

**NOTICE OF FINAL RULEMAKING**

**MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS**

**REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 350: STORAGE OF ORGANIC LIQUIDS AT BULK PLANTS AND BULK TERMINALS**

**PREAMBLE**

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|------------------|--|---------------------------------|
| <b><u>1.</u></b> | <b><u>Rule affected</u></b>  | <b><u>Rulemaking action</u></b> |
|                  | Rule 350: Storage of Organic Liquids at Bulk Plants and Bulk Terminals | Amended                         |
- 2.** **Statutory authority for the rulemaking:**
- Authorizing statutes: A.R.S. §§ 49-474, 49-479, and 49-480
- Implementing Statute: A.R.S. § 49-112
- 3.** **The effective date of the rule:**
- Date of adoption: November 2, 2016
- 4.** **List of public notices addressing this rulemaking:**
- Notice of Briefing to Maricopa County Manager: May 2015
- Notice of Stakeholder Workshops: June 30, 2015, September 14, 2015, and February 22, 2016
- Notice of Maricopa County Board of Health Meeting: April 25, 2016
- Notice of Proposed Rulemaking: 22 A.A.R. 1207, May 13, 2016
- 5.** **Name and address of department personnel with whom persons may communicate regarding the rulemaking:**
- Name: Cheri Dale or Hether Krause
- Maricopa County Air Quality Department
- Planning and Analysis Division
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- 6.** **Explanation of the rule, including the department's reasons for initiating the rulemaking:**

**Summary:** Rule 350 limits the emission of volatile organic compounds (VOCs) from organic liquids under actual storage conditions. The rule is applicable to bulk storage of organic liquids in a bulk plant or bulk terminal stationary storage tank which is used primarily to fill delivery vessels for both the organic liquid (non-gasoline) and the gasoline industries.

Rule 350 (Storage of Organic Liquids at Bulk Plants and Terminals) was last revised over twenty-five years ago. Technologies have changed over time. The organic liquid (non-gasoline) and gasoline storage and distribution industries use different terminology, definitions and methods of operation. Rule revisions included the separation of organic liquids (non-gasoline) from the gasoline storage requirements. In addition the rule added the organic liquid transfer requirements to Rule 351. The gasoline storage requirements previously in Rule 350 were moved to Rule 351 (Loading of Organic Liquids). The revisions in Rule 350 updated and clarified the county regulatory requirements and authority for the organic liquid (non-gasoline) industry and the gasoline industry. Revisions to Rule 350 addressed the requirements of the State Implementation Plan (SIP) for “moderate” nonattainment for the 2008 eight-hour ozone national ambient air quality standard (NAAQS).

In addition, the amendments corrected typographical or other clerical errors; made minor grammatical changes to improve readability or clarity; modified the format, numbering, order, capitalization, punctuation, or syntax of certain text to increase standardization within and among rules; or made various other minor changes of a purely editorial nature. As these changes did not alter the sense, meaning, or effect of the rules, they are not described in detail here, but can be readily discerned in the “underline/strikeout” version of the rules contained in Item 17 of this notice.

**Background:** As early as the 1960’s, the Maricopa County Health Department (as the department was then called), Air Pollution Control regulations, Section IV, Handling of Materials, Regulation 1, required “Material such as...gasoline or other volatile compounds...be kept, processed, used, and transported in such a manner and by such means that they will not unreasonably leak, escape, evaporate or be otherwise discharged into the ambient air so as to cause or contribute to air pollution...”<sup>1</sup> This early rulemaking established the basis for the current Rule 350. In 1970, the passage of the Clean Air Act established federal air quality standards.

Congress established the basic structure of the Clean Air Act (CAA) in 1970. The CAA requires the U.S. Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) for common and widespread pollutants based on the most current science available. For areas that were determined to be in nonattainment of the NAAQS, the state was required to adopt federally enforceable state implementation plans (SIP) in order to achieve and maintain air quality and meet the federally established air quality standards (the NAAQS)<sup>2</sup>. The states were responsible for developing and implementing rules that require reasonably available control technology (RACT) for sources of VOCs located in the designated ozone nonattainment areas. Local air agencies were required to establish RACT for source categories not already covered by EPA's Control Techniques Guidelines (CTGs) as well as tighten RACT for source categories for which RACT had already been defined in the NAAQS<sup>3</sup>. The EPA defined RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility” (44 FR 53762; September 17, 1979).

In the 1970's, using the EPA NAAQS and CTGs to identify the established RACT standards, the Maricopa County Bureau of Air Pollution Control (as the department was then called) revised and renumbered the county air pollution rules and regulations. The revised county rules established specific requirements for petroleum products in Regulation III, Rule 33: Storage and Handling of Petroleum Products<sup>4</sup>. This rule established requirements to control vapor loss during storage; submerged filling of tanks; loading dock requirements; and leak proof fill pipe connections.

On March 3, 1978, EPA promulgated a list of ozone nonattainment areas under the provisions of the Clean Air Act, as amended in 1977 (1977 CAA or pre-amended Act). Maricopa County was included on such list (43 FR 8964, March 3, 1978). On February 24, 1984, the EPA notified the Governor of Arizona, that the Maricopa County Air Pollution Control District's (MCAPCD), (as the department was then called) portion of the Arizona SIP was inadequate and requested that deficiencies in the existing SIP be corrected (EPA's SIP-Call, 49 FR 18827, May 3, 1984). The MCAPCD was in the process of revising Rule 33 to create Rules 350, 351, 352, and 353 to address the RACT requirements when the EPA again notified the Governor of Arizona (May 26, 1988) that the MCAPCD's portion of the Arizona SIP was inadequate and

requested that deficiencies relating to VOC controls and the application of RACT in the existing SIP be corrected (EPA's second SIP-Call, 53 FR 34500, September 7, 1988).

On November 15, 1990, the Clean Air Act Amendments of 1990 were enacted. In an amended section of the CAA, Congress statutorily adopted the requirement that nonattainment areas fix their deficient RACT rules and established a deadline of May 15, 1991 for states to submit corrections of those deficiencies. The MCAPCD further revised Rules 350, 351, 352, and 353 to meet the RACT standards. Rule 350 (Storage of Organic Liquids at Bulk Plants), revised July 13, 1988, and April 6, 1992, was approved by the EPA effective October 5, 1995 (60 FR 46024). Rule 351 (Loading Organic Liquids) revised July 13, 1988 and November 16, 1992, was approved effective October 5, 1995 (60 FR 46024). Rule 352 (Gasoline Delivery Vessel Testing and Use), revised July 13, 1988, and November 16, 1992, was approved effective October 5, 1995, (60 FR 46024). Rule 353 (Transfer of Gasoline into Stationary Dispensing Tanks) revised July 13, 1988, and April 6, 1992, was approved effective March 4, 1996 (61 FR 3578).

More recently, the EPA developed national emission standards for hazardous air pollutants (NESHAPS) for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (73 FR 1933, Jan. 10, 2008); a NESHAP for Gasoline-Dispensing Facilities (73 FR 1945, Jan. 10, 2008); and the NESHAP for Organic Liquid Distribution (non-gasoline) (69 FR 5063, Feb. 3, 2004). These NESHAPS are often referred to as the maximum achievable control technology (MACT) standards since they were developed to reflect the maximum achievable degree of HAP emission reduction. New MACT standards required additional or new emissions testing requirements reflecting the new technologies. New and revised test methods and leak detection methods were required in these MACT standards. Although the MACT standards typically apply to large sources, there are test methods and other good practices that are or may be applicable to small area sources of VOC emissions.

**Rule 350 Rulemaking Background:** The Maricopa County Air Quality Department (department) originally adopted Rule 350 (Storage of Organic Liquids at Bulk Plants and Terminals) and Rule 351 (Loading of Organic Liquids) to be inclusive of both non-gasoline and gasoline organic liquids. The purpose of the rules was to control the emission of volatile organic compounds (VOCs) from all organic liquids. These rules were required in order for the county to comply with the reasonably available control technology (RACT) documents and other policy statements published by the EPA. Since that time, the

organic liquid (non-gasoline) and the gasoline industry have evolved into two distinct industries. The use of different terminology, definitions and methods of operation has created confusion in the applicability of Rule 350 to each industry. In this rulemaking, the department drafted rules specific to the organic liquid (non-gasoline) storage and distribution industry and for the gasoline storage and distribution industry. This rulemaking did not propose new rules for the industries but rather made revisions to current rules that improved the clarity and enforceability of the regulatory requirements for each industry.

The rule revisions included the separation of the organic liquid (non-gasoline) requirements and the gasoline requirements of Rule 350. The organic liquid (non-gasoline) storage requirements in Rule 350 and the organic liquid “loading” requirements Rule 351 (Loading of Organic Liquids) were combined and into one rule, Rule 350. The gasoline storage requirements in Rule 350 were moved into Rule 351. Along with the separation of the two industry requirements, the department renamed each rule to reflect the rule revisions.

On May 19, 1993, the department issued technical guidance #TG-003 to address a Stakeholder concern that Section 301.2 of Rule 350 requiring a tank to have a pressure vacuum valve set to within 10% of the tank’s maximum, safe working pressure. The Stakeholder provided documentation stating the design working pressure should not exceed 1 psig and recommended applying the ½ psia operating pressure as CARB required. Revisions to Rule 350 provided the owner or operator the option of either setting the pressure/vacuum valve on fixed roof tanks within 10% of the tank’s maximum working pressure or at 0.5 psia, as included in revised Section 301.1(c) of Rule 350. The department rescinded #TG-003 (May 19, 1993) with this rule revision.

A second technical guidance was issued on March 11, 1998 #TG98-002, addressing the requirement of pressure/vacuum (P/V) valves on both fixed roof and floating roof tanks. Per the discussion in the technical guidance document:

Both floating-roof tanks and pressure-tanks are designed and engineered to control vapor emissions without the use of pressure/vacuum valves. The use of such a valve would not produce additional emissions control. The rule’s authors had no intention of requiring P/V valves on floating roof tanks or pressure tanks, but failed to recognize that the way they constructed the rule would result in this unintended and erroneous interpretation.

The guidance concluded “The subsection 301.2 requirement to have a pressure/vacuum valve does not apply to floating roof tanks or pressure tanks.” The department revised Rule 350, Section 301.1(c) to require pressure/vacuum valves on “Each fixed roof stationary storage tank...” This rule revision corrected the omission in the previous rule. The department rescinded #TG98-002 (March 11, 1998) with this rule revision.

In addition, the department revised the rule applicability to include organic liquids (non-gasoline) with a true vapor pressure (TVP) of 0.5 psia. The lowering of the TVP now meets current RACT.

Other revisions included the relocation of any exemptions into Section 100; inclusion of definitions and terms specific to the organic liquid industry; organic liquid regulatory requirements for the transfer of transfer of the organic liquid; monthly equipment leak inspection requirement; and the addition of optical gas imaging as an alternative work practice to monitor and identify leaking equipment.

**Issues Raised and Discussed During This Rulemaking Process:**

The department held three Stakeholder workshops: June 29, 2015, September 14, 2016, and February 22, 2016. Stakeholders included representatives from APS, Caljet, CDM Smith, Cemex, City of Glendale, City of Mesa, City of Phoenix, Coastal Transport, EnCore Consulting, EnviroSure Solutions, Kiewit, Kinder Morgan, Luke Air Force Base, Pinal County, Ping, Polar Services, SRP, Tamura Environmental, Washington Elementary School, and EPA.

During the workshops, Stakeholders expressed concerns that the proposed Rule 350 would include any organic liquid stored at any site. The purpose and applicability were revised to clarify that the rule was applicable to the storage and transfer of organic liquids at a distribution facility and not at a facility that is the end user of the organic liquid. The rule does not apply to the storage and transfer of organic liquids at a facility that does not distribute the organic liquid to be “consumed by other parties.” (Rule 350 definition of “Organic Liquid Distribution Facility”) The rule title was also revised to clarify the applicability of the rule. Some definitions pertaining to the gasoline industry were deleted. The definition of GASOLINE was retained in the rule definitions because the exemption section specifically exempts gasoline from the rule. The exemptions were taken from 40 CFR 63.2406, the Organic Liquid Distribution NESHAP. The partial exemptions in Rule 350 were either retained from current Rule 350 or taken from current Rule 351 if they pertained to organic liquid (non-gasoline).

Stakeholders were concerned that the rule would apply to all storage containers used for organic liquids. The department included partial exemptions for organic liquids with a TVP less than 0.5 psia, storage containers with a capacity less than 250 gallons, a pressure tank, a floating roof tank, and gap inspections. During the workshops, Stakeholders requested the addition or revision of numerous definitions to reflect the rule applicability to the organic liquid industry and not the gasoline industry. The department revised the definitions in the Rule 350 to address this concern.

To further clarify the requirements for organic liquid storage tanks, the department added a table describing tank size and the applicable rule section number that describes the VOC emission control requirements.

Stakeholders supported this addition to the rule.

**Description of Amendments:**

**Amended the following throughout the rule:**

- Revised the title of the rule to: STORAGE AND TRANSFER OF ORGANIC LIQUIDS (NON-GASOLINE) AT AN ORGANIC LIQUID DISTRIBUTION FACILITY
- Deleted references to gasoline loading and storage
- Changed the word “loading” to “transfer”
- Deleted the word “person” and inserted the words “owner or operator”
- Deleted past compliance dates
- Added or revised specific rule section references

**Amended the following in Section 100:**

- Revised Section 101 (Purpose) to include the storage and transfer of organic liquid (non-gasoline) at an organic liquid distribution facility
- Revised Section 102 (Applicability) to apply to the bulk storage and transfer of organic liquid (non-gasoline) at an organic liquid distribution facility
- Added Section 103 (Exemptions) to include total exemptions and partial exemptions

**Amended the following in Section 200:**

- Deleted the definition BULK PLANT
- Deleted the definition BULK TERMINAL
- Deleted the definition DELIVERY VESSEL

- Added the definition CARGO TANK
- Added the definition CONTAINER
- Added the definition EXCESS ORGANIC LIQUID DRAINAGE
- Added the definition EXTERNAL FLOATING ROOF STATIONARY STORAGE TANK
- Deleted the definition GAS TIGHT
- Added the definition INTERNAL FLOATING ROOF STATIONARY STORAGE TANK WITH FIXED COVERING
- Added the definition LEAK FREE
- Deleted the definition LOADING FACILITY
- Revised the definition ORGANIC LIQUID
- Revised the definition SUBMERGED FILL
- Added the definition VAPOR BALANCE SYSTEM
- Added the definition VAPOR COLLECTION/PROCESSING SYSTEM
- Revised the definition VAPOR LOSS CONTROL SYSTEM
- Revised the definition VAPOR TIGHT

**Amended the following in Section 300:**

- Revised Section 301: Clarified the requirements of an organic liquid stationary storage tank
- Revised Section 301.1: Listed the requirements of a stationary storage tank
- Deleted Section 302: Gasoline Storage Tanks Between 250 and 40,000 Gallons
- Added Section 301.2: Organic Liquid Stationary Storage Tanks with a Capacity of 20,000 Gallons (75,700 l) to less than 40,000 Gallons (151,400 l)
- Renumbered Section 304 to Section 301.3: Listed out requirements of stationary storage tanks with a capacity of 40,000 gallons or more
- Renumbered Section 305 to Section 301.4: Listed out the existing requirements
- Added Table 350-1 Summary of Organic Liquid (Non-Gasoline) Stationary Storage Tank VOC Emission Control Requirements
- Renumbered Section 306 to Section 302: Vapor Loss Control System

- Renumbered Section 307 to Section 302.2: Internal Floating Roof Stationary Storage Tanks with Fixed Covering.
- Renumbered Section 308 to Section 302.4: Vapor Collection/Processing System
- Added Section 303: Equipment Maintenance and Repair
- Added Section 304: General Requirements for the Transfer of Organic Liquid
- Deleted Section 309: Additional Requirements
- Deleted Section 310: Exemptions

**Amended the following in Section 400:**

- Deleted Section 401: Annual Inspections of External Floating Roof Stationary Storage Tanks
- Deleted Section 402: Annual Inspections of Internal Floating Roof Tanks
- Deleted Section 403: Five-Year, Full Circumference Inspections
- Deleted Section 404: Semi-Annual Inspections by Owner or Operator
- Deleted Section 405: Compliance Schedule
- Added Section 401: Organic Liquid (Non-Gasoline) Storage Tank Inspections
- Added Section 401.1: Semi-annual Inspections by Owner or Operator
- Added Section 401.2: Inspections of External Floating Roof Stationary Storage Tanks
- Added Section 401.3: Inspections of Internal Floating Roof Stationary Storage Tanks with a Fixed Covering
- Added Section 402: Monthly Organic Liquid Transfer Equipment Leak Inspections
- Added Section 403: Organic Liquid (Non-Gasoline) Storage Tank Inspections-Availability to Control Officer
- Added Section 403.1: Annual Inspections of External Floating Roof Tanks
- Added Section 403.2: Annual Inspections of Internal Floating Roof Tanks
- Added Section 403.3: Five-Year, Full Circumference Inspections
- Added Section 404: Other Agencies Requirements

**Amended the following in Section 500:**

- Deleted Section 501: Vapor Pressure Records
- Deleted Section 502: Compliance Determination Test Methods

- Added Section 501: Monitoring for Leaks
- Added Section 502: Vapor Pressure Records
- Added Section 503: Leak Inspection Records
- Added Section 504: Compliance Inspections
- Added Section 505: Records Retention
- Added Section 506: Compliance Determination-Test Methods

**7. Demonstration of compliance with A.R.S. §49-112:**

Under A.R.S. § 49-479(C), a county may not adopt a rule or ordinance that is more stringent than the rules adopted by the Director of the Arizona Department of Environmental Quality (ADEQ) for similar sources unless it demonstrates compliance with the applicable requirements of A.R.S. §49-112.

§ 49-112 County regulation; standards

§ 49-112(A)

When authorized by law, a county may adopt a rule, ordinance or other regulation that is more stringent than or in addition to a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if all of the following conditions are met:

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition.
2. There is credible evidence that the rule, ordinance or other regulation is either;
  - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.
  - (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the county rule, ordinance or other regulation is equivalent to federal statutes or regulation.
3. Any fee or tax adopted under the rule, ordinance or other regulation will not exceed the reasonable costs of the county to issue and administer that permit or plan approval program.

§ 49-112(B)

When authorized by law, a county may adopt rules, ordinances or other regulations in lieu of a state program that are as stringent as a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if the county demonstrates that the cost of obtaining permits or

other approvals from the county will approximately equal or be less than the fee or cost of obtaining similar permits or approvals under this title or any rule adopted pursuant to this title. If the state has not adopted a fee or tax for similar permits or approvals, the county may adopt a fee when authorized by law in the rule, ordinance or other regulation that does not exceed the reasonable costs of the county to issue and administer that permit or plan approval program.

The department complies with A.R.S. § 49-112(A) in that Maricopa County fails to meet the National Ambient Air Quality Standards (NAAQS) for both ozone and particulates. The County failed to meet 2008 8-hour ozone standard by the marginal area attainment date of July 20, 2015. The EPA issued a final rule, effective June 3, 2016, reclassifying the Maricopa County area to “moderate” (published at 86 FR 26697, May 4, 2016). Further, a portion of the County was classified as a serious ozone nonattainment area under the previous 1-hour ozone standard requiring the County to continue to maintain the measures and requirements that allowed the County to attain that standard. Currently, a portion of Maricopa County and Apache Junction in Pinal County is designated serious nonattainment for the PM<sub>10</sub> 24-hour standard. This is the only serious PM<sub>10</sub> nonattainment area in Arizona. Revisions to Rule 350 address the requirements of the State Implementation Plan (SIP) for “moderate” nonattainment for the 2008 eight-hour ozone NAAQS. The amendments in Rule 350 included Reasonably Available Control Technology (RACT).

The department complies with A.R.S. § 49-112(B) in that the amendments to Rule 350 are not more stringent than or in addition to a provision of Title 49 or rule adopted by the director or any board or commission authorized to adopt rules pursuant to Title 49; address the peculiar local conditions in Maricopa County; are authorized under A.R.S. Title 49, Chapter 3, Article 3; and are not in lieu of a state program.

**8. Documents or studies referenced and/or reviewed for this rulemaking:**

Not applicable

**9. Showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision:**

Not applicable

**10. Summary of the economic, small business, and consumer impact:**

The following discussion addresses each of the elements required for an economic, small business and consumer impact statement under A.R.S. § 41-1055. The economic summary is based on the number of Title V and Non-Title V permits issued by the Maricopa County Air Quality Department.

**An identification of the rulemaking.**

This rulemaking revised Rule 350 (Storage of Organic Liquids at Bulk Plants and Bulk Terminals). The revised rule is titled: Storage and Transfer of Organic Liquids (Non-Gasoline) at an Organic Liquid Distribution Facility.

**An identification of the persons who will be directly affected by, bear the costs of or directly benefit from the rulemaking.**

The persons who are directly affected by and bear the costs of this rulemaking are facilities in Maricopa County that engage in the bulk storage and transfer of any organic liquid (non-gasoline) with a vapor pressure 0.5 psia or greater at an organic liquid distribution facility. The department has issued permits to 26 facilities subject to Rule 350, prior to revision.

**A cost benefit analysis of the following:**

**(a) The probable costs and benefits to the implementing agency and other agencies directly affected by the implementation and enforcement of the rulemaking.**

Because this rulemaking did not impose any new compliance burdens on permitted regulated entities or introduce additional regulatory requirements, the department deemed that none of the revisions have potentially significant economic impacts on permitted sources. It is expected that the department will benefit from the increased clarity of the rule with decreased time to inspect a facility or prepare a permit. In addition, the rulemaking will not impose increased monetary or regulatory costs on other state agencies, political subdivisions of this state, persons, or individuals so regulated.

The assumptions of savings with the rule revisions will be reviewed after rule implementation to confirm their effectiveness. However, the benefits of the rule revision are anticipated to be a result of the following changes:

- Changing the title of the rule to: STORAGE AND TRANSFER OF ORGANIC LIQUIDS (NON-GASOLINE) AT AN ORGANIC LIQUID DISTRIBUTION FACILITY;

- Requiring standards at organic liquid distribution facilities for stationary storage tanks with a capacity greater than 250 gallons for organic liquids with a TVP of 0.5 psia or more;
- Moving requirements originally in Rule 351 that applied to organic liquid (non-gasoline) storage and transfer to revised Rule 350 to consolidate all of the organic liquid requirements in one rule.
- Allowing partial exemptions for organic liquids with a TVP less than 0.5 psia; storage containers with a capacity less than 250 gallons; a pressure tank; the floating of a floating roof tank; and gap inspections;
- Defining numerous additional and revised definitions to reflect the rule applicability to the organic liquid industry and not the gasoline industry.

The sources subject to revised Rule 350 already have permits in which these requirements are addressed. Therefore, this revised rule did not impose new requirements on the permitted facilities, and no costs will be incurred for compliance with the rule revisions.

**(b) The probable costs and benefits to a political subdivision of this state directly affected by the implementation and enforcement of the rulemaking**

The rule revisions did not impose increased monetary or regulatory costs on other state agencies, political subdivisions of this state, persons, or individuals so regulated.

**(c) The probable costs and benefits to businesses directly affected by the rulemaking, including any anticipated effect on the revenues or payroll expenditures of employers who are subject to the rulemaking.**

The department anticipates that increased clarity provided by the Rule 350 revisions will provide a benefit to the regulated community; it will take less time for sources subject to the rule to understand and comply with the rule, which leads to increased compliance, which leads to decreased costs of compliance to the regulated community. The department does not anticipate these rule revisions to have a significant impact on a person's income, revenue, or employment in this state related to this activity. The rule revision did not impose increased monetary or regulatory costs on individuals so regulated.

**A general description of the probable impact on private and public employment in businesses, agencies and political subdivisions of this state directly affected by the rulemaking.**

The rule revisions did not impose increased monetary or regulatory costs on other state agencies, political subdivisions of this state, persons, or individuals so regulated.

**A statement of the probable impact of the rulemaking on small businesses.**

The rule revisions did not impose increased monetary or regulatory costs on any permitted business, persons, or individuals so regulated.

**(a) An identification of the small businesses subject to the rulemaking.**

Small businesses subject to this rulemaking are those facilities in Maricopa County that engage in the bulk storage and transfer of any organic liquid (non-gasoline) with a vapor pressure of 0.5 psia or more.

**(b) The administrative and other costs required for compliance with the rulemaking.**

This rulemaking updated and clarified existing rule provisions and definitions to be consistent with federal performance standards; reduced confusion as to the applicability of the rule; and improved understanding and readability. The department considered the implications of the amendments to the regulated entities and the implementing agency and deemed that none of the rule revisions have potentially significant economic impacts.

**(c) A description of the methods that the agency may use to reduce the impact on small businesses.**

**(i) Establishing less costly compliance requirements in the rulemaking for small businesses.**

Correcting and clarifying existing rule provisions and definitions in this rulemaking lessens or eases the regulatory burden for small businesses.

**(ii) Establishing less costly schedules or less stringent deadlines for compliance in the rulemaking.**

This rulemaking corrected or clarified existing rule provisions and definitions to reduce confusion and improve understanding and readability.

**(iii) Exempting small businesses from any or all requirements of the rulemaking.**

This rulemaking corrected or clarified existing rule provisions and definitions to reduce confusion and improve understanding and readability.

**(d) The probable cost and benefit to private persons and consumers who are directly affected by the rulemaking.**

This rulemaking did not impose any new compliance burdens on permitted regulated entities or introduce additional regulatory requirements and did not impose increased monetary or regulatory costs on any permitted business, persons, or individuals so regulated. As such, there are no costs to pass through to consumers, which means there are no impacts on consumers.

**A statement of the probable effect on state revenues.**

The rule revisions did not impose increased monetary or regulatory costs on other state agencies, political subdivisions of this state, persons, or individuals so regulated. Without costs to pass through to customers, there is no projected change in consumer purchase patterns and, thus, no impact on state revenues from sales taxes.

**A description of any less intrusive or less costly alternative methods of achieving the purpose of the rulemaking.**

This rulemaking corrected or clarified existing rule provisions and definitions to reduce confusion and improve understanding and readability.

**11. Name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact:**

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**12. Description of the changes between the proposed rule, including supplemental notices and final rule:**

Since the Notice of Proposed Rulemaking was published on May 13, 2016 (22 A.A.R 1207), the department made the following additional amendments:

- Throughout the rule, added either English or metric measurements where both units of measure were not included

- Section 103.2(a) removed partial exemption for organic liquids having a true vapor pressure less than 0.5 psia, because such organic liquids are not subject to the rule
- Section 103.2(c)(2) reference to Section 103.2(c)(i) was revised to reference Section 103.3(c)(1) because there is no (i) or (ii)
- Section 301.1(c) reference to Section 301.2(c)(i) and 301.2(c)(ii) was revised to reference Section 301.1(c)(1) and 301.1(c)(2) because there is no (i) or (ii)
- Section 301.2 “true vapor pressure (TVP) of 0.5 psia through 11.0 psia (26 mm - 569 mm Hg)” was revised to read “...true vapor pressure (TVP) equal to or greater than 0.5 psia but less than 11.0 psia ( $26 \geq \text{mmHg} < 569$ )”
- Sections 301.2 and 301.3 revised the wording “...true vapor pressure (TVP) 0.5 through 11.0 psia (26 mm Hg - 569 mm Hg)...” to “...true vapor pressure (TVP) equal to or greater than 0.5 psia but less than or equal to 11.0 psia ( $26 \geq \text{mmHg} \leq 569$ )...” to provide a clear measure of vapor pressure
- Table 350-1 added metric measurements for TVP to be consistent with the vapor pressure limits specified in Section 301
- Section 301.4 replaced the words “Exceeding” and “above” with “Greater Than” to provide consistent use of terms throughout rule
- Section 302.1(c)(1) reference to Section 302.1(c)(ii) was revised to reference Section 302.1(c)(2) because there is no (i)
- Moved the second and third sentences in Section 303.1(c)(1) to new Sections 302.1(d)(3) and 302.1(b), respectively
- Revised reference in Section 401.2(b)(1) to reference to Section 401.2(a)
- Section 404 (Other Agencies’ Requirements): Arizona Department of Weights and Measures became Department of Agriculture, Weights and Measures Services Division on July 1, 2016. Revised the rule to reflect the new title of the division
- Included text in Section 506 (Compliance Determination-Test Methods Incorporated By Reference) that allows for the use of alternative test methods to determine compliance with the rule; allows test methods as approved by the Administrator to be used; and clarified the provision regarding when more than one test method is permitted for a compliance determination

**13. Summary of the comments made regarding the rule and the department response to them:**

Since the Notice of Proposed Rulemaking was published on May 13, 2016 (22 A.A.R. 1207), the department received comments from Kinder Morgan/SFPP. The comments and the department's responses are provided below.

Comment #1: Section 301.1 (Organic Liquid Stationary Storage Tank Requirements)

SFPP proposed to revise the heading/title of Section 301.1 to "All Stationary Storage Tanks with A Capacity of 250 Gallons (946 L) to less than 20,000 Gallons (75,700 L)."

Response #1: Section 301.1 (Organic Liquid Stationary Storage Tank Requirements)

Section 301.1 does apply to all stationary storage tanks with a capacity of 250 gallons or more with no upper limit for storage capacity. The requirements are not limited to organic liquid storage tanks with a capacity between 250 and 20,000 gallons; therefore, the department did not revise Section 301.1 heading as suggested.

Comment #2: Section 301.2 (Organic Liquid Stationary Storage Tank Requirements)

SFPP proposed to revise the heading/title of Section 301.2 to "Organic Liquid Stationary Storage Tanks With a Capacity of 20,000 Gallons (75,700L) to Less Than 40,000 Gallons (151,400 L)"

Response #2: Section 301.2 (Organic Liquid Stationary Storage Tank Requirements)

The department revised the section heading as SFPP suggested.

Comment #3: Table 350-1

SFPP proposed to revise the first row tank capacity description in Table 350-1 to "All organic (non-gasoline) stationary storage tanks >250 gallons to <20,000 gallons".

Response #3: Table 350-1

The department revised Table 350-1 as SFPP suggested.

**14. Any other matters prescribed by the statute that are applicable to the specific department or to any specific rule or class of rules:**

Not applicable

**15. Incorporations by reference and their location in the rule:**

The following test methods are incorporated by reference in Rule 350, Section 506:

- EPA Method 2A - Direct Measurement of Gas Volume Through Pipes and Small Ducts

- EPA Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
- EPA Method 21 - Determination of Volatile Organic Compound Leaks
- EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer
- EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer
- EPA Method 27 - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test
- Optical Gas Imaging: Alternative Work Practice for Monitoring Equipment Leaks, 40 CFR 60.18(g)
- California Air Resources Board (CARB) - Test Procedure TP-201.1E Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, October 8, 2003
- ASTM D2879-10 Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope
- ASTM D6420-99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry

**16. Was this rule previously an emergency rule?**

No

**17. Full text of the rule follows:**

**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  
BULK TERMINALS AN ORGANIC LIQUID DISTRIBUTION FACILITY**

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Revised 07/13/88

Revised 04/06/92

Revised 07/13/1988; Revised 04/06/1992; Revised 11/02/2016

**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 (VOCs) 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) with a true vapor pressure (TVP) greater than 0.5 psia ~~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 owner or operator 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 TVP less than 0.7 kilopascals (0.1 psia). [40 CFR §63.2406]

**103.2 Partial Exemptions:**

- a. Stationary storage tanks and containers with a capacity of less than 250 gallons (946.35 L) are exempt from Section 301 and 302 of this rule.
- b. 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:
  - (1) 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.
  - (2) Any organic liquid distribution facility that becomes subject to all of the provisions of this rule by exceeding the threshold in Section 103.2(b)(1) of this rule, will remain subject to the rule provisions even if its output later falls below the threshold.
  - (3) 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.
  - (4) Transfer organic liquid using submerged fill only.
  - (5) The owner or operator of the organic liquid distribution facility shall observe all parts of the transfer and shall discontinue the transfer if any liquid or vapor leaks are observed.
- c. **Submerged Fill:** An organic liquid (non-gasoline) storage tank is exempt from the requirement that a submerged fill discharge pipe be fully submerged when:
  - (1) The tank is being drained completely.
  - (2) The tank is being initially filled or filled after being completely drained.
- d. A stationary pressure tank maintaining working pressure sufficient at all times to prevent organic vapor 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, Vent Valves or Other Vapor Sealing Devices:**
  - (1) A hatch, vent valve or other vapor sealing device may be opened for vacuum relief on a cargo tank or rail car when the organic liquid is in the process of being transferred from the cargo tank or rail car into a storage tank. Reclose hatch, vent valve or other vapor sealing device at the completion of the transfer process.
  - (2) When VOC vapors from organic liquids are present within a cargo tank, authorized government agents as well as owners or operators and their contractors may open vapor containment equipment while performing operations required by these Maricopa County Air Pollution Control Regulations or by other statutory entities, but shall be restricted as follows unless otherwise approved in advance by the Control Officer:
    - (a) Wait at least three (3) minutes after transfer is complete or cargo tank has come to a complete stop before opening hatch or other vapor seal.
    - (b) Reclose hatch or other vapor sealing device within 3 minutes of opening.
    - (c) Limit wind speed at opened hatch or other opened sealing device to not more than three (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 or 2 teaspoonsful) of organic liquid lost from the end of a fill hose (or vapor hose if one is in use) in the process of connecting or disconnecting the hose; or any quantity of organic liquid 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.
- 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.
- 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. Any petroleum distillate, petroleum distillate/alcohol blend, petroleum distillate/organic compound blend, or alcohol that meets both of the following conditions:

**209.1** Has a Reid vapor pressure between 4.0 and 14.7 psi (200–760 mm Hg.), as determined by ASTM D323-15a; and

**209.2** Is used as a fuel for internal combustion engines. [40 CFR 63.11100]

**206** **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.

**207** **LEAK FREE:** A condition in which there is no organic liquid escape or seepage of more than 3 drops per minute from organic liquid storage, handling, and ancillary equipment, including, but not limited to, seepage and escapes from above ground fittings.

~~**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 organic liquid discharge pipe or nozzle which meets at least one of the applicable specifications; as follows:~~

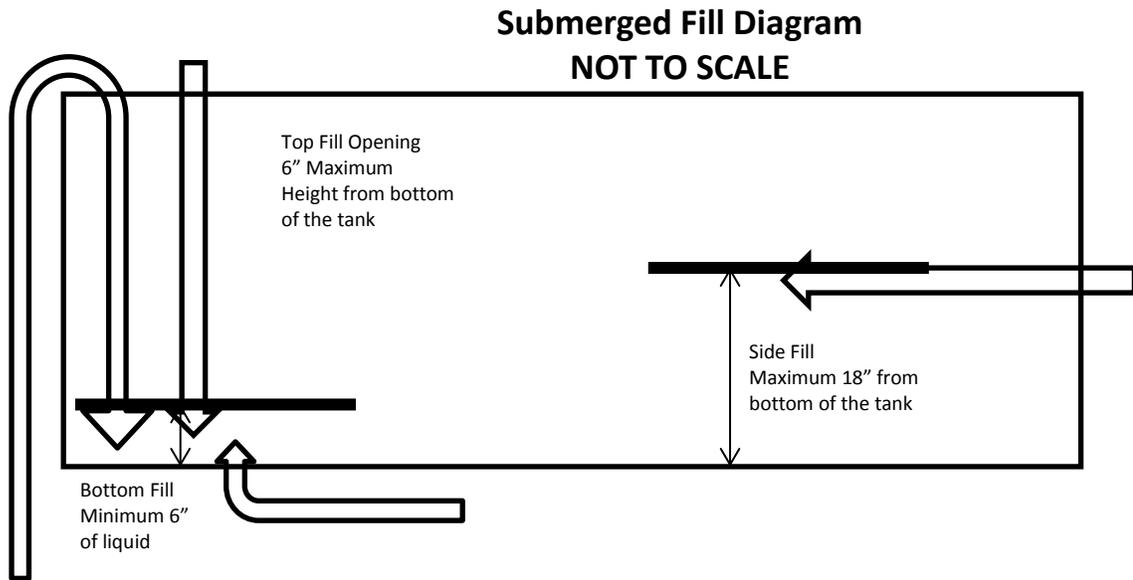
209.1 **211.1 Top-Fill or Bottom-Fill Tanks:** The end of the discharge pipe or nozzle is totally submerged when the liquid level is six (6) inches (15 cm) from the bottom of the tank.

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 eighteen (18) inches (46 cm) from the bottom of the tank.

**211.3 API Standard 650 Compliant:** A floating roof storage tank meets the submerged fill requirements in this rule, if the discharge pipe or nozzle meets both of the following requirements:

a. Is kept completely submerged, including when the roof rests on its legs, except when the tank is being emptied completely and refilled; and

b. Is designed and installed according to the API Standard 650.



210 **212 TRUE VAPOR PRESSURE (TVP):** Absolute vapor pressure of a liquid at its existing temperature of storage and handling.

**213 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.

**214 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 **215** **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.

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 in which a suitable detector at the site of (potential) leakage of vapor shows less than 10,000 ppmv when calibrated with methane or the detector shows less than 1/5 lower explosive limit (LEL) when calibrated with a gas specified by the manufacturer and used according to the manufacturer's instructions.~~

## SECTION 300 – STANDARDS

### 301 **ORGANIC LIQUID STATIONARY STORAGE TANK REQUIREMENTS:**

**301.1** **All Stationary Storage Tanks with a Capacity 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:~~ An owner or operator of a stationary storage tank with a capacity greater than 250 gallons (946 l) shall store organic liquid with a TVP of 0.5 psia (26 mm Hg) or more in a stationary storage tank meeting all of the following:

- a.** Each stationary storage tank has a fill pipe that is maintained leak free and vapor tight when organic liquid is not in the process of being transferred.
- 301.1 **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 six (6) inches (15 cm) of the tank bottom shall be used to fill the tank.

Note<sup>†</sup>

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<sup>†</sup>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.

~~301.2~~ **c.** Each fixed roof stationary storage tank has a pressure/vacuum valve that complies with both Section 301.1(c)(1) and 301.1(c)(2) of this rule, which is set within ten percent of the tank's maximum, safe working-pressure. An owner or operator shall:

(1) Install a pressure/vacuum vent valve that is either:

(a) Set within ten percent (10%) of the tank's maximum, safe working-pressure; or

(b) Set at least at 0.5 psia (25.9 mm Hg) or per manufacturer's recommendation.

(2) 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**

**Gallons (75,700L) Through 39,999 Gallons Capacity (946 L–151,396L) to Less Than 40,000**

**Gallons (151,400 L):** No person shall store organic liquids with a true vapor pressure (TVP) of 1.5 psia through 11.0 psia (77.5 mm–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. An owner or operator of an organic liquid stationary storage tank with a capacity between 20,000 gallons (75,700 l) but less than 40,000 gallons (151,400 l), shall store organic liquids with a TVP equal to or greater than 0.5 psia but less than or equal to 11.0 psia (26 ≥ mmHg ≤ 569) in a stationary storage tank meeting all of the following requirements:

**a.** The stationary storage tank shall:

(1) Be maintained leak free.

(2) Be maintained vapor tight.

(3) Be equipped with at least one of the vapor loss control systems specified in Section 301.2(b) of this rule.

b. An owner or operator shall install and maintain at least one of the following vapor loss control systems as described in Section 302 of this rule:

- (1) Install and maintain a vapor recovery system which collects and returns displaced vapors to the cargo tank using vapor-tight fittings and lines; or
- (2) Install and maintain an external floating roof stationary storage tank; or
- (3) Install and maintain an internal floating roof stationary storage tank with a fixed cover; or
- (4) Install and maintain a vapor collection/processing system.

304 **301.3** **Organic Liquid Stationary Storage Tanks with a Capacity Equal to or Greater than 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 or greater 1.5 through 11.0 psia (77.5 mm Hg – 569 mm Hg) 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. An owner or operator of an organic liquid stationary storage tank with a capacity equal to or greater than 40,000 gallons (151,400 l) shall store organic liquids with a TVP equal to or greater than 0.5 psia but equal to or less than 11.0 psia ( $26 \geq \text{mmHg} \leq 569$ ) in a stationary storage tank meeting all of the following requirements, unless such stationary storage tank is equipped with at least one of the vapor loss control systems described in Section 302 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. Equip the stationary storage tank with a vapor collection/processing system as described in Section 302 of this rule.

305 **301.4** **Organic Liquid Stationary Storage Tanks Storing Liquids Having Vapor Pressures a TVP Exceeding Greater Than 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. An owner or operator~~

shall place, store, or hold organic liquid with a TVP greater than 11.0 psia (569 mm Hg) in a stationary storage tank that meets at least one of the vapor loss control methods specified below:

- a. Maintain a working pressure in the stationary storage tank that is sufficient at all times to prevent organic vapor 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**

	<b><u>True Vapor Pressure of Organic Liquid in Tank</u></b>		
	<u>0.5&gt; psia &lt;1.5</u> <u>(26&gt; mm Hg &lt;77.5)</u>	<u>1.5&gt; psia &lt;11.0</u> <u>(77.5-&gt; mm Hg</u> <u>≤569)</u>	<u>&gt;11.0 psia</u> <u>(&gt;569 mm Hg)</u>
<b><u>Tank Capacity</u></b>	<u>Applicable Rule 350</u> <u>Section:</u>	<u>Applicable Rule 350</u> <u>Section:</u>	<u>Applicable Rule 350</u> <u>Section:</u>
<u>All organic liquid (non-gasoline)</u> <u>stationary storage tanks &gt;250</u> <u>gallons</u>	<u>Section 301.1</u>	<u>Section 301.1</u>	<u>Section 301.4</u>
<u>All organic liquid (non-gasoline)</u> <u>storage tanks 20,000 gallons to</u> <u>&lt;40,000 gallons</u>	<u>Section 301.1</u>	<u>Section 301.1 and</u> <u>Section 301.2</u>	<u>Section 301.4</u>
<u>All organic liquid (non-gasoline)</u> <u>storage tanks &gt;40,000 gallons</u>	<u>Section 301.1</u>	<u>Sections 301.1 and</u> <u>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 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: An external floating roof stationary storage tank must meet the following requirements:~~

a. The owner or operator of an external floating roof stationary storage tank and vapor balance system, or vapor collection/processing system, or vapor loss control system shall properly install, properly maintain and properly operate the equipment.

b. The owner or operator of an external floating roof stationary storage tank shall operate an external floating roof tank subject to the provisions of this rule, except for tanks having metallic shoe primary seals onto which secondary seals were installed prior to July 13, 1988, and unless a secondary seal extends from the roof to the tank shell (a rim-mounted seal) and is not attached to the primary seal.

**c. External Floating Roof Requirements:**

(1) The floating roof shall rest on and be supported by the surface of the liquid contents.

(2) 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.

(3) The floating roof shall have a continuous secondary seal which is of a design that is in accordance with accepted standards of the organic liquids industry. The secondary seal shall meet the requirements of Section 302.1(d) of this rule.

**d. Secondary Seal Requirements:**

~~306.1~~ (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~~ Section 302.1(d)(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~~ (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<sup>2</sup> per meter) of tank diameter. Determinations of gap area shall only be made at the point(s) where the gaps exceed ~~1/8~~ one eighth (1/8) inch (3 mm). The width of any portion of any gap shall not exceed ~~1/2~~ one half (1/2) inch (1.27 cm).

(3) Stationary storage tanks constructed after July 13, 1988, shall have a secondary seal that is rim-mounted.

~~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.~~

**e. External Floating Roof Openings:**

(1) 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.

(2) The accumulated area of gaps between a tank's wall and primary seal shall not exceed ten (10) square inches per foot of tank diameter (212 cm<sup>2</sup> per meter).

(3) The width of any portion of any gap shall not exceed one and one half (1½) inches (3.8 cm).

(4) Where applicable, all openings except drains shall be equipped with a cover seal or lid.

(5) Where applicable, the cover seal or lid shall be in a closed position at all times, except when the system is in actual use.

(6) Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports.

(7) 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 An~~ internal floating roof 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 Kb- 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. This federal standard is adopted and incorporated by reference in Rule 360 and Rule 370 of these rules.
- 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:
- (1) ~~Comply with Sections of 40 CFR Part 60, Subpart Kb, notwithstanding the type of facility and the date of tank construction, reconstruction or modification~~ that are not addressed in Section 302.2(b) of this rule; or
  - (2) 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~~ Section 302.2(d) of this rule, and meet at least one of the following requirements:
    - (a) Have a contact-type roof resting completely on the liquid surface.
    - (b) Have a liquid mounted seal.
    - (c) Have two seals, a primary and a secondary.
- d. Internal Floating Roof Openings:**
- (1) Floating roof tanks subject to the provisions of Section 302.2 of this rule shall have no visible holes, tears or other openings in the seal or in any seal fabric.
  - (2) The accumulated area of gaps between a tank's wall and primary seal shall not exceed ten (10) square inches per foot of tank diameter (212 cm<sup>2</sup> per meter).
  - (3) The width of any portion of any gap shall not exceed one and one half (1½) inches (3.8 cm).
  - (4) Where applicable, all openings except drains shall be equipped with a cover seal or lid.

- (5) Where applicable, the cover seal or lid shall be in a closed position at all times, except when the system is in actual use.
- (6) Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports.
- (7) 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.

308 **302.3 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 (2,271,247 l) 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.

**303 EQUIPMENT MAINTENANCE AND REPAIR:** The owner or operator of an organic liquid distribution facility shall:

**303.1** Maintain the equipment associated with the storage and transfer of organic liquid to be all of the following:

- a.** Leak free;
- b.** Vapor tight; and
- c.** In good working order.

**303.2** Repair and Retest: The owner or operator of a vapor loss control system that exceeds the standards of this rule shall notify the Control Officer immediately and observe the following time schedule for corrective action:

- a.** Concentrations at or above the lower explosive limit must be brought into compliance within 24 hours of detection.
- b.** For vapor collection/processing equipment subject to gas-tight standard, leak concentrations exceeding 10,000 ppm but less than 50,000 ppm as methane shall be brought into compliance within 5 days of detection.
- c.** Except as the Control Officer otherwise specifies, a leak source must be tested after presumed leak-correction within fifteen (15) minutes of recommencing use. If leak standards are exceeded in this test, the use of the leak-correction equipment shall be discontinued until correction is verified by retesting.

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

**304.1** **Transfer 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 organic liquid sent to open waste collection systems that collect and transport organic liquid to reclamation and recycling devices, such as oil/water separators.

**304.2** **Transfer of Organic Liquids into Cargo Tanks:**

- a.** Verify that the cargo tank 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 organic liquid sent to open waste collection systems that collect and transport organic liquid 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 cm<sup>2</sup> 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 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.~~

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.~~

#### **401 ORGANIC LIQUID (NON-GASOLINE) STATIONARY STORAGE TANK INSPECTIONS**

##### **401.1 Inspections of External Floating Roof Stationary Storage Tanks:**

- a.** The owner or operator of any external floating roof stationary storage tank subject to this rule shall visually inspect the tank and seals at least once every six (6) months to determine ongoing compliance with the applicable standards of this rule pertaining to the tank. Determinations of secondary seal gap area on external floating roof stationary storage tanks shall be made only once per year. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.
- b. Annual and Empty Tank Inspection:** The owner or operator of any stationary storage tank which uses an external floating roof to meet the vapor loss control system requirements of this rule shall conduct a visual inspection each time the external floating roof stationary storage tank is emptied and degassed or at least once a year. The visual inspection shall include all of the following:
- (1)** Verify the secondary seal covers the space between the roof edge and the tank.
  - (2)** Measure the gaps between the tank wall and the secondary seal. The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm<sup>2</sup> (3.29

square inches) per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm (0.2 inch).

(3) Verify there are no holes, tears, or other openings in the seal or seal fabric.

**c. Five-Year, Full Circumference Inspections of External Floating Roof Stationary Storage**

**Tanks:** The owner or operator of any external floating roof stationary storage tank of 20,000 gallons (75,700 l) or more storing organic liquids (non-gasoline) shall conduct a complete inspection of the external floating roof tank each time the tank is emptied and degassed or at least once every five (5) years. This inspection can be performed while the tank is in service.

The inspection shall include all of the following:

(1) Perform a complete inspection of the organic liquid (non-gasoline) storage tank as described in Section 401.1(a) of this rule.

(2) Perform a complete inspection of the primary seal and floating roof.

(3) Measure gap areas and maximum gap. The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 21.2 cm<sup>2</sup> (39.9 square inches) per meter of tank diameter and the width of any portion of any gap shall not exceed 3.81 cm (0.59 inch).

**401.2 Inspections of Internal Floating Roof Stationary Storage Tanks with a Fixed Covering:**

**a.** The owner or operator of any internal floating roof stationary storage tank subject to this rule shall visually inspect the tank and seals at least once every six (6) months to determine ongoing compliance with the applicable standards of this rule pertaining to the tank. Records of these inspections shall be maintained and shall be made available to the Control Officer upon request.

**b.** 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 conduct a visual inspection each time the internal floating roof stationary storage tank is emptied and degassed or at least once a year. The visual inspection can be made through manholes or rood hatches and shall include all of the following:

(1) The internal floating roof shall not have an accumulation of liquid on the roof.

(2) The seal shall be attached.

(3) The seal shall not have any holes or tears.

**401.3 Five Year Inspection and Empty Tank Inspection:** 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 conduct a visual inspection each time the internal floating roof stationary storage tank is emptied and degassed or at least once every five (5) years. The visual inspection shall include all of the following:

a. The internal floating roof shall be free of any defects.

b. The primary seal shall not have any holes, tears or other openings.

c. The secondary seal if one is in service, shall not have any holes, tears or other openings.

d. Gaskets shall prevent liquid surfaces from exposure to atmosphere.

e. The slotted membrane shall not have more than a ten percent (10%) open area.

**402 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 leak detection methods can include one or more of the following methods:

**402.1** Incorporation of sight, sound, smell and/or touch.

**402.2** Use of a combustible gas detector (CGD) or organic vapor analyzer (OVA) pursuant to Section 501 of this rule.

**402.3** Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3, use of a soap solution pursuant to Section 501 of this rule.

**402.4** Use of an optical gas imaging instrument calibrated according to manufacturing specifications and used according to Section 501 of this rule.

**403 ORGANIC LIQUID (NON-GASOLINE) STORAGE TANK INSPECTIONS-AVAILABILITY TO CONTROL OFFICER:**

**403.1 Annual Inspections of External Floating Roof Tanks:** The owner or operator of any stationary storage tank which uses an external floating roof to meet the vapor loss control system 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 (4) 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.

**403.2** **Annual Inspections of Internal Floating Roof 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 tank including the internal floating roof available for inspection prior to filling. The internal floating roof shall be made available for visual inspection through the manholes or roof hatches on the fixed covering on an annual basis.

**403.3** **Five-Year, Full Circumference Inspections:** The owner or operator of a floating roof stationary storage tank of 20,000 gallons (75,700 l) or more storing organic liquids (non-gasoline) shall make the primary seal envelope available for inspection by the Control Officer for its full length every five (5) years. This inspection can be performed while the tank is in-service. However, if 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 (7) working days prior to removal of the secondary seal.

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

## **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  $\pm 1$  degree Fahrenheit or  $\pm 0.5$  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 MONITORING FOR LEAKS

501.1 Combustible Gas Detector (CGD) or Organic Vapor Analyzer (OVA) – Test Procedure: During the transfer of organic liquids into a cargo tank, the peripheries of all potential sources of leakage at the organic liquid distribution facility are checked with a CGD or OVA as follows:

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

- d. Probe Position:** The probe inlet shall be positioned in the path of the vapor flow from an actual or potential leak such that the central axis of the probe-tube inlet shall be positioned coaxially with the path of the most concentrated vapors.
- e. Wind:** Wind shall be blocked as much as possible from the space being monitored. The monthly inspections leak detection tests required by Section 402 of this rule shall be valid only when wind speed in the space being monitored is five (5) mph or less.
- f. Data Recording:** The highest detector reading and location for each incidence of detected leakage shall be recorded along with the date and time. If no organic liquid vapor is detected, that fact shall be entered into the record.

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

**Procedure 8.3.3:**

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

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

**501.4** 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.

**502 TVP RECORDS:** The owner or operator of an organic liquid distribution facility shall keep accurate records listed in Section 502 of this rule.

**502.1** An owner or operator shall keep accurate records of organic liquids stored in each stationary storage tank subject to this rule.

**502.2** The temperature of the contents of each stationary storage tank subject to this rule shall be determined and recorded using at least one of the following methods:

**a.** Take the actual temperature of the contents of the stationary storage tank each week and record the weekly temperature of the contents of each stationary storage tank.

**b.** Obtain the maximum local monthly average ambient temperature as reported by the National Weather Service and record monthly for each stationary storage tank.

**c.** Record monthly AP 42, Section 7.1 emission estimation procedures for each stationary storage tank.

**502.3** The TVP of each organic liquid in each stationary storage tank subject to this rule shall be recorded at least once each month.

**503** **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 the items listed below:

**503.1** The owner or operator shall sign the log at the completion of each monthly inspection for equipment leaks.

**503.2** Each monthly inspection log shall contain a list, summary description or diagram(s) showing the location of all equipment at the organic liquid distribution facility.

**503.3** Each monthly inspection log shall include any maintenance that occurred.

**503.4** Each annual inspection log shall include any maintenance that occurred.

**503.5** These records shall be kept a minimum of five (5) years.

**503.6** 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.

**504** **COMPLIANCE INSPECTIONS:** The Control Officer, at any time, may monitor a cargo tank's vapor collection/processing system, an organic liquid transfer rack's vapor loss control system, an organic liquid distribution facility, or a vapor collection/processing system for vapor leaks by the test methods described in Section 506 of this rule.

**505** **RECORDS RETENTION;** Records and information required by this rule shall be retained for at least five (5) years.

502 **506** **COMPLIANCE DETERMINATION - TEST METHODS INCORPORATED BY**

**REFERENCE:** The following test methods are approved for use for the purpose of determining compliance with this rule. The test methods are incorporated by reference in Appendix G of the Maricopa County Air Pollution Control Regulations. Alternative test methods as approved by the Administrator or other EPA-approved test methods may be used upon prior written approval from the Control Officer. When more than one test method is permitted for the same determination, an exceedance under any method will constitute a violation. Copies of test methods referenced in this section are available at the Maricopa County Air Quality Department, 1001 N. Central Avenue, Suite 125, Phoenix, AZ 85004-1942.

**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 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3
- e. EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.
- f. EPA Method 25B - Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer.
- g. EPA Method 27 - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test.
- h. Optical Gas Imaging: Alternative Work Practice for Monitoring Equipment Leaks, 40 CFR 60.18(g). An owner or operator may use an Optical Gas Imaging instrument to comply with the alternative work practice requirements in 40 CFR 40.18(g) instead of using the 40 CFR 60, Appendix A-7, Method 21 monitor to identify leaking equipment.

- i. AP 42, Fifth Edition, Volume I, Chapter 7: Liquid Storage Tanks, November 2006, errata August 2012.

**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 American Petroleum Institute: API STD 650 Welded Tanks for Oil Storage, Twelfth Edition, Includes Errata 1 (2013), Errata 2 (2014), and Addendum 1 (2014).**

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