor tight condition will be determined for vessels by the following method:~~

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.~~

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

NOTE: THIS IS A REVISED PROPOSED RULE 353
(FORMERLY PROPOSED as RULE 352 at Workshop 1)

REGULATION III – CONTROL OF AIR CONTAMINANTS

RULE 353
STORAGE AND LOADING OF GASOLINE ~~IN STATIONARY DISPENSING TANKS~~ AT GASOLINE DISPENSING FACILITIES

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~~**Revised 07/13/88**~~
~~**Revised 04/06/92**~~
~~**Revised 06/16/99**~~
~~**Revised 09/25/13**~~

Revised 07/13/1988; Revised 04/06/1992; Revised 06/16/1999; Revised 09/25/2013; and **Revised MM/DD/YYYY**

MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS

REGULATION III – CONTROL OF AIR CONTAMINANTS

RULE 353
STORAGE AND LOADING OF GASOLINE ~~IN STATIONARY DISPENSING TANKS~~ AT GASOLINE DISPENSING FACILITIES

SECTION 100 – GENERAL

101 **PURPOSE:** To limit ~~VOC (volatile organic compound)~~ emissions of volatile organic compounds (VOC) from gasoline stored in stationary dispensing tanks~~,~~ ; from gasoline loaded into such tanks; and from gasoline cargo tanks. ~~and from gasoline delivered into such tanks.~~

102 **APPLICABILITY:** This rule applies to all of the following: ~~is applicable to gasoline stored in or transferred into any stationary dispensing tank with a capacity of more than 250 gallons (946 l). This includes gas stations and other gasoline-dispensing facilities, including those located at airports.~~

102.1 Gasoline stored or loaded into any stationary dispensing tank; **and**

102.2 Any gasoline cargo tank which is used to load gasoline within Maricopa County; **and**

102.3 To all persons who own, operate, maintain, repair, or test such gasoline dispensing facilities and gasoline cargo tanks; **and**

102.4 Gas stations and other gasoline-dispensing facilities, including those located at airports.

103 **FUEL EXEMPTIONS:** This rule does not apply to the following fuels:

103.1 Aviation fuel.

103.2 Diesel.

103.3 Liquefied petroleum gas (LPG).

104 **STORAGE TANK EXEMPTIONS:**

104.1 **Bulk Tank or Bulk Terminal:** This rule does not apply to a bulk tank or a bulk terminal as defined in *(PROPOSED)* Rule 351.

104.2 **Dispensing Tanks for Farm Operations:** This rule does not apply to any stationary gasoline dispensing tank used exclusively for the fueling of implements of normal farm operations.

104.3 **The Vapor Recovery Provisions of Section [Vapor Recovery] of this Rule Shall Not Apply to the Following Stationary Gasoline Dispensing Tanks:**

a. Non-Resale Dispensing Operations From Non-Farm Tanks: Any stationary gasoline dispensing operation receiving less than 120,000 gallons of gasoline in any 12 consecutive calendar months, dispensing no resold gasoline, and having each gasoline dispensing tank equipped with a permanent submerged fill pipe, is exempt from Section [Vapor Recovery System] of this rule. However, any operation shall become subject to the provisions of Section [Vapor Recovery] of this rule by exceeding the 120,000 gallon threshold or not

abiding by the restrictions, and shall remain subject to such provisions even if annual emissions later fall below this threshold.

b. Dispensing Tanks Of 1000 Gallons Or Less: Any stationary 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. 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 6 inches of the tank bottom.

105 **CARGO TANK EXEMPTION:** A cargo tank is exempt from Maricopa County Pressure Test requirements of Section [Leak Test] if the cargo tank does not load gasoline as defined in this rule and only transports organic liquids as defined in (*PROPOSED*) Rule 350 or only loads fuels listed in Section 103 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.

XXX **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.

XXX **AST-Aboveground Storage Tank-**

XXX **UST-Underground Storage Tank-**

XXX **AV-GAS-**

~~201~~**XXX** **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. ~~Such orders are included in CARB's publication, "Gasoline Facilities - Phase I & II", which is available as set forth in subsection 503.4.~~

XXX **COAXIAL-**

~~202~~**XXX** **DISPENSING TANK:** Any stationary tank which dispenses gasoline into a motorized vehicle's fuel tank that directly fuels its engine(s). This includes aircraft and watercraft.

~~203~~**XXX** **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 tube's spill containment receptacle.

~~204~~**XXX** **GASOLINE:** Any petroleum distillate 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 vapor pressure between 4.0 and 14.7 psi (200–760 mm Hg.), as determined by the applicable method pursuant to subsections 503.2 and 504.2. ~~For the purposes of this rule, liquefied petroleum gas (LPG) is excluded.~~

~~205~~**XXX** **GASOLINE ~~DELIVERY VESSEL~~CARGO TANK:**

a. Any vehicular-mounted container such as a tanker truck, tank trailer, cargo tank or any other wheel-mounted container used to transport gasoline; and ~~This includes any hosing the vessel carries through which deliveries must be made.~~

b. All associated pipes, hosing, and fittings through which the gasoline is loaded.

~~206~~XXX **GASOLINE DISPENSING ~~OPERATION~~FACILITY:** All stationary gasoline dispensing tanks and associated equipment located on one or more contiguous or adjacent properties under the control of the same person (or persons under common control)~~.~~ which dispense gasoline into the fuel tank of a motor vehicle.

~~207~~XXX **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.

~~208~~XXX ~~**INSTALLER:** The person, as defined in Rule 100, that installs VOC control equipment at a dispensing facility.~~

~~209~~XXX **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.

XXX **MARICOPA COUNTY (MC) PRESSURE 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 Section [Pressure Testing] of this rule.

~~210~~ ~~**OFFSET FILL LINE:** Any dispensing tank's gasoline fill line (piping and fittings) which contains one or more bends.~~

~~211~~XXX **POPPETTED DRY BREAK:** A Stage 1 vapor recovery device that opens only by connection to a mating device to ensure that no gasoline vapors escape from the dispensing tank before the vapor return line is connected.

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

~~212~~XXX **SIDE FILL PIPE:** A fill pipe that enters a dispensing tank through the tank's side.

~~213~~XXX **STAGE 1 VAPOR RECOVERY:** At a gasoline dispensing facility, the use of installed vapor recovery equipment designed to reduce by at least 90% the VOC vapor that would otherwise be displaced into the atmosphere from a dispensing tank when gasoline is delivered into the tank by a delivery vessel. This reduction may be done either by capturing the displaced vapors within the delivery vessel, and or by processing the vapors on site with an emission processing device. ~~(such as a VOC oxidizer).~~ *From R352: **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.*

XXX **SWITCH LOADING:** Loading diesel fuel into a cargo tank whose previous load was gasoline; or loading any liquid not subject to this rule into a cargo tank whose previous load was gasoline.

~~214~~XXX **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.

~~215~~XXX **TOP FILL or VERTICAL FILL PIPE:** A fill pipe that enters a dispensing tank through its top.

~~216~~XXX **VAPOR LOSS CONTROL DEVICE:** 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 operation. *From R352: **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.*

~~217~~XXX **VAPOR-TIGHT:** A condition in which an organic vapor analyzer (OVA) or a combustible gas detector (CGD) at a potential VOC leak source shows either less than 10,000 ppm when calibrated with methane, or less than 1/5 of the lower explosive limit, when prepared according to the manufacturer and used according to subsection 504.3 of this rule. *From R352: **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- VAPOR LOSS CONTROL MEASURES REQUIRED:** No person shall transfer or permit the transfer of gasoline from any delivery vessel into any stationary dispensing tank located above or below ground with a capacity of more than 250 gallons (946 l) unless the following conditions are met:~~

~~**301 BASIC TANK INTEGRITY:** No vapor or liquid escapes are allowed through a dispensing tank's outer surfaces, nor from any of the joints where the tank is connected to pipe(s), wires, or other system.~~

~~**301.1 VOC Emission Standard:**~~

~~**a.** Gasoline delivery operations shall be vapor-tight, as defined in Section 218, except for tanks exempted by Section 305 from Stage 1 vapor recovery requirements.~~

~~**b.** Tanks and their fittings shall be vapor-tight except for the outlet of a pressure/vacuum relief valve on a dispensing tank's vent pipe. Specifically, this means that at a probe tip distance of 1 inch (2.5 cm) from a surface, no vapor escape shall exceed 1/5 of the lower explosive limit. This applies to tanks containing gasoline regardless of whether they are currently being filled, and to caps and other tank fittings.~~

~~**301.2 Leakage Limits- Liquid Leaks and Spills:**~~

~~**a.** Gasoline storage and receiving operations shall be leak-free. Specifically, no liquid gasoline escape of more than 3 drops per minute is allowed. This includes leaks through the walls of piping, fittings, fill hose(s), and vapor hose(s).~~

~~**b.** There shall be no excess gasoline drainage from the end of a fill hose or a vapor hose. Specifically, not more than 2 teaspoonsful of gasoline shall be lost in the course of a connect or disconnect process.~~

~~**301.3 Spill Containment Equipment:** The entire spill containment system including gaskets shall be kept vapor-tight.~~

~~**a.** The Spill Containment Receptacle:~~

~~**(1)** The outer surface of the spill containment receptacle shall have no holes or cracks and shall allow no vapors to pass from the dispensing tank through it to the atmosphere.~~

~~**(2)** Spill containment receptacles shall be kept clean and free of foreign material at all times.~~

~~**(3)** Spill containment receptacles shall be inspected at least weekly. Records of inspection and cleaning shall be kept according to subsection 502.2.~~

~~**b.** If the spill containment is equipped with a passageway to allow material trapped by the containment system to flow into the interior of the dispensing tank:~~

~~**(1)** The passageway shall be kept vapor-tight at all times, except during the short period when a person opens the passageway to immediately drain material trapped by the containment system into the tank.~~

(2) The bottom of the receptacle shall be designed and kept such that no puddles of gasoline are left after draining through the passageway has ceased.

c. The dispensing tank owner/operator is responsible for assuring that before a delivery vessel leaves the premises after a delivery:

(1) Any gasoline in a dispensing tank's spill containment receptacle has been removed.

(2) Any gasoline that a person has taken out of a spill receptacle, as a free liquid or as absorbed into/onto other material removed from the receptacle, shall be contained in such a way that VOC emission is prevented; disposal in conformance with applicable hazardous waste rules is sufficient to meet this requirement.

(3) Any plunger/stopper assembly is unimpeded and sealing correctly.

d. Criteria Of Violation/Exceedance for Spill Containment Receptacles: A reading on a CGD or OVA exceeding 1/5 LEL (10,000 ppm as methane) is an exceedance. The procedure for performing a determination is set forth in subsection 504.3.

302 FILL PIPE REQUIREMENTS:

302.1 Each fill line into a stationary dispensing tank shall be equipped with a permanent submerged fill pipe that has a discharge opening which is completely submerged when the liquid level is 6 inches above the tank bottom.

a. Threads, gaskets, and mating surfaces of the fill pipe assembly shall be designed and maintained tight. There shall be no liquid or vapor leakage at the joints of the assembly.

b. An owner/operator is responsible to assure that external fittings of a fill pipe assembly shall be inspected weekly to assure that cap, gasket, and piping are intact and are not loose.

(1) A record of the inspection shall be made according to subsection 502.2.

(2) An owner/operator shall act to prevent driver/deliverers from connecting the delivery hose coupling to a fill pipe coupling with so much twisting force that the fill pipe assembly is loosened. One method of complying is to have a CARB-certified swivel coupling as part of the fill pipe assembly (reference subsection 503.4 for CARB).

302.2 Fill Pipe Caps:

a. The cap shall have a securely attached, intact gasket.

b. The cap and its gasket shall always function properly, latch completely so that it cannot then be easily twisted by hand, and have no structural defects.

c. The cap of a gasoline fill pipe shall always be fastened securely on the fill pipe except immediately before, during, and immediately after:

(1) "Sticking" the tank to measure gasoline depth.

(2) Delivering gasoline into the tank.

(3) Doing testing, maintenance or inspection on the gasoline/vapor system.

d. Do not unfasten or remove a fill pipe cap unless every other fill pipe is either securely capped or connected to a delivery hose, except as otherwise needed for testing, maintenance, or inspection.

302.3 Restrictions on Multiple Fill Pipes:

a. A tank installed after December 31, 1998, shall not be equipped with more than one fill pipe unless more than one fill pipe is specifically allowed in the Air Pollution Permit and there is a 2-point system having a properly installed vapor return pipe close to each fill pipe.

b. Restriction on Concurrent Delivery: An owner/operator of a dispensing tank fitted with more than 1 fill pipe shall prevent concurrent delivery of gasoline by a gasoline delivery vessel to more than 1 fill pipe of the tank by locking additional fill pipes shut or by using other permanent means, unless:

(1) Concurrent delivery is specifically allowed in the facility's Air Pollution Permit; and

(2) All fill pipes in use are part of a 2-point vapor recovery system; and

(3) Before making a concurrent delivery through a tank's second fill pipe, an additional vapor return hose from the delivery vessel must first be attached to the vapor return line associated with the second fill pipe.

302.4 Fill Pipe Obstructions:

a. Any type of screen and/or other obstructions in fill pipe assemblies shall be permanently removed by November 1, 1999, unless it is specifically allowed by an Air Pollution Permit or is CARB-certified, as referenced in subsection 503.4.

b. A screen or other obstruction, allowed by Air Pollution Permit or CARB, shall be temporarily removed by the owner/operator of a dispensing tank prior to inspection by the Control Officer to allow measurements pursuant to this rule.

302.5 Overfill Protection Equipment: Overfill prevention equipment shall be 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.

303 VAPOR RECOVERY SYSTEM:

303.1 Gasoline vapors displaced from a dispensing tank by gasoline being delivered shall be handled by a Stage Vapor Recovery System, unless the tank is exempted by Section 305.

303.2 Stage 1 Vapor Recovery System Configuration (Reference subsection 503.4 for identification of CARB-certified components):

a. Replacement: After June 16, 1999, no part of a vapor recovery system for which there is a CARB specification shall be replaced with anything but CARB-certified components.

b. Vapor Valves:

(1) All vapor return lines from dispensing tanks shall be equipped with CARB-certified, spring-loaded, vapor-tight, poppetted dry break valves.

(2) Vapor valves shall be inspected weekly to determine if closure is complete and gaskets are intact; a record shall be made pursuant to subsection 502.2.

c. Above Ground Systems: After June 16, 1999, an above ground dispensing tank shall have CARB-certified fittings wherever CARB so specifies.

d. New Systems: Each new gasoline tank installation shall use CARB-certified fittings exclusively wherever CARB so specifies, and:

(1) Shall have its own separate, functioning 2-point vapor return line;

(2) Is allowed to have a combination vapor recovery system that in addition to having a separate 2-point Stage 1 vapor return line, also has stage 1 vapor piping/fittings linking it to one or more (other) gasoline dispensing tanks.

e. New Coaxial Prohibited:

(1) No coaxial fill pipes shall be installed after June 16, 1999, in new installations; and

(2) No coaxial fill pipes shall be reinstalled after June 16, 1999, in major modifications in which the top of the tank is exposed and the vapor port bung is pre-configured to accept vapor recovery piping.

304 EQUIPMENT MAINTENANCE AND USE REQUIRED: All vapor loss control equipment shall be installed as required, operated as recommended by the manufacturer, and maintained leak-free, vapor-tight and in good working order.

304.1 Both the owner/operator of a dispensing tank and the driver/operator of a delivery vessel delivering gasoline to the fuel dispensing tank equipped with vapor recovery shall have responsibility to assure that vapor recovery equipment (if required by this rule) is properly connected and in use at all times while gasoline is actively being dropped/delivered.

304.2 The owner/operator of a fuel dispensing tank not exempted by Section 305 shall refuse delivery of gasoline from a delivery vessel which does not bear a current pressure test certification decal issued by the Control Officer. This provision does not apply during times when the facility is unattended or there is only one person under control of the dispensing facility present.

304.3 Coaxial Systems: Both spring-loaded and fixed coaxial fill tubes shall be maintained according to the standards of their manufacturer(s) and be operated so that there is no obstruction of vapor passage from the tank to the delivery vessel.

305 EXEMPTIONS:

305.1 Dispensing Tanks for Farm Operations: Any stationary gasoline dispensing tank used exclusively for the fueling of implements of normal farm operations is exempt from this rule, except for cap, spills, and liquid leak-age provisions in Section 301.

305.2 The Vapor Recovery Provisions of Section 303 of this Rule Shall Not Apply to the Following Stationary Gasoline Dispensing Tanks:

a. Non-Resale Dispensing Operations From Non-Farm Tanks: Any stationary gasoline dispensing operation receiving less than 120,000 gallons of gasoline in any 12 consecutive calendar months, dispensing no resold gasoline, and having each gasoline dispensing tank equipped with a permanent submerged fill pipe pursuant to subsection 302.1, is exempt from Section 303. However, any operation shall become subject to the provisions of Section 303 of

~~this rule by exceeding the 120,000 gallon threshold or not abiding by the restrictions, and shall remain subject to such provisions even if annual emissions later fall below this threshold.~~

~~**b.** Dispensing Tanks Of 1000 Gallons Or Less: Any stationary 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. 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 6 inches of the tank bottom.~~

~~**c.** Dispensing Tanks with Offset Fill Lines: Any stationary dispensing tank installed prior to October 2, 1978, where the fill line between the fill connection and tank is offset.~~

SECTION 300 – STANDARDS

301 Manufacturers, Suppliers and Owner/Operator:

301.1 A manufacturer, supplier, owner or operator shall not supply, offer for sale, sell, install or allow the installation of an aboveground or underground storage tank, any type of vapor recovery system or any of its components unless the tank, system and components are clearly identified with a permanent identification affixed by the certified manufacturer or rebuilder and one of the following:

a. The equipment is supplied by the manufacturer as a CARB certified component; **or**

b. The equipment is rebuilt by a person who is authorized by CARB to rebuild that specific CARB certified component; **or**

c. The equipment is approved by a third party that is recognized by the industry and the Control Officer. Written approval from the Control Officer must be obtained prior to installing any non-CARB certified component.

301.2 A licensed Vapor Recovery Registered Service Representative (RSR) in the State of Arizona shall install an aboveground or underground storage tank, system, or vapor recovery system components.

301.3 Coaxial Prohibition: A coaxial fill pipe install or reinstall of a coaxial fill pipe during any changes to the tank when the top of the tank is exposed and the vapor port bung is pre-configured to accept vapor recovery piping is prohibited.

301.4 Both the owner/operator of a dispensing tank and the driver/operator of a cargo tank delivering gasoline to the fuel dispensing tank equipped with vapor recovery shall have responsibility to assure that vapor recovery equipment (if required by this rule) is properly connected and in use at all times while gasoline is actively being loaded. If the facility is unattended or there is only one person under control of the dispensing facility present, the owner or operator of the cargo tank is responsible for the proper connection and use of the vapor recovery equipment (if required by this rule) while gasoline is being actively loaded.

301.5 An owner or operator shall load, allow the loading, or provide equipment for the loading of gasoline from any cargo tank identified with a current Maricopa County Pressure Test decal into any stationary gasoline storage tank.

302 General Housekeeping Requirements:

302.1 An owner or operator shall load gasoline; permit the loading of gasoline; or store gasoline in any stationary gasoline storage tank located above or below ground by meeting the following conditions:

a. Minimize gasoline spills;

b. Clean up spills as expeditiously as practicable;

c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators;

e. Properly dispose of any VOC containing material.

303 Gasoline Storage Equipment and Operation Requirements:

303.1 An Underground Storage Tank (UST) must meet all of the following conditions:

a. The UST is equipped with "CARB certified" equipment;;

b. For an existing GDF, maintain a two point vapor recovery system OR a coaxial system. For new installations or modifications to existing GDF, install and maintain a two point vapor recovery system with separate fill and vapor connection points.;

c. A pressure vacuum vent is installed and maintained per manufacturer specifications;

d. The vapor recovery 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 tube is equipped with gasketted vapor tight cap;

g. The fill tube assembly, including fill tube, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the vapor recovery system;

h. 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 devices that are certified by CARB to return spilled gasoline to the underground stationary storage tank. The drain valve shall be maintained closed and free of vapor emissions at all times except when the valve is actively in use; **and**

i. Each CARB certified coaxial fill tube is spring-loaded and operated so that the vapor passage from the stationary storage tank back to the cargo tank is not obstructed.

303.2 An Above Ground Storage Tank (AST) 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 above the tank bottom;

b. A pressure vacuum vent is installed and maintained per manufacturer specifications;

c. Each fill tube is equipped with a gasketed vapor tight cap;

d. All threads, gaskets, and mating surfaces of the drop tube 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 the drop tube or dry break it serves is actively in use;

f. 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;

g. Each spill containment receptacle equipped with an integral drain valve or other approved devices that return spilled gasoline to the aboveground storage tank shall be maintained closed vapor tight except when the valve is actively in use;

h. Any overfill prevention equipment shall be approved, installed and maintained vapor-tight to the atmosphere. Any device mounted within the fill tube 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; and

i. All CARB certified coaxial fill tubes are spring-loaded and operated so that the vapor passage from the stationary storage tank back to the cargo tank is not obstructed;

304 LOADING OF GASOLINE:

304.1 An owner or operator shall store or load, or otherwise use or operate any gasoline cargo tank only if the following conditions are met:

a. Such vessel is designed and maintained to be vapor tight and leak free;

b. Has passed the Maricopa County Pressure Test or other Control Officer approved pressure test prior to loading gasoline within Maricopa County; and

c. Each gasoline cargo tank clearly displays a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the vessel or provide Control Officer approval of use of such gasoline cargo tank within Maricopa County.

304.2 An owner or operator of a gasoline cargo tank shall comply with Section 301.2 of this rule.

304.3 For loading of gasoline at retail gasoline dispensing facilities, an owner or operator of the cargo tank shall only load gasoline into a storage tank when:

a. The GDF is equipped with a vapor return line serving the tank;

b. A locked cap on the poppetted dry break can be removed; and

c. There is no broken fitting preventing the correct connection of a vapor hose.

304.4 An owner or operator of a gasoline cargo tank shall load gasoline into a gasoline storage tank by:

a. Connecting a vapor return hose, if there is a vapor return line serving the tank, prior to connecting any loading hose. Requirements for first connecting a vapor hose before a gasoline delivery hose do not apply to coaxial vapor recovery connection fittings.

b. Keeping fill tube gasketted covers in place on every other fill tube. If more than one gasoline delivery hose is connected, each delivery hose shall be connected to a dispensing tank's 2-point system that already has a vapor hose connecting it to the vessel.

c. Disconnecting a delivery hose from the fill tube prior to disconnecting the vapor recovery hose:

(1) By draining the fill hose into the storage tank before disconnecting it from the tank's fittings; and

(2) In such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.

d. Disconnecting the vapor recovery hose:

(1) By thoroughly draining the vapor recovery hose into the storage tank before disconnecting it from the tank's fittings; and

(2) In such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.

305 GASOLINE CARGO TANK REQUIREMENTS:

305.1 GASOLINE CARGO TANK: A gasoline cargo tank shall:

a. Be designed and maintained to be vapor tight and leak free;

b. Pass the Maricopa County Pressure Test as performed according to Section XXX.XX of this rule, or other Control Officer approved pressure test prior to loading gasoline within Maricopa County; and

c. Clearly displays a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the vessel or provide Control Officer approval of use of such gasoline cargo tank.

305.2 PURGING: 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 controlled and contained per Section 302 of this rule.

305.3 Opening Hatches on Cargo Tanks: Owners/operators, their contractors, and authorized government agents may open vapor containment equipment on a gasoline cargo tank while performing operations required by governmental agencies, but shall be restricted as follows, unless approved in advance by the Control Officer:

a Wait at least 3 minutes after a cargo tank has stopped moving before opening its hatch or other vapor seal; **and**

b Reclose hatch or other sealing device within 3 minutes of completing the required procedures; **and**

c 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.

305.4 TESTING REQUIREMENTS: The Maricopa County Pressure Test shall be performed according to Section 305.4 of this rule.

a. Scheduling and notification of an initial test or annual retest shall be done in accordance with Section [Administrative Requirements].

b. An owner or operator of a delivery vessel shall comply with Section [Administrative Requirements] registration requirements to obtain a valid Maricopa County Air Quality Department decal after a successful MC Pressure Test.

c. A valid Maricopa County Air Quality Department Vapor Recovery decal shall be affixed to the vessel before the vessel may load gasoline.

305.5 MC Pressure Test: A cargo tank shall pass all 3 of the following pressure subtests, in the following order, for each vapor hose that will be used load gasoline:

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 [Test Methods] 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 Section [Test Methods] of this rule; and

c. **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 [Test Methods] 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 ½ inch.

305.6 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 Section 305.4 of this rule.

306 VAPOR LOSS CONTROL SYSTEMS:

306.1 **AT GDF: SYSTEMS (?)**The owner or operator of a vapor ----- system shall maintain and operate the vapor ----- system according to a Control Officer approved operation and maintenance plan to achieve at least a 95 percent reduction of emissions.

306.2 **AT CARGO TANK TESTING FACILITY:** An owner or operator of a cargo tank testing facility is permitted to purge gasoline vapors from a delivery vessel to a control device if 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.

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

~~**401** **TANKS THAT LOST THEIR EXEMPTION:** Tanks that were formerly exempt from a provision prior to June 16, 1999, shall come into compliance by December 1, 1999.~~

~~402~~401 BURDEN OF PROOF:

~~402.1~~401.1 **Proving Exempt Status:** The burden of proof of eligibility for exemption from a provision of this rule is on the applicant. Persons seeking such an exemption shall maintain adequate records and furnish them to the Control Officer upon request.

~~402.2~~401.2 **Providing Proof of Equipment Compliance:**

a. It is the responsibility of the installer of vapor control equipment, when so required by the Control Officer, to provide proof that a vapor recovery system or its modifications meet the requirements of this Rule 353.

b. If the owner/operator or the equipment supplier voluntarily provides such proof, the Control Officer has the option to waive the subsection 402.2a requirement that the installer provide this proof.

~~403~~402 **CARB DECERTIFICATION:** A person shall not install or reinstall a component related to vapor recovery that has been decertified by CARB in "Gasoline Facilities - Phase I & II" publication, referenced in ~~subsection 503.4~~Section [Test methods].

~~404~~403 **OTHER AGENCIES' REQUIREMENTS:** Compliance with this rule does not relieve or otherwise affect a person'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 Weights and Measures, local fire department codes, and local zoning ordinances.

404 **CARGO TANK TESTING:** Testing required by Section 305 of this rule, shall be conducted by the owner or operator of the 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:

404.1 **Notification of Required Testing:** The owner, operator, or tester shall notify the Department in the method and manner prescribed by the Control Officer for each cargo tank to be tested in order to meet the requirements of this rule.

a. Contact the Control Officer during normal business hours of the Department and at least 4 hours prior to testing; and

b. Give an estimated start time that is no more than 1 hour prior to actual start time;

c. Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

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);

e. Give the location of the testing;

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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

401.2 **To Obtain a Vapor Recovery Certification Decal:** For each cargo tank that was pressure tested and passed the required test per Section 305.4 of this rule, submit the following:

a. A completed "APPLICATION FOR AIR POLLUTION VAPOR RECOVERY CERTIFICATION" and

b. The annual fee remittance. (The fee amount appears in Rule 280.)

401.3 **Expiration:**

a. A decal that is issued to a 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 decal that is issued to a 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 current year.

401.4 **Replacement of Decal:**

a. An owner or operator shall submit an application for the replacement of a vapor recovery decal to the Control Officer if a valid decal is lost, defaced, or destroyed.

b. The owner or operator shall certify:

(1) The information in the application is true, accurate and complete; and

(2) The cargo tank described in the application has been pressure tested according to the test procedures in Section 305.4 of this rule.

c. The Control Officer may require verification of pressure testing prior to decal replacement.

SECTION 500 – MONITORING AND RECORDS:

501 **COMPLIANCE INSPECTIONS:**

501.1 GASOLINE DISPENSING FACILITY: Any ~~dispensing tank~~gasoline dispensing facility required by this rule to be equipped with vapor loss control devices 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.

501.2 **GASOLINE CARGO TANK MONITORING FOR LEAKS:** The Control Officer may at any time monitor a delivery vessel, 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 [vapor tightness test method], shall be an exceedance of the vapor-tight standard.

502 **GASOLINE DISPENSING FACILITY RECORDKEEPING:** The owner or operator of each gasoline dispensing facility in Maricopa County shall maintain records as follows:

502.1 The total amount of gasoline received each month shall be recorded by the end of the following month.

502.2 The owner or operator of a gasoline dispensing facility shall cause weekly records of fill tube, vapor valve and spill containment receptacle inspection to be kept. The findings of such weekly inspections shall be permanently entered in a record or log book by the end of Saturday of the following week.

502.3 These records and any reports or supporting information required by this rule or by the Control Officer shall be retained for at least 5 years.

502.4 Records of the past 12 months shall be in a readily accessible location and must be made available to the Control Officer ~~without delay~~ within 24 hours upon verbal or written request.

503 **GASOLINE CARGO TANK RECORDKEEPING**

503.1 The owner or operator of a 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.

503.2 The records of the certification testing required by Section 305.4 of this rule, must be recorded in ~~both of~~ the following document: the "Application for Air Pollution Vapor Recovery Certification" ~~and the "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. For the "Application for Air Pollution Vapor Recovery Certification":

a. Owner's name and address.

b. Tank ID number, the location of the test, the time of the test, and the date of the test.

c. For the pressure subtest (Section 305.4.a of this rule), 2 readings: the change in pressure (in inches of water) for Run 1 and the change in pressure for Run 2.

d. For the vapor-valve subtest (Section 305.4.b of this rule), 1 reading: the total change in pressure during the test.

e. For the vacuum test (Section 305.4.c of this rule), 2 readings: the total change in vacuum during Run 1 and the same for Run 2.

503.3 The owner or operator of a gasoline cargo tank shall record the following:

a. The occurrence and duration of each malfunction of operation of the cargo tank; and

b. The corrective action taken to restore the cargo tank to a vapor tight or liquid leak free status.

~~503~~504 **COMPLIANCE DETERMINATION:** The test methods referenced in Section ~~503~~504 of this rule, shall be used in the ways given in the subsections that immediately follow. When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule. For routine information collection, the Control Officer may accept a manufacturer's data sheet (MSDS), data certified by an officer of the supplying company, or test data for the product of inquiry.

~~503.1~~504.1 Control efficiency of [emission control device] vapor recovery systems and vapor collection/ processing systems shall be determined according to EPA Method 2A and either EPA Method 25A or 25B (Section 504 and subsection 504.1), or by CARB-approved test methods (Section 504 and subsection 504.4). EPA Method 2B shall be used for vapor incineration devices.

~~503.2~~504.2 Vapor pressure of gasoline ~~(reference Section 204)~~ shall be determined using ~~American Society for Testing and Materials (ASTM) Method D323-94~~ASTM D323-15a Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method or ASTM ~~Method D4953-93~~ D4953-15, Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method. ASTM ~~Method D323-94~~D323-15a shall be used for gasoline either containing no oxygenates or MTBE (methyl tertiary butyl ether) as the sole oxygenate. ~~Method D4953-93~~ASTM 4953-15 shall be used for oxygenated gasoline.

~~503.3~~504.3 **Vapor Leaks:**

a. If a determination of leak-tight status is to be made on Stage 1 or spill containment equipment at a gasoline dispensing facility or on a delivery vessel at the station, the method in subsection 504.3 shall be used.

b. Subsection 504.3 probe distance and movement parameters not with-standing, 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 5 seconds, and the probe is either consistently further than 1 inch from the source and/or the probe is consistently being moved faster than 4 cm per second.

c. The Control Officer may count it as a failure to perform weekly inspections pursuant to subsection 301.3 if foreign material is found in a spill containment receptacle and there is no record of an inspection's being performed in the preceding 10 days.

~~503.4~~504.4 The CARB publication, "Gasoline Facilities - Phase I & II", pursuant to sections 41954 through 41962 of the California Health and Safety Code, is adopted by reference, as it exists on June 16, 1999. This publication is available for reference at the Maricopa County Air Quality Department, 1001 N. Central Ave., Phoenix, AZ, 85004. This publication is available for purchase at the (California) Air Resources Board, PO Box 2815, 2020 L Street, Sacramento, CA, 95812-2815; (916) 323-0255 or (916) 322-2886.

~~504~~505 **TEST METHODS:** The EPA test methods as they exist in the Code of Federal Regulations (CFR) (~~July 1, 1998 Date of rule adoption~~), as listed below, are adopted by reference. The CARB test methods as they exist in Stationary Source Test Methods, Volume 2, on April 8, 1999, as listed in ~~subsection~~Section 504.4 of this rule, are 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, AZ, 85004.

~~504.1~~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"). ~~Both of the foregoing methods are in~~ 40 CFR 60, Appendix A.

b. EPA Method 25 ("Determination of Total Gaseous Nonmethane Organic Emissions as Carbon") and its submethods (40 CFR 60, Appendix A).

c. EPA Method 27 ("Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test") in 40 CFR 60, Appendix A.

d. EPA approval of optical imaging camera use to identify and quantify leaks.

~~504.2~~505.2 Gasoline Vapor Pressure:

a. ~~American Society for Testing and Materials (ASTM) Method D323-94 (1994)~~ D323-15a "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).

b. ~~American Society for Testing and Materials (ASTM) Method D4953-93 (1993)~~ ASTM D4953-15 "Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)

~~504.3~~505.3 Leak Detection Test Method:

a. Calibration: Within four hours prior to monitoring, the CGD or OVA shall be suitably calibrated in a manner and with the gas specified by the manufacturer for 20 percent LEL response, or calibrated with methane for a 10,000 ppm response.

b. Probe Distance: The probe inlet shall be one inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be one 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 inch (2.5 cm) of an actual or potential leak source, the closest practicable probe distance greater than 1 inch 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.

~~504.4~~505.4 CARB Certification and Test Procedures for Gasoline Vapor Recovery Systems:

a. CARB Test Method CP-201, "Certification Procedure for Vapor Recovery Systems of Dispensing Facilities".

b. ~~CARB Test Procedure TP-201.1 "Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities without Assist Processors~~" 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. CARB Test Procedure TP-201.1A - "Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities with Assist Processors".

d. California Air Resources Board Vapor Recovery Test Procedure TP-201.1E,—Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003.

e. 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.

f. 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.

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

(FORMERLY PROPOSED as RULE 352 at Workshop 1)
NOTE: THIS IS DRAFT RULE 353

Underlined text (new text) and Strikeout text (deleted language) are not shown in this draft for ease of reading, reviewing and commenting on.

REGULATION III – CONTROL OF AIR CONTAMINANTS

RULE 353
STORAGE AND LOADING OF GASOLINE AT GASOLINE DISPENSING FACILITIES

INDEX

Maricopa County Air Quality Dept.
Planning & Analysis Division
1001 N. Central Ave. Ste. 125
Phoenix, AZ 85004

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Revised 07/13/1988; Revised 04/06/1992; Revised 06/16/1999; Revised 09/25/2013; and **Revised MM/DD/YYYY**

REGULATION III – CONTROL OF AIR CONTAMINANTS

MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS

RULE 353
STORAGE AND LOADING OF GASOLINE AT GASOLINE DISPENSING FACILITIES

SECTION 100 – GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds (VOC) from gasoline stored in stationary dispensing tanks, ; from gasoline loaded into such tanks; and from gasoline cargo tanks.

102 APPLICABILITY: This rule applies to all of the following:

102.1 Gasoline stored or loaded into any stationary dispensing tank; **and**

102.2 Any gasoline cargo tank which is used to load gasoline within Maricopa County; **and**

102.3 To all persons who own, operate, maintain, repair, or test such gasoline dispensing facilities and gasoline cargo tanks; **and**

102.4 Gas stations and other gasoline-dispensing facilities, including those located at airports.

103 FUEL EXEMPTIONS: This rule does not apply to the following fuels:

103.1 Aviation fuel.

103.2 Diesel.

103.3 Liquefied petroleum gas (LPG).

104 STORAGE TANK EXEMPTIONS:

104.1 Bulk Tank or Bulk Terminal: This rule does not apply to a bulk tank or a bulk terminal as defined in *(PROPOSED)* Rule 351.

104.2 Dispensing Tanks for Farm Operations: This rule does not apply to any stationary gasoline dispensing tank used exclusively for the fueling of implements of normal farm operations.

104.3 The Vapor Recovery Provisions of Section [Vapor Recovery] of this Rule Shall Not Apply to the Following Stationary Gasoline Dispensing Tanks:

a. Non-Resale Dispensing Operations From Non-Farm Tanks: Any stationary gasoline dispensing operation receiving less than 120,000 gallons of gasoline in any 12 consecutive calendar months, dispensing no resold gasoline, and having each gasoline dispensing tank equipped with a permanent submerged fill pipe, is exempt from Section [Vapor Recovery System] of this rule. However, any operation shall become subject to the provisions of Section [Vapor Recovery] of this rule by exceeding the 120,000 gallon threshold, and shall remain subject to such provisions even if annual emissions later fall below this threshold.

b. Dispensing Tanks Of 1000 Gallons Or Less: Any stationary 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. 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 6 inches of the tank bottom.

105 CARGO TANK EXEMPTION: A cargo tank is exempt from Maricopa County Pressure Test requirements of Section [Leak Test] if the cargo tank does not load gasoline as defined in this rule and only transports organic liquids as defined in (*PROPOSED*) Rule 350 or only loads fuels listed in Section 103 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.

XXX 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.

XXX AST-Aboveground Storage Tank-

XXX UST-Underground Storage Tank-

XXX AV-GAS-

XXX 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.

XXX COAXIAL-

XXX DISPENSING TANK: Any stationary tank which dispenses gasoline into a motorized vehicle's fuel tank that directly fuels its engine(s). This includes aircraft and watercraft.

XXX 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 tube's spill containment receptacle.

XXX GASOLINE: Any petroleum distillate 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 vapor pressure between 4.0 and 14.7 psi (200–760 mm Hg.), as determined by the applicable method pursuant to subsections 503.2 and 504.2

XXX GASOLINE CARGO TANK:

a. Any vehicular-mounted container such as a tanker truck, tank trailer, cargo tank or any other wheel-mounted container used to transport gasoline;

b. All associated pipes, hosing, and fittings through which the gasoline is loaded.

XXX **GASOLINE DISPENSING FACILITY:** All stationary gasoline dispensing tanks and associated equipment located on one or more contiguous or adjacent properties under the control of the same person (or persons under common control). which dispense gasoline into the fuel tank of a motor vehicle.

XXX **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.

XXX **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.

XXX **MARICOPA COUNTY (MC) PRESSURE 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 Section [*Pressure Testing*] of this rule.

XXX **POPPETTED DRY BREAK:** A Stage 1 vapor recovery device that opens only by connection to a mating device to ensure that no gasoline vapors escape from the dispensing tank before the vapor return line is connected.

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

XXX **SIDE FILL PIPE:** A fill pipe that enters a dispensing tank through the tank's side.

XXX **STAGE 1 VAPOR RECOVERY:** At a gasoline dispensing facility, the use of installed vapor recovery equipment designed to reduce by at least 90% the VOC vapor that would otherwise be displaced into the atmosphere from a dispensing tank when gasoline is delivered into the tank by a delivery vessel. This reduction may be done either by capturing the displaced vapors within the delivery vessel, and or by processing the vapors on site with an emission processing device. *From R352: **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.*

XXX **SWITCH LOADING:** Loading diesel fuel into a cargo tank whose previous load was gasoline; or loading any liquid not subject to this rule into a cargo tank whose previous load was gasoline.

XXX **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.

XXX **TOP FILL or VERTICAL FILL PIPE:** A fill pipe that enters a dispensing tank through its top.

XXX **VAPOR LOSS CONTROL DEVICE:** 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 operation. *From R352: **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.*

XXX **VAPOR-TIGHT:** A condition in which an organic vapor analyzer (OVA) or a combustible gas detector (CGD) at a potential VOC leak source shows either less than 10,000 ppm when calibrated with methane, or less than 1/5 of the lower explosive limit, when prepared according to the manufacturer and used according to subsection 504.3 of this rule. *From R352: **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 Manufacturers, Suppliers and Owner/Operator:

301.1 A manufacturer, supplier, owner or operator shall not supply, offer for sale, sell, install or allow the installation of an aboveground or underground storage tank, any type of vapor recovery system or any of its components unless the tank, system and components are clearly identified with a permanent identification affixed by the certified manufacturer or rebuilder and one of the following:

a. The equipment is supplied by the manufacturer as a CARB certified component; **or**

b. The equipment is rebuilt by a person who is authorized by CARB to rebuild that specific CARB certified component; **or**

c. The equipment is approved by a third party that is recognized by the industry and the Control Officer. Written approval from the Control Officer must be obtained prior to installing any non-CARB certified component.

301.2 A licensed Vapor Recovery Registered Service Representative (RSR) in the State of Arizona shall install an aboveground or underground storage tank, system, or vapor recovery system components.

301.3 Coaxial Prohibition: A coaxial fill pipe install or reinstall of a coaxial fill pipe during any changes to the tank when the top of the tank is exposed and the vapor port bung is pre-configured to accept vapor recovery piping is prohibited.

301.4 Both the owner/operator of a dispensing tank and the driver/operator of a cargo tank delivering gasoline to the fuel dispensing tank equipped with vapor recovery shall have responsibility to assure that vapor recovery equipment (if required by this rule) is properly connected and in use at all times while gasoline is actively being loaded. If the facility is unattended or there is only one person under control of the dispensing facility present, the owner or operator of the cargo tank is responsible for the proper connection and use of the vapor recovery equipment (if required by this rule) while gasoline is being actively loaded.

301.5 An owner or operator shall load, allow the loading, or provide equipment for the loading of gasoline from any cargo tank identified with a current Maricopa County Pressure Test decal into any stationary gasoline storage tank.

302 General Housekeeping Requirements:

302.1 An owner or operator shall load gasoline; permit the loading of gasoline; or store gasoline in any stationary gasoline storage tank located above or below ground by meeting the following conditions:

a. Minimize gasoline spills;

b. Clean up spills as expeditiously as practicable;

c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators;

e. Properly dispose of any VOC containing material.

303 Gasoline Storage Equipment and Operation Requirements:

303.1 An Underground Storage Tank (UST) must meet all of the following conditions:

a. The UST is equipped with "CARB certified" equipment;

b. For an existing GDF, maintain a two point vapor recovery system OR a coaxial system. For new installations or modifications to existing GDF, install and maintain a two point vapor recovery system with separate fill and vapor connection points.;

c. A pressure vacuum vent is installed and maintained per manufacturer specifications;

d. The vapor recovery 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 tube is equipped with gasketted vapor tight cap;

g. The fill tube assembly, including fill tube, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the vapor recovery system;

h. 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 devices that are certified by CARB to return spilled gasoline to the underground stationary storage tank. The drain valve shall be maintained closed and free of vapor emissions at all times except when the valve is actively in use; **and**

i. Each CARB certified coaxial fill tube is spring-loaded and operated so that the vapor passage from the stationary storage tank back to the cargo tank is not obstructed.

303.2 An Above Ground Storage Tank (AST) 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 above the tank bottom;

b. A pressure vacuum vent is installed and maintained per manufacturer specifications;

c. Each fill tube is equipped with a gasketed vapor tight cap;

d. All threads, gaskets, and mating surfaces of the drop tube 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 the drop tube or dry break it serves is actively in use;

f. 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;

g. Each spill containment receptacle equipped with an integral drain valve or other approved devices that return spilled gasoline to the aboveground storage tank shall be maintained closed vapor tight except when the valve is actively in use;

h. Any overfill prevention equipment shall be approved, installed and maintained vapor-tight to the atmosphere. Any device mounted within the fill tube 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; and

i. All CARB certified coaxial fill tubes are spring-loaded and operated so that the vapor passage from the stationary storage tank back to the cargo tank is not obstructed;

304 LOADING OF GASOLINE:

304.1 An owner or operator shall store or load, or otherwise use or operate any gasoline cargo tank only if the following conditions are met:

a. Such vessel is designed and maintained to be vapor tight and leak free;

b. Has passed the Maricopa County Pressure Test or other Control Officer approved pressure test prior to loading gasoline within Maricopa County; and

c. Each gasoline cargo tank clearly displays a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the vessel or provide Control Officer approval of use of such gasoline cargo tank within Maricopa County.

304.2 An owner or operator of a gasoline cargo tank shall comply with Section 301.2 of this rule.

304.3 For loading of gasoline at retail gasoline dispensing facilities, an owner or operator of the cargo tank shall only load gasoline into a storage tank when:

a. The GDF is equipped with a vapor return line serving the tank;

b. A locked cap on the poppetted dry break can be removed; and

c. There is no broken fitting preventing the correct connection of a vapor hose.

304.4 An owner or operator of a gasoline cargo tank shall load gasoline into a gasoline storage tank by:

a. Connecting a vapor return hose, if there is a vapor return line serving the tank, prior to connecting any loading hose. Requirements for first connecting a vapor hose before a gasoline delivery hose do not apply to coaxial vapor recovery connection fittings.

b. Keeping fill tube gasketted covers in place on every other fill tube. If more than one gasoline delivery hose is connected, each delivery hose shall be connected to a dispensing tank's 2-point system that already has a vapor hose connecting it to the vessel.

c. Disconnecting a delivery hose from the fill tube prior to disconnecting the vapor recovery hose:

(1) By draining the fill hose into the storage tank before disconnecting it from the tank's fittings; and

(2) In such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.

d. Disconnecting the vapor recovery hose:

(1) By thoroughly draining the vapor recovery hose into the storage tank before disconnecting it from the tank's fittings; and

(2) In such a way as to prevent excess gasoline drainage (more than 2 teaspoonsful) from escaping from the hose in one connect/disconnect cycle.

305 GASOLINE CARGO TANK REQUIREMENTS:

305.1 GASOLINE CARGO TANK: A gasoline cargo tank shall:

a. Be designed and maintained to be vapor tight and leak free;

b. Pass the Maricopa County Pressure Test as performed according to Section XXX.XX of this rule, or other Control Officer approved pressure test prior to loading gasoline within Maricopa County; and

c. Clearly displays a valid Maricopa County Air Quality Department decal that is permanently mounted near the front on the right (passenger) side of the vessel or provide Control Officer approval of use of such gasoline cargo tank.

305.2 PURGING: 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 controlled and contained per Section 302 of this rule.

305.3 Opening Hatches on Cargo Tanks: Owners/operators, their contractors, and authorized government agents may open vapor containment equipment on a gasoline cargo tank while performing operations required by governmental agencies, but shall be restricted as follows, unless approved in advance by the Control Officer:

a Wait at least 3 minutes after a cargo tank has stopped moving before opening its hatch or other vapor seal; **and**

b Reclose hatch or other sealing device within 3 minutes of completing the required procedures; **and**

c 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.

305.4 **TESTING REQUIREMENTS:** The Maricopa County Pressure Test shall be performed according to Section 305.4 of this rule.

a. Scheduling and notification of an initial test or annual retest shall be done in accordance with Section [Administrative Requirements].

b. An owner or operator of a delivery vessel shall comply with Section [Administrative Requirements] registration requirements to obtain a valid Maricopa County Air Quality Department decal after a successful MC Pressure Test.

c. A valid Maricopa County Air Quality Department Vapor Recovery decal shall be affixed to the vessel before the vessel may load gasoline.

305.5 **MC Pressure Test:** A cargo tank shall pass all 3 of the following pressure subtests, in the following order, for each vapor hose that will be used load gasoline:

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 [Test Methods] 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 Section [Test Methods] of this rule; and

c. **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 [Test Methods] 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 ½ inch.

305.6 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 Section 305.4 of this rule.

306 VAPOR LOSS CONTROL SYSTEMS:

306.1 **AT GDF: SYSTEMS (?)**The owner or operator of a vapor ----- system shall maintain and operate the vapor ----- system according to a Control Officer approved operation and maintenance plan to achieve at least a 95 percent reduction of emissions.

306.2 AT CARGO TANK TESTING FACILITY: An owner or operator of a cargo tank testing facility is permitted to purge gasoline vapors from a delivery vessel to a control device if 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.

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 BURDEN OF PROOF:

401.1 Proving Exempt Status: The burden of proof of eligibility for exemption from a provision of this rule is on the applicant. Persons seeking such an exemption shall maintain adequate records and furnish them to the Control Officer upon request.

401.2 Providing Proof of Equipment Compliance:

a. It is the responsibility of the installer of vapor control equipment, when so required by the Control Officer, to provide proof that a vapor recovery system or its modifications meet the requirements of this Rule 353.

b. If the owner/operator or the equipment supplier voluntarily provides such proof, the Control Officer has the option to waive the subsection 402.2a requirement that the installer provide this proof.

402 CARB DECERTIFICATION: A person shall not install or reinstall a component related to vapor recovery that has been decertified by CARB in "Gasoline Facilities - Phase I & II" publication, referenced in Section [*Test methods*].

403 OTHER AGENCIES' REQUIREMENTS: Compliance with this rule does not relieve or otherwise affect a person'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 Weights and Measures, local fire department codes, and local zoning ordinances.

404 CARGO TANK TESTING: Testing required by Section 305 of this rule, shall be conducted by the owner or operator of the 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:

404.1 Notification of Required Testing: The owner, operator, or tester shall notify the Department in the method and manner prescribed by the Control Officer for each cargo tank to be tested in order to meet the requirements of this rule.

a. Contact the Control Officer during normal business hours of the Department and at least 4 hours prior to testing; and

b. Give an estimated start time that is no more than 1 hour prior to actual start time;

c. Except for weekend testing, the Control Officer shall be notified no more than 24 hours in advance of testing;

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);

e. Give the location of the testing;

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 requirements, except if the Control Officer gives specific, advance permission for a particular occasion.

404.2 To Obtain a Vapor Recovery Certification Decal: For each cargo tank that was pressure tested and passed the required test per Section 305.4 of this rule, submit the following:

a. A completed "APPLICATION FOR AIR POLLUTION VAPOR RECOVERY CERTIFICATION" and

b. The annual fee remittance. (The fee amount appears in Rule 280.)

404.3 Expiration:

a. A decal that is issued to a 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 decal that is issued to a 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 current year.

404.4 Replacement of Decal:

a. An owner or operator shall submit an application for the replacement of a vapor recovery decal to the Control Officer if a valid decal is lost, defaced, or destroyed.

b. The owner or operator shall certify:

(1) The information in the application is true, accurate and complete; and

(2) The cargo tank described in the application has been pressure tested according to the test procedures in Section 305.4 of this rule.

c. The Control Officer may require verification of pressure testing prior to decal replacement.

SECTION 500 – MONITORING AND RECORDS:

501 COMPLIANCE INSPECTIONS:

501.1 GASOLINE DISPENSING FACILITY: Any gasoline dispensing facility required by this rule to be equipped with vapor loss control devices 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.

501.2 GASOLINE CARGO TANK MONITORING FOR LEAKS: The Control Officer may at any time monitor a delivery vessel, 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 [vapor tightness test method], shall be an exceedance of the vapor-tight standard.

502 GASOLINE DISPENSING FACILITY RECORDKEEPING: The owner or operator of each gasoline dispensing facility in Maricopa County shall maintain records as follows:

502.1 The total amount of gasoline received each month shall be recorded by the end of the following month.

502.2 The owner or operator of a gasoline dispensing facility shall cause weekly records of fill tube, vapor valve and spill containment receptacle inspection to be kept. The findings of such weekly

inspections shall be permanently entered in a record or log book by the end of Saturday of the following week.

502.3 These records and any reports or supporting information required by this rule or by the Control Officer shall be retained for at least 5 years.

502.4 Records of the past 12 months shall be in a readily accessible location and must be made available to the Control Officer within 24 hours upon verbal or written request.

503 GASOLINE CARGO TANK RECORDKEEPING

503.1 The owner or operator of a 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.

503.2 The records of the certification testing required by Section 305.4 of this rule, must be recorded in the following document: the "Application for Air Pollution Vapor Recovery Certification". Pressure and vacuum shall be recorded to no less than the nearest quarter inch or half-centimeter of water column. For the "Application for Air Pollution Vapor Recovery Certification":

a. Owner's name and address.

b. Tank ID number, the location of the test, the time of the test, and the date of the test.

c. For the pressure subtest (Section 305.4.a of this rule), 2 readings: the change in pressure (in inches of water) for Run 1 and the change in pressure for Run 2.

d. For the vapor-valve subtest (Section 305.4.b of this rule), 1 reading: the total change in pressure during the test.

e. For the vacuum test (Section 305.4.c of this rule), 2 readings: the total change in vacuum during Run 1 and the same for Run 2.

503.3 The owner or operator of a gasoline cargo tank shall record the following:

a. The occurrence and duration of each malfunction of operation of the cargo tank; and

b. The corrective action taken to restore the cargo tank to a vapor tight or liquid leak free status.

504 COMPLIANCE DETERMINATION:

The test methods referenced in Section 504 of this rule, shall be used in the ways given in the subsections that immediately follow. When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule. For routine information collection, the Control Officer may accept a manufacturer's data sheet (MSDS), data certified by an officer of the supplying company, or test data for the product of inquiry.

504.1 Control efficiency of [emission control device] vapor recovery systems and vapor collection/ processing systems shall be determined according to EPA Method 2A and either EPA Method 25A or 25B (Section 504 and subsection 504.1), or by CARB-approved test methods (Section 504 and subsection 504.4). 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 4953-15, 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 leak-tight status is to be made on Stage 1 or spill containment equipment at a gasoline dispensing facility or on a delivery vessel at the station, the method in subsection 504.3 shall be used.

b. Subsection 504.3 probe distance and movement parameters not with-standing, 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 5 seconds, and the probe is either consistently further than 1 inch from the source and/or the probe is consistently being moved faster than 4 cm per second.

c. The Control Officer may count it as a failure to perform weekly inspections pursuant to subsection 301.3 if foreign material is found in a spill containment receptacle and there is no record of an inspection's being performed in the preceding 10 days.

504.4 The CARB publication, "Gasoline Facilities - Phase I & II", pursuant to sections 41954 through 41962 of the California Health and Safety Code, is adopted by reference, as it exists on June 16, 1999. This publication is available for reference at the Maricopa County Air Quality Department, 1001 N. Central Ave., Phoenix, AZ, 85004. This publication is available for purchase at the (California) Air Resources Board, PO Box 2815, 2020 L Street, Sacramento, CA, 95812-2815; (916) 323-0255 or (916) 322-2886.

505 TEST METHODS: The EPA test methods as they exist in the Code of Federal Regulations (CFR) (Date of rule adoption), as listed below, are adopted by reference. The CARB test methods as they exist in Stationary Source Test Methods, Volume 2, on April 8, 1999, as listed in Section 504.4 of this rule, are 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, AZ, 85004.

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 25 ("Determination of Total Gaseous Nonmethane Organic Emissions as Carbon") and its submethods (40 CFR 60, Appendix A).

c. EPA Method 27 ("Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test") in 40 CFR 60, Appendix A.

d. EPA approval of optical imaging camera use to identify and quantify leaks.

505.2 Gasoline Vapor Pressure:

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 Leak Detection Test Method:

a. Calibration: Within four hours prior to monitoring, the CGD or OVA shall be suitably calibrated in a manner and with the gas specified by the manufacturer for 20 percent LEL response, or calibrated with methane for a 10,000 ppm response.

b. Probe Distance: The probe inlet shall be one inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be one 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 inch (2.5 cm) of an actual or potential leak source, the closest practicable probe distance greater than 1 inch 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.

505.4 CARB Certification and Test Procedures for Gasoline Vapor Recovery Systems:

a. San Diego County Air Pollution Control District Test Procedure TP-96-1, March 1996, Third Revision, Air Pollution Control District, 9150 Chesapeake Drive, San Diego, CA 92123-1096.

b. 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.

c. 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.

d. CARB Test Procedure TP-201.1A - "Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities with Assist Processors".

e. 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, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.

f. 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, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.

g. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1D, Leak Rate of Drop Tube Overfill Protection Devices and Spill Container Drain Valves, October 8, 2003 edition, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.

h. 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.

i. 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.