



Enhanced Regulatory Outreach Program Maricopa County Air Quality Department

Notice of Stakeholder Workshop

AQ-2015-008-Rule 350

Storage And Transfer Of Organic Liquids At Organic Liquid Distribution Facilities

Date/Time: Monday, February 22, 2016 at 12:30 pm

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

The Maricopa County Air Quality Department will conduct a Stakeholder Workshop to discuss proposed revisions to AQ-2015-008-Rule 350. The draft rule to be discussed during this workshop is attached to this announcement.

Discussion will focus on:

- Propose to change the title from “Storage and Transfer of Organic Liquids at Organic Liquid Distribution Operations” to “Storage and Transfer of Organic Liquids (Non-Gasoline) at an Organic Liquid Distribution Facility”
- Propose to revise the Section 101 (Purpose) and Section 102 (Applicability) to specify rule applies to an organic liquid (non-gasoline) distribution facility
- Propose to maintain current rule applicability for organic liquids with a TVP of 1.5 psia or greater
- Propose to delete the definitions of “Bulk Plant” and “Bulk Terminal”; terms are not used in federal regulations of organic liquids (40 CFR Part 60, Subpart Kb and 40 CFR Part 63, Subpart EEEE)
- Propose to include a partial exemption for:
 - Organic liquids having a true vapor pressure less than 0.5 psia
 - Storage tanks and containers less than 250 gallon capacity
 - A pressure tank
 - Organic liquid distribution plants transferring less than 120,000 gallons per month
 - The requirement that the roof be floating at all times
 - Emptying or filling storage tanks
 - Secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal
- Propose to add and revise the following definitions:
 - To add “Excess Organic Liquid Drainage”
 - To revise bulk plant to apply to organic liquid facilities
 - To revise bulk terminal to apply to organic liquid facilities
 - To add “External Floating Roof Tank”
 - To add “Fugitive Liquid Leak”
 - To add “Internal Floating Roof Tanks with Fixed Covering”
 - To revise submerged fill – to add graphic
 - To revise Organic Liquid Distribution Operations to “Organic Liquid Distribution Facility”
 - To add “Vapor Collection/Processing System”
 - To add “Vapor Balance System”
 - To revise “Vapor Loss Control Device”
- Propose to revise Section 301 to include standards for organic liquid storage tanks
- Propose to add Table 350-1 (Summary Of Organic Liquid (Non-Gasoline) Storage Tank VOC Emission Control Requirements)
- Propose to revise Section 302 to include standards for vapor loss control systems
- Propose to revise Section 303 to include standards for the transfer of organic liquids
- Propose to revise Section 301 to include:
 - A requirement for a gasketed seal for fill pipe covering
 - A requirement for a permanently installed submerged fill pipe
 - An additional option to install a PV vent valve that has a set operating pressure of at least 25.8 mmHg
 - The addition of a table describing vapor loss control system requirements
- Propose to add monthly equipment leak inspection requirements to Section 400

- Propose to add use of an optical gas imaging instrument as an alternative leak detection method in Section 400
- Propose to add cargo tank inspection requirements to Section 400
- Propose the following revisions to Section 500:
 - To increase the record retention time frame to at least five years
 - To add vapor pressure recordkeeping requirements
 - To add leak inspection recordkeeping requirement.
 - To revise calibration requirements for “Any instrument used for the measurement of organic compound concentration...” to include manufacturer’s instructions
 - To include the full title of the test methods
- Proposed revisions that appear throughout the rule:
 - Propose to change “load” to “transfer”
 - Propose to change “a person...” to “an owner or operator”
 - Propose to delete the references to bulk plant and bulk terminal
 - Propose to change “delivery vessels” to “cargo tanks”

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

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



REVISIONS ORIGINALLY PROPOSED AT WORKSHOP 1 (JUNE 29, 2015):

- Rule 350 was being split into Rule 350 (Storage and Transfer of Organic Liquids at Organic Liquid Distribution Facilities) and Rule 351 (Storage and Transfer of Gasoline at Gasoline Bulk Tanks and Gasoline Terminals)
 - Two distinct industries that have little overlap
 - Current rule requirements that overlap created confusion on which rule section applies to the organic liquid industry and the gasoline industry
 - Organic liquid and gasoline terminology is different
- Use organic liquid industry terminology and definitions
- Lower the rule applicability for organic liquids with a TVP from 1.5 psia to 0.5 psia
- Move exemptions from Rule 350, Section 310, to Section 103
- Add the “Availability of Information” to Section 104

PROPOSED REVISIONS SINCE WORKSHOP 2 (SEPTEMBER 14, 2015):

- Propose to change the title from “Storage and Transfer of Organic Liquids at Organic Liquid Distribution Operations” to “Storage and Transfer of Organic Liquids (Non-Gasoline) at an Organic Liquid Distribution Facility”
- Propose to revise the Section 101 (Purpose) and Section 102 (Applicability) to specify rule applies to an organic liquid (non-gasoline) distribution facility
- Propose to maintain current rule applicability for organic liquids with a TVP of 1.5 psia or greater
- Propose to delete the definitions of BULK PLANT and BULK TERMINAL; terms are not used in federal regulations of organic liquids (40 CFR Part 60, Subpart Kb and 40 CFR Part 63, Subpart EEEE)
- Propose to include a partial exemption for:
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 - To add “Vapor Balance System”
 - To revise “Vapor Loss Control Device”
- Propose to revise Section 301 to include standards for organic liquid storage tanks
- Propose to add Table 350-1 (Summary Of Organic Liquid (Non-Gasoline) Stationary Storage Tank VOC Emission Control Requirements)
- Propose to revise Section 302 to include standards for vapor loss control systems
- Propose to revise Section 303 to include standards for the transfer of organic liquids

**AQ-2015-008-Rule 350**

Stakeholder Workshop: February 22, 2016

Contact: Cheri Dale – 602-506-3476

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

Planning & Analysis Division

1001 N. Central Ave. Ste. 125

Phoenix, AZ 85004

- Propose to revise Section 301 to include:
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 - Propose to change “load” to “transfer.”
 - Propose to change “a person” to “an owner or operator”
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REGULATION III – CONTROL OF AIR CONTAMINANTS

RULE 350

STORAGE AND TRANSFER OF ORGANIC LIQUIDS (NON-GASOLINE) AT BULK PLANTS AND BULK TERMINALS AN ORGANIC LIQUID DISTRIBUTION FACILITY

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[Sections will be included in the index at a later date]

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Revised 07/13/88

Revised 04/06/92

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 350

**STORAGE AND TRANSFER OF ORGANIC LIQUIDS (NON-GASOLINE) AT BULK PLANTS AND
TERMINALS AN ORGANIC LIQUID DISTRIBUTION FACILITY**

SECTION 100 – GENERAL

- 101 PURPOSE:** To limit emissions of volatile organic compounds from organic liquids (non-gasoline) under actual storage and transfer conditions at an organic liquid distribution facility.
- 102 APPLICABILITY:** This rule is applicable to the ~~transfer and bulk storage and transfer~~ of any organic liquid (non-gasoline) ~~in a bulk plant or bulk terminal stationary storage tank which is used primarily to fill delivery vessels.~~ at an organic liquid distribution facility. 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 Total Exemptions: For the purposes of this rule, the following are exempt from this rule:

- a.** Gasoline facilities subject to Rule 351 of these rules;
- b.** Gasoline, including aviation gasoline, kerosene, diesel fuel, asphalt and heavier distillate oils and fuel oils;
- c.** Fuel consumed or dispensed at the facility directly to user such as fleet refueling, that support the operation of the facility;
- d.** Hazardous waste;
- e.** Wastewater or ballast water; and
- f.** Any non-crude oil liquid with an annual average true vapor pressure less than 0.7 kilopascals (0.1 psia). [40 CFR §63.2406]

103.2 Partial Exemptions:

- a.** Organic liquids having a true vapor pressure less than 0.5 psia (25.8 mm Hg) as determined by test methods in Section 500 of this rule are exempt from the organic liquid transfer requirements of Section [XXX] of this rule.
- b.** Stationary storage tanks and containers with a capacity of less than 250 gallons (946.35 L) are exempt from Section [XXX] of this rule.
- c.** An organic liquid distribution facility built prior to October 2, 1978, is not required to have a vapor loss control system at the transfer rack when all of the following are complied with:
 - i.** The distribution facility transfers less than 120,000 gallons (454,800 l) of organic liquid (non-gasoline) into cargo tanks in any consecutive 30-day period.
 - ii.** Any organic liquid distribution facility that becomes subject to all of the provisions of this rule by exceeding the threshold in Section 103.2(c)(i) of this rule, will remain subject to the rule provisions even if its output later falls below the threshold.



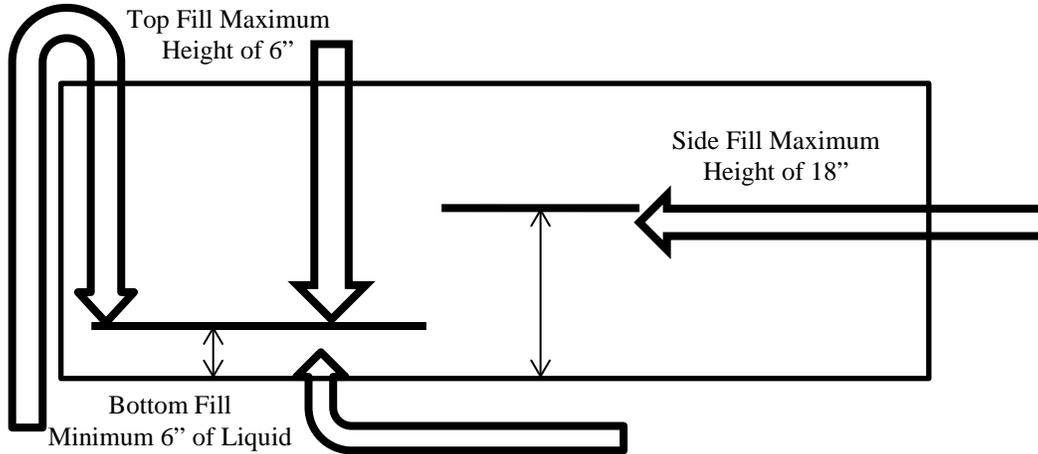
- iii. Keep current records of amount of organic liquid transferred and keep them readily accessible to the Department upon request for at least five (5) years.
- iv. Transfer organic liquid using submerged fill only.
- v. The owners or operators of the organic liquid distribution facility shall observe all parts of the transfer and shall discontinue the transfer if any leaks are observed.
- vi. The owners or operators of the cargo tank shall observe all parts of the transfer and shall discontinue the transfer if any leaks are observed.
- d. A stationary pressure tank maintaining working pressure sufficient at all times to prevent organic vapor or gas loss to the atmosphere is exempt from Section 302 of this rule.
- e. An owner or operator 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.
- f. 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.
- g. Opening of Hatches: When VOC vapors from organic liquids are present within a non-exempt cargo tank, authorized government agents as well as owners or operator and their contractors may open vapor containment equipment while performing operations required by Department rules or by other statutory entities, but shall be restricted as follows unless approved in advance by the Control Officer:
 - i. Wait at least 3 minutes after transfer is complete or cargo tank has stopped before opening hatch or other vapor seal.
 - ii. Reclose hatch or other sealing device within 3 minutes of opening.
 - iii. Limit wind speed at opened hatch or other opened sealing device to not more than 3 mph (1.34 m/sec).

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 ~~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.~~
- 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.~~
- 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.~~
- 201** **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. [40 CFR §63.2406]
- 202** **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.” [40 CFR §63.2406]



- 203** **EXCESS ORGANIC LIQUID DRAINAGE:** More than 10 milliliters (0.34 fluid ounces) per disconnect.
- 204** **EXTERNAL FLOATING ROOF STATIONARY STORAGE TANK:** An open top storage tank with a floating roof consisting of a double deck or pontoon single deck that rests upon and is supported by the liquid being contained.
- 205** **FUGITIVE LIQUID LEAK:** An organic liquid leak of more than three drops per minute from any single leak source other than the disconnect operation of liquid fill line and vapor line.
- ~~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~~ **206** **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. [40 CFR 63.11100]
- 207** **INTERNAL FLOATING ROOF STATIONARY STORAGE TANK WITH FIXED COVERING:** A stationary storage tank with a floating cover or roof that rests upon or is floated upon the liquid being contained, and that also has a fixed roof on top of the tank shell. For the purposes of this rule, an external floating roof stationary storage tank that has been retrofitted with a geodesic dome or other fixed roof shall be considered to be an internal floating roof stationary storage tank.
- ~~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~~ **208** **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 is not considered an organic liquid.
- 209** **ORGANIC LIQUID DISTRIBUTION FACILITY:** A stationary source that primarily receives and distributes organic liquids that are manufactured and consumed by other parties. This includes 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. [40 CFR 63.2406]
- ~~208~~ **210** **STATIONARY STORAGE TANK:** Any tank, reservoir or other container used to store, but not transport, organic liquids.



- 209 **211** **SUBMERGED FILL PIPE:** Any discharge pipe or nozzle which meets the applicable specification as follows:
- 209.1 **211.1** **Top-Fill or Bottom-Fill Tanks:** The end of the discharge pipe or nozzle is totally submerged when the liquid level is six inches (15 cm) from the bottom of the tank.
- 209.2 **211.2** **Side-Fill:** At its highest point within the storage tank, 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 **212** **TRUE VAPOR PRESSURE (TVP):** Absolute vapor pressure of a liquid at its existing temperature of storage and handling.
- 213** **VAPOR COLLECTION/PROCESSING SYSTEM:** A vapor loss control system consisting 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 of the volatile organic compounds entering it from entering the atmosphere.
- 211 **214** **VAPOR LOSS CONTROL DEVICE SYSTEM:** 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. A system for reducing emissions to the atmosphere, consisting of an abatement device and a collection system which achieves the abatement efficiency or emission limit during the transfer operation at an organic liquid distribution facility.
- 215** **VAPOR BALANCE SYSTEM:** A system of vapor tight piping, hoses, equipment and devices which collect and return displaced vapors between a cargo tank and a storage tank.
- 212 **216** **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 **ORGANIC LIQUID STATIONARY STORAGE TANK REQUIREMENTS:**

- 301.1** **All Stationary Storage Tanks With A Capacity Greater Than 250 Gallons (946 L):** No person An owner or operator shall install or use of a stationary storage tank with a capacity greater than 250 gallons (946 l) shall store for storing organic liquids liquid with a true vapor pressure of 1.5 psia (77.5 mm Hg) or more unless such in a stationary storage tank meets meeting all of the following requirements:
- a. Each stationary storage tank has a fill pipe that is always covered with a gasketed seal when organic liquid is not in the process of being transferred.



- 301.4 **b.** The Each stationary storage tank has a permanently installed submerged fill pipe. Where because of government regulation, including, but not limited to, Fire Department codes, such submerged fill pipe cannot be installed, a nozzle extension that reaches within 6 inches of the tank bottom shall be used to fill the tank.

Note[†]

- 301.2 **c.** Each fixed roof stationary storage The tank has a pressure/vacuum valve that complies with both Section 301.2(c)(i) and 301.2(c)(ii) of this rule, which is set within ten percent of the tank's maximum, safe working pressure. An owner or operator shall:

- i.** Install a pressure/vacuum vent valve that is either:
- (1)** Set the within ten percent of the tank's maximum, safe working-pressure; or
 - (2)** Set at least at 1.5 psia (77.5 mm Hg)
- ii.** Maintain the pressure/vacuum vent in good working order.

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 **301.2 Organic Liquid Stationary Storage Tanks With A Capacity Of 20,000 Through 39,999 Gallons To Less Than 40,000 Gallons Capacity (75,700 (946 L - 151,396 L):** ~~No person~~ An owner or operator of an organic liquid stationary storage tank with a capacity between 20,000 gallons but less than 40,000 gallons, shall store organic liquids liquid with a true vapor pressure (TVP) of 1.5 psia through 11.0 psia (77.5 mm - 569 mm Hg) in a stationary storage tank with a capacity from 20,000 through 39,999 gallons (75,700 – 151,396 l) unless the tank meeting all of the following requirements: 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.

- a.** An owner or operator shall equip each stationary storage tank to meet the requirements of Section 301 of this rule.
- b.** An owner or operator shall store organic liquid using at least one of the following methods:
- i.** **Fixed Roof Stationary Storage Tank:** An owner or operator shall store organic liquid in a fixed roof stationary storage tank that meets the requirements in Section 301.1 of this rule.
- ii.** **External Floating Roof Stationary Storage Tank:** An owner or operator shall store organic liquid in an external floating roof stationary storage tank that meets the requirements in Section 302.1 of this rule.
- iii.** **Internal Floating Fixed Roof Stationary Storage Tank:** An owner or operator shall store organic liquid in an internal floating fixed roof stationary storage tank with a fixed roof covering that meets the requirements in Section 302.2 of this rule.
- c.** An owner or operator shall install and maintain at least one of the following vapor loss control systems:
- i.** Install and maintain a vapor recovery system which collects and returns displaced vapors to the cargo tank using vapor-tight fittings and lines; or
- ii.** Install and maintain an external floating roof stationary storage tank; or

[†]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.



- iii. Install and maintain an internal floating roof stationary storage tank with a fixed cover; or
- iv. Install and maintain a vapor collection/processing system.

304 **301.3 Organic Liquid Stationary Storage Tanks With A Capacity Equal To Or Greater Than Of 40,000 Gallons (151,400 L) Or More:** ~~No person~~ An owner or operator of organic liquid stationary storage tanks with a capacity equal to or greater than 40,000 gallons, 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 any organic liquid having a with a true vapor pressure (TVP) of 1.5 or greater 1.5 through 11.0 psia (77.5 mm Hg - 569 mm Hg) under actual storage conditions, in a stationary storage tank unless such stationary storage tank is equipped with at least one of the vapor loss control devices systems listed below: specified in Sections 306, 307, or 308 of this rule.

- a. Install and maintain an external floating roof stationary storage tank; or
- b. Install and maintain an internal floating roof stationary storage tank with a fixed cover; or
- c. Install and maintain a vapor collection/processing system.

305 **301.4 Organic Liquid Stationary Storage Tanks Storing Liquids Having Vapor Pressures Exceeding 11 Psia:** ~~No person~~ An owner or operator shall place, store, or hold in a stationary tank having a capacity over 250 gallons (946 l) organic liquid(s) liquid with a true vapor pressure above 11.0 psia (569 mm Hg) in a stationary storage tank that meets at least one of the vapor loss control methods specified in below: 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.

- a. Maintain a working pressure in the stationary storage tank that is sufficient at all times to prevent organic vapor/gas loss to the atmosphere.
- b. Equip the stationary storage tank with a vapor collection/processing system as described in Section 302 of this rule.

Table 350-1

Summary of Organic Liquid (Non-Gasoline) Stationary Storage Tank VOC Emission Control Requirements

| <u>Tank Capacity</u> | <u>True Vapor Pressure of Organic Liquid In Tank</u> | |
|--|---|--|
| | <u>1.5 psia ≤ 11.0 psia</u> | <u>>11.0 psia</u> |
| <u>All organic liquid (non-gasoline) stationary storage tanks >250 gallons</u> | <u>Applicable Rule 350 Section: Section 301.1</u> | <u>Applicable Rule 350 Section: Section 301.4</u> |
| <u>All organic liquid (non-gasoline) storage tanks 20,000 gallons to <40,000 gallons</u> | <u>Section 301.1 and Section 301.2</u> | <u>Section 301.4</u> |
| <u>All organic liquid (non-gasoline) storage tanks >40,000 gallons</u> | <u>Sections 301.1 and Section 301.3</u> | <u>Section 301.4</u> |

302 VAPOR LOSS CONTROL SYSTEM:

306 **302.1 External Floating Roof Stationary Storage Tanks:** ~~This vapor loss control devicesystem 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: An external floating roof storage tank must meet the following requirements:~~

- a. The owner or operator of an external floating roof tank and associated emission control equipment shall properly install, properly maintain and operate the equipment.



b. Floating Roof Requirements:

- i.** The floating roof shall rest on and be supported by the surface of the liquid contents.
- ii.** The floating roof shall be equipped with a continuous primary seal to close the space between the roof eave and tank wall, except as provided in Section 103.2 of this rule.
- iii.** The floating roof shall 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: of Section 302.1.b of this rule.

c. Secondary Seal Requirements:

- ~~306.1~~ **i.** 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~~ Section 302.1(c)(ii) 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~~ an owner or operator 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~~ **ii.** The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 1.0 square inch per foot (21.2 cm² 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.

d. Floating Roof Openings:

- i.** Floating roof tanks subject to the provisions of Section 302.1 of this rule shall have no visible holes, tears or other openings in the seal or in any seal fabric.
 - ii.** 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 cm² per meter)
 - iii.** The width of any portion of any gap shall not exceed 1½ inches (3.8 cm).
 - iv.** Where applicable, all openings except drains shall be equipped with a cover seal or lid.
 - v.** Where applicable, the cover seal or lid shall be in a closed position at all times, except when the system is in actual use.
 - vi.** Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports.
 - vii.** 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.
- ~~307~~ **302.2 Internal Floating Roof Stationary Storage Tanks With Fixed Covering:** ~~This vapor loss control device is a covered tank with an internal floating roof resting on the contained liquid. This stationary storage tank and its appurtenances shall meet the applicable requirements as follows:~~
- a.** The owner or operator of an internal floating roof stationary storage tank and associated emission control equipment shall properly install, maintain and operate the equipment.
- ~~307.1~~ **b.** ~~Bulk terminal tanks~~ Organic liquid stationary storage 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 K- Standards of Performance for Volatile Organic Liquid Storage Vessels



(Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, as incorporated by reference July 1, 2016.

307.2 **c.** All stationary storage tanks not subject to subsection 307.1 Section 302.2(b) of this rule must comply with one of the following:

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

d. Floating Roof Openings:

- i. Floating roof tanks subject to the provisions of Section 306 of this rule shall have no visible holes, tears or other openings in the seal or in any seal fabric.
- ii. 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 cm² per meter)
- iii. The width of any portion of any gap shall not exceed 1½ inches (3.8 cm).
- iv. Where applicable, all openings except drains shall be equipped with a cover seal or lid.
- v. Where applicable, the cover seal or lid shall be in a closed position at all times, except when the system is in actual use.
- vi. Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports.
- vii. 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.

302.3 Vapor Balance System: An owner or operator of an organic liquid distribution facility that has an organic liquid throughput of 600,000 gallons or less in any consecutive 30-day period, shall install, operate and maintain a vapor balance system.

308 **302.4 Vapor Collection/Processing System:** This vapor loss control ~~device~~ system 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.

a. An owner or operator of an organic liquid distribution facility that has an organic liquid throughput greater than 600,000 gallons in any consecutive 30-day period, shall install, operate and maintain a vapor loss control system.

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

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

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

302.5 Equipment Maintenance and Repair: The owner or operator of an organic liquid distribution facility shall:



- a. Maintain the equipment associated with the storage and transfer of organic liquid to be all of the following:
 - i. Leak free;
 - ii. Vapor tight; and
 - iii. In good working order.
- b. Repair and Retest: Except as superseded by Rule 100, Section 501 of these rules, the owner or operator of a vapor loss control system that exceeds the standards of this rule shall notify the Control Officer and observe the following time schedule in ending such exceedances:
 - i. Concentrations at or above the lower explosive limit must be brought into compliance within 24 hours of detection.
 - ii. 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.
 - iii. Except as the Control Officer otherwise specifies, a leak source subject to 302.5(b)(i) or 302.5(b)(ii) 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.

303 **GENERAL REQUIREMENTS FOR THE TRANSFER OF ORGANIC LIQUID:** The owner or operator of an organic liquid distribution facility shall comply with the following:

303.1 **Transferring of Organic Liquid into Stationary Storage Tanks:**

- a. Comply with Section 303.1 of this rule.
- b. Verify the proper connection to a vapor balance system or other vapor loss control systems prior to an organic liquid transfer at facilities that utilize a vapor balance system.
- c. Verify the proper disconnection from a vapor balance system or other vapor loss control systems at the completion of an organic liquid transfer at facilities that utilize a vapor balance system.
- d. Minimize spills during storage and transfer of organic liquids.
- e. Clean up spills as expeditiously as practicable.
- f. Cover all open organic liquid containers when not in use.
- g. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

303.2 **Transferring of Organic Liquids Into Cargo Tankers:**

- a. Verify that the cargo tanker has been demonstrated to be vapor tight.
- b. Verify the proper connection to a vapor balance system or other vapor loss control systems prior to an organic liquid transfer.
- c. Verify the proper disconnection from a vapor balance system or other vapor loss control systems at the completion of an organic liquid transfer.
- d. Minimize spills during storage and transfer of organic liquids.
- e. Clean up spills as expeditiously as practicable.
- f. Cover all open organic liquid containers when not in use.
- g. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.



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 cm² 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.~~

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 ANNUAL INSPECTIONS OF EXTERNAL FLOATING ROOF STATIONARY STORAGE

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 STATIONARY STORAGE

TANKS: The owner or operator of any stationary storage tank which uses an internal floating roof to meet the vapor loss control system requirements of this rule shall make the entire stationary storage 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 ANNUAL LEAK DETECTION TEST: The owner or operator of each organic liquid distribution facility shall conduct an annual leak detection test. Testing shall be done according to procedures in Section 500, except that EPA Method 21 shall be used to test for leaks from a vapor collection/ processing unit and its associated piping outside the organic liquid transfer area. Equipment shall conform to the specifications of those test methods cited in Section 506. Prior to testing, the owner shall notify the Control Officer of the date, time and location of the testing. The Control Officer or his representatives shall at their discretion observe the tests.

403 **404 FIVE-YEAR, FULL CIRCUMFERENCE INSPECTIONS:** ~~As of July 13, 1988, the~~ 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 **405 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.~~
- 406 MONTHLY ORGANIC LIQUID TRANSFER EQUIPMENT LEAK INSPECTIONS:** The owner or operator shall perform monthly inspections, while organic liquid is being transferred, for liquid and vapor leaks and for faulty equipment. Monthly inspections detection methods can include one or more of the following:
- 406.1** Incorporation of sight, sound, smell and/or touch.
- 406.2** Use of an optical gas imaging instrument calibrated according to manufacturing specifications.
- 407 CARGO TANK INSPECTION:** The owner or operator of a cargo tank subject to this [PROPOSED]Rule 350 shall periodically verify the vapor tightness of each cargo tank as described in Section 407.1 or 407.2 of this rule.
- 407.1** The owner or operator of a cargo tank equipped with vapor balance equipment shall annually demonstrate that the cargo tank maintains a pressure change of no more than 250 pascals (1 inch of water) within 5 minutes after it is pressurized to 4,500 pascals (18 inches of water) by using the procedures specified in EPA Method 27 - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test.
- 407.2** The owner or operator of a cargo tank that is not equipped with vapor balance equipment shall demonstrate that the cargo tank meets the United States Department of Transportation Requirements for Test and Inspection of Specification Cargo Tanks as described in 49 CFR 180.407.

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 years.~~
- 502 ~~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 ~~Emission Rates And Control Device Efficiency: EPA Reference Methods 2A, 2B, 18 and 25A.~~
- 502.3 ~~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 D323-82 or by ASTM Method D-5191.~~
- 502.5 ~~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.~~

- 501** **COMPLIANCE INSPECTIONS:** The Control Officer, at any time, may monitor a cargo tank's vapor collection system, an organic liquid transfer rack's vapor loss control systems, a transfer facility or a vapor collection/processing system for vapor leaks by the test methods described in Section 506 of this rule.
- 502** **RECORDS RETENTION:** Records and information required by this rule shall be retained for at least five years.
- 503** **VAPOR PRESSURE RECORDS:** The owner or operator of an organic liquid distribution facility shall keep accurate records including, but not limited to the records listed in Section 501.1, 501.2, 501.3 and 501.4 of this rule.
- 503.1** An owner or operator shall keep accurate records of liquids stored in each storage tank subject to this Rule 350.
 - 503.2** The temperature of the contents of each storage tank subject to this Rule 350, shall be recorded at least weekly.
 - 503.3** The true vapor pressure of each organic liquid in each storage tank subject to this Rule 350, shall be recorded at least once each month.
- 504** **LEAK INSPECTION RECORDS:** The owner or operator of an organic liquid distribution facility shall keep a log documenting each leak inspection. The log shall include, but is not limited to the items listed in Section 502.1, 502.2, 503.3, 502.5 and 502.5 of this rule.
- 504.1** The owner or operator shall sign the log at the completion of each monthly inspection for equipment leaks.
 - 504.2** Each monthly inspection shall include shall contain a list, summary description or diagram(s) showing the location of all equipment at the organic liquid distribution facility.
 - 504.3** Each monthly inspection shall include any maintenance that occurred.
 - 504.4** Each annual inspection shall include any maintenance that occurred.
 - 504.5** These records shall be kept a minimum of five years.
 - 504.6** Additional Record Requirements for use of optical gas imaging instruments: An owner or operator using an optical gas imaging instrument for leak inspections shall date and time stamp the video records of every monitoring event where an optical gas imaging instrument was used.
- 505** **LEAK CONCENTRATIONS:** Any instrument used for the measurement of organic compound concentration shall be calibrated according to manufacturer's instructions or in accordance with EPA Reference Method 21 as incorporated by reference in Maricopa County Air Pollution Control Regulations, Appendix G, Incorporated Materials.



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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. Copies of the code of federal regulations are available electronically at: <http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>; 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.

506.1 EPA Test Methods:

- a. EPA Method 2A - Direct Measurement of Gas Volume Through Pipes and Small Ducts.
- b. EPA Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography.
- c. EPA Method 21 - Determination of Volatile Organic Compound Leaks.
- d. EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.
- e. EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer.
- f. EPA Method 27 - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test.
- g. Optical Gas Imaging: An owner or operator can choose to comply with the alternative work practice requirements in 40 CFR 40.18(i) instead of using the 40 CFR 60, Appendix A-7, Method 21 monitor to identify leaking equipment.

506.2 California Air Resources Board (CARB) - Test Procedure:

- a. TP-201.1E Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, October 8, 2003.

506.3 ASTM

- a. ASTM D2879-10 Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope.
- b. ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry.

506.4 Leak Detection – Test Procedure: During transfer or organic liquid, the peripheries of all potential sources of leakage at the facility are checked with a combustible gas detector or organic vapor analyzer (OVA) as follows:

- a. **Pressure:** A pressure tap shall be placed in the facility's vapor control system, as close as possible to the cargo tank. The pressure shall be recorded periodically during testing, at least once every minute. Instantaneous maximum pressure shall be recorded either automatically or by visual observation. A pressure measurement device capable of measuring 20 inches (50.8 cm) of water pressure with a precision of 0.1 (2.5 mm) inch of water shall be calibrated. This device shall fit the tap and shall either be permanently installed or shall be kept available at all times at the facility.
- b. **Calibration:** Within 4 hours prior to monitoring the combustible gas detector or OVA shall be calibrated with 10,600 ppm propane by volume in air for a 50 percent lower explosive limit (LEL) response.
- c. **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

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Stakeholder Workshop: February 22, 2016

Contact: Cheri Dale – 602-506-3476

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

Planning & Analysis Division

1001 N. Central Ave. Ste. 125

Phoenix, AZ 85004

probe is obstructed from moving within one inch (2.5 cm) of an actual or potential leak source, the closest practicable probe distance shall be used.

- d. 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.
- e. 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 coaxial with the path of the most concentrated vapors.
- f. Wind:** Wind shall be blocked as much as possible from the space being monitored. The annual leak detection test required by Section 401 shall be valid only when wind speed in the space being monitored is 5 mph or less.
- g. Data Recording:** The highest detector reading and location for each incidence of leakage shall be recorded along with the date and time.

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