

**NOTICE OF FINAL RULEMAKING**

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

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

The Maricopa County Air Quality Department (MCAQD) revised Rule 351 (Storage and Loading of Gasoline at Bulk Gasoline Plants and at Bulk Gasoline Terminals). The Control Officer is posting this Notice of Final Rulemaking on the MCAQD website as required by A.R.S. § 49-471.07(G). This notice includes the preamble, as prescribed in A.R.S. § 49-471.05, and the full text of the final rule. This notice also includes a list of all previous notices posted on the Maricopa County Enhanced Regulatory Outreach Program (EROP) website addressing the proposed rule and the concise explanatory statement prescribed in A.R.S. § 49-471.07, subsection B.

**PREAMBLE**

**1. Statutory authority for the rulemaking:**

A.R.S. §§ 49-112, 49-474, 49-479 and 49-480

**2. Name and address of department personnel with whom persons may communicate regarding the rulemaking:**

Name: Scott Kahldon or Kimberly Butler  
Maricopa County Air Quality Department  
Planning and Analysis Division  
Address: 3800 N Central Avenue, Suite 1400  
Phoenix, AZ 85012  
Telephone: 602-506-6706  
Fax: 602-506-6179  
Email: AQPlanning@maricopa.gov  
Submit Comments At: <http://maricopa.gov/FormCenter/Regulatory-Outreach-17/Citizen-Comments-94>

**3. Rulemaking process:**

This rulemaking (AQ-2017-009-Rule 351) followed procedures identified in State Statutes and the Maricopa County EROP Policy:

County Manager Briefing:	December 2017
Board of Health Meeting to Initiate Regulatory Change:	February 25, 2019
Stakeholder Workshops:	August 20, 2018 May 14, 2020
Notice of Proposed Rulemaking:	June 12, 2020

Board of Health Meeting to Recommend Approval to the Board of Supervisors:	July 27, 2020
Board of Supervisors Formal Meeting to set the Public Hearing:	October 07, 2020
Board of Supervisors Public Hearing:	November 18, 2020

**4. Explanation of the rule, including the control officer's reasons for initiating the rulemaking:**

Rule 351 limits emissions of volatile organic compounds (VOCs) from gasoline during the storage and loading of gasoline at bulk gasoline plants and at bulk gasoline terminals. Rule 351 applies to the storage of gasoline in a stationary gasoline storage tank at a bulk gasoline plant or at a bulk gasoline terminal, and the loading of gasoline from a gasoline cargo tank, railcar, or pipeline into or out of a stationary storage tank at a bulk gasoline plant or at a bulk gasoline terminal.

The MCAQD revised Rule 351 to address rule deficiencies identified by the U.S. Environmental Protection Agency (EPA) to secure full approval of Rule 351 as a revision to the Arizona State Implementation Plan (SIP).

On May 4, 2016, portions of Maricopa County were designated as a moderate nonattainment area with respect to the 2008 National Ambient Air Quality Standards for Ozone. Section 182(b)(2) of the Clean Air Act requires jurisdictions that are classified as "moderate" or higher nonattainment to implement reasonable available control technology (RACT) for all categories of VOC sources covered by a Control Technique Guideline (CTG) document as well as all other major stationary sources of VOCs that are located within in the nonattainment area. EPA defines 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". The EPA provides guidance on RACT for VOCs through their CTGs, which offer State and local air pollution control authorities information that assists in determining VOC-RACT for air quality rules. In addition, the EPA reviews SIP-approved air quality rules from other air districts with ozone nonattainment areas to assist in determining VOC-RACT for air quality rules.

In November 2016, Rule 351 was revised to implement RACT for sources of VOCs. The revised rule was submitted to the EPA in June of 2017, as part of the SIP Revision for the Maricopa County Air Quality Department Ozone Rules contained in the Arizona SIP. The EPA reviewed Rule 351 and provided the MCAQD with written rule approvability and rule improvement comments for the rule. EPA staff informed MCAQD staff they would be using a conditional approval process to act on Rule 351 and the MCAQD would need to draft a commitment letter outlining revisions to Rule 351 to address the rule approvability comments.

On January 28, 2019, the MCAQD submitted a Letter of Commitment for Conditional Approval of the Maricopa County RACT SIP to the EPA. Based on the commitment letter, the EPA published a proposed conditional approval of Rule 351 in the Federal Register on September 23, 2019 (Docket ID; EPA-R09-OAR-2019-0493). The proposed conditional approval rulemaking was available for a 30-day comment period, and two comments were submitted to the EPA. The proposed conditional approval referenced a Technical Support Document (TSD) which included a thorough review of Rule 351 and MCAQD's

commitments. The TSD outlined EPA's eight (8) official rule approvability comments ("rule deficiencies") - which precluded full approval of the rule into the SIP - as well as 12 rule revision recommendations, which were not the basis for rule disapproval but were recommended for the rulemaking for Rule 351. Revisions addressing both the EPA's identified deficiencies and recommendations were made to Rule 351 (included in this notice). A link to EPA's TSD is located under Section 5 of this notice.

EPA's final conditional approval was published on February 26, 2020. The effective date of the final rule was March 27, 2020. The MCAQD plans to submit the revised rule to the EPA for approval and if the EPA approves the rule, the identified deficiencies will be cured, and the rule will be approved as part of the Arizona SIP.

Details about the EPA's identified deficiencies and the MCAQD's remedies are described below, followed by the EPA rule recommendations and the MCAQD's revisions to address the recommendations. One item to note is the rule deficiencies and rule recommendations are numbered the same way as they are numbered in the EPA Technical Support Document. The EPA Technical Support Document includes rule deficiencies and rule recommendations for both Rule 351 and Rule 350 and some of the deficiencies and recommendations apply to both Rule 351 and Rule 350 while others only apply to one of the rules. As a result, some numbers may appear to be missing, but those numbers that are missing represent deficiencies and recommendations that only apply to Rule 350.

#### Deficiency 3:

Section 103.5(e)(2) specifies requirements for the opening of hatches or seals on cargo tanks, unless otherwise approved by the Control Officer. As it is not clear what criteria the Control Officer would use to approve alternate procedures, or alternatively, does not require EPA approval in addition to the Control Officer approval, this may represent an inappropriate use of director's discretion. We recommend deleting the last part of the sentence in section 103.5(e)(2), specifying Control Officer approval.

#### Remedy 3:

The MCAQD corrected this deficiency by deleting the last part of the sentence in Section 103.5.e(2), specifying Control Officer approval.

#### Deficiency 4:

Sections 302.2, 302.3, and 304.4 do not state a prohibition. Instead, these sections are phrased so as to require owners and operators with particular types of tanks to put some amount of liquid into tanks that meet certain requirements. We recommend rephrasing these sections to state a prohibition, for example, by specifying that an owner or operator shall not store materials in tanks of the specified sizes, unless certain conditions are met.

#### Remedy 4:

The MCAQD corrected this deficiency by rephrasing and restructuring the storage requirements for gasoline storage tanks and the loading requirements of gasoline at a bulk gasoline terminal. The revisions will not weaken any substantive requirements.

#### Deficiency 5:

Section 103.4(b) exempts roofs from the requirement that they always be floating on liquid when the tank is drained completely and when it is being filled. This provision seems to exempt floating roofs from floating whenever the tank is being filled, instead of only during filling after the tank has been emptied completely. We recommend amending the exemption to apply only when the tank is drained completely and subsequently refilled, as long as both processes are accomplished continuously and as rapidly as practicable.

Remedy 5:

The MCAQD corrected this deficiency by deleting Section 103.4 and adding new Section 103.2 to clarify that the floating roof exemption only applies when the tank is initially filled, when the tank is drained completely and subsequently refilled, or when the tank is undergoing maintenance requiring the roof be rested on its leg supports, and only if filling, emptying, and refilling processes are continuous and accomplished as rapidly as possible.

Deficiency 6:

Section 303.1(b) is not clear regarding which external floating roof tanks are exempt from the rule's requirements. The SIP-approved version of the rule exempts tanks from having a rim-mounted secondary seal if shoe-mounted secondary seals were installed prior to 1988. The revised Rule 351 seems to provide a much broader exemption from all the rule's requirements for tanks with shoe-mounted secondary seals, and is unclear regarding tanks where a secondary seal is rim-mounted. We recommend either removing this exemption, or clarifying and narrowing it.

Remedy 6:

The MCAQD corrected this deficiency by deleting the rim-mounted secondary seal exemption for external floating roof tanks equipped with a metallic shoe primary seal onto which secondary seals were installed prior to July 13, 1988.

Deficiency 8:

Section 103.5(e)(1) allows a hatch, vent valve, or vapor sealing device to be open for vacuum relief when organic liquid is being transferred from the cargo tank or railcar into a storage tank. As opening the hatch on a cargo tank during unloading will necessarily provide some level of "vacuum relief," this provision is overly broad, and could result in an open hatch during the entire loading event, leading to VOC emissions release. Additionally, the CTG for bulk plants specifies that hatches be closed at all times while loading with a vapor balance system. We recommend revising section 103.5(e)(1) to clearly specify the limited conditions under which a hatch, vent valve, or vapor sealing device may be open during organic liquid transfer from the cargo tank to the storage tank (e.g. to avoid unsafe operating conditions).

Remedy 8:

The MCAQD corrected this deficiency by deleting Section 103.5.e(1) and adding new Section 103.5.a to clarify and limit the conditions under which a hatch, vent valve, or vapor sealing device may be open during the transfer of gasoline from the cargo tank to the storage tank to those necessary to avoid unsafe operating conditions.

Deficiency 9:

The "vapor loss control system" included as a compliance option in Rule 351, section 303.4, is not as stringent as the vapor collection/processing system (VCPS) control option included in the SIP-approved rule, since unlike a VCPS, required to have 95% control efficiency for breathing losses (i.e. VOC releases while the liquid is stored in the tank, also known as standing losses, as opposed to vapor releases during liquid transfer, referred to as working losses), this vapor loss control system in submitted Rule 351 does not have a vapor recovery efficiency requirement for breathing losses. (Submitted Rule 351, however, does require a control efficiency and emissions limit when undergoing switch loading (section 303.4(d)) of 95% and 0.08 lbs VOC/1000 gallons gasoline loaded.) We recommend amending the rule to include an emission reduction efficiency requirement as stringent as the VCPS control option in the SIP-approved rule 351 (section 308).

Remedy 9:

The MCAQD corrected this deficiency by deleting Section 303.4 and adding new Section 304.3.

Deficiency 10:

Rule 351 requires transfers into and from a bulk plant tank (>250 gallons) to either use a vapor-tight vapor balance system, or meet a 0.6 lbs VOC/1000 gallons loaded emissions limit. Although the applicable CTG does not specify an emissions limit for bulk plant transfers, a number of other nearby districts' rules include an emissions limit of 0.6 lbs VOC/1000 gallons, or a vapor recovery percentage of 90 to 95%, for transfers of gasoline from stationary tanks at bulk plants over 250 gallons to delivery vessels, regardless of whether a vapor balance system or other control technology is used. The district should include an emissions limit or vapor recovery efficiency requirement comparable to other nearby air districts in the rule to meet RACT stringency requirements for gasoline bulk plant transfers, or a demonstration that the bulk plant tank transfer requirements meet current RACT.

Remedy 10:

The MCAQD added new Section 304.2 that includes an emissions limit or vapor recovery efficiency for loading at a bulk gasoline plant and deleted Section 304.3.

Deficiency 11:

Section 103.1 exempts the loading of aviation gasoline at airports from the rule's gasoline transfer requirements. As this category is not exempted from other analogous California district rules or the applicable CTGs, this exemption should either be removed, or the District should demonstrate why it is necessary and how it will not interfere with RFP or other requirements of the Act.

Remedy 11:

The MCAQD corrected this deficiency by deleting the exemption of loading aviation gasoline at airports.

Recommendation 1:

Section 504.3(c) and (d) incorporate by reference ASTM D5191-15, ASTM D4953-15, and ASTM D323-15a. EPA does not automatically approve the latest ASTM method for use. Please reference the most recent ASTMs that are EPA-approved-ASTM D5191-13, ASTM D4953-06, and ASTM D323-06. For ASTM D5191-13, please also specify that the equation in 40 CFR 80.46(c)(1) must be used. Alternatively, the District may submit a formal request and information, which includes the differences between the requested method and latest EPA-approved method, for EPA approval.

Revision 1:

The MCAQD revised the ASTM Standards in Section 504.3 to the EPA approved ASTM Standards.

Recommendation 2:

Section 302.2(c) requires fixed-roof tanks to have pressure/vacuum (PV) valves that are either set to within 10% of the tank's maximum working pressure, or 0.5 psia, or per manufacturer's recommendation. The SIP-approved version specified that the PV valve must be within 10% of the tank's maximum working pressure, and did not allow for alternative settings. We recommend revising this requirement to match the SIP-approved version of the rule.

Revision 2:

The MCAQD added new Section 303.1.a(1) to clarify the settings for a pressure/vacuum vent valve and deleted Section 301.1.c. The MCAQD retained two options of setting the pressure/vent valve to either within 10% of the tank's maximum working pressure or at least at 0.5 psi.

Recommendation 2<sup>1</sup>:

Section 501.4 is listed as one of the methods that may be used by an owner or operator to determine vapor tight status, however the section refers to required pressure measurements during performance tests. As this provision does not appear to be a method by which a vapor tightness determination can be made, we recommend moving this requirement to another section of the rule.

Revision 2:

The MCAQD placed this section under Section 501 (Monitoring for Leaks).

Recommendation 3:

The emissions limit of 0.08 lbs VOC/1000 gallons gasoline for switch loading in section 303.4(d) should be revised to 0.08 lbs VOC/1000 gallons liquid loaded, as switch loading refers to loading of non-gasoline liquids into tanks where the previous load was gasoline.

Revision 3:

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<sup>1</sup> There are two recommendations labeled "Recommendation 2" in the EPA Technical Support Document. One is applicable to both Rule 351 and Rule 350 and one is only applicable to Rule 351.

The MCAQD deleted Section 303.4.d and added new Section 305.5.

Recommendation 4:

Sections 303 and 402 have contradictory requirements due to incorrect unit conversions for maximum gap area and width for external floating roof tank secondary and primary seals.

Revision 4:

The MCAQD added new Section 402.3 to reference the gap measurements in new Sections 303.3.c and d and deleted the current language to eliminate contradictory requirements.

Recommendation 5:

Section 503.1(b)(2)(c) specifies that the temperature may be obtained by "recording monthly AP 42" emission estimation procedures for each tank. It is unclear how this method provides an accurate temperature record of the tank. We recommend removing this as an option for recording the temperature of tank contents.

Revision 5:

The MCAQD removed this as an option for recording the temperature of tank contents.

Recommendation 6:

Section 303.5(b)(2) requires leaks of various concentrations be repaired within a specified timeframe. Specifically, section 303.5(b) requires collection/processing equipment vapor leaks between 10,000 ppm and 50,000 ppm (measured as methane) be corrected within five days. However, the rule requires equipment and systems other than vapor collection/processing systems also be vapor tight (defined as less than 10,000 ppm as methane, or 1/5 the lower explosive limit (LEL) of the calibration gas), including stationary storage tanks (section 302.2(a) and equipment associated with the storage and transfer of gasoline (section 303.5(a)(2)). Therefore, we recommend broadening the requirement in 303.5 to apply to all equipment required to be vapor-tight, and specifying the leak range in both ppm and LEL units, to be consistent with the rule's "vapor tight" definition. Additionally, section 303.5(b) refers to vapor collection/processing systems subject to "gas-tight" requirements, however, "gas tight" is not defined in the rule. We recommend either replacing, deleting, or defining the term "gas-tight."

Revision 6:

The MCAQD added new Section 306 to broaden the repair and retesting requirement to apply to all equipment required to be vapor-tight; added the leak range in both ppm and LEL units in order to be consistent with the rule's "vapor tight" definition; and deleted the term "gas tight" from the rule and replaced it with the term "vapor tight" which is defined in the rule. This new section replaced Section 303.5.

Recommendation 7:

Section 501.1 outlines how vapor tightness is determined during organic liquid transfers, however, other sections not associated with gasoline loading are also required by the rule to

be vapor tight. We recommend clarifying how vapor tightness determinations are to be made in those circumstances (e.g., EPA Method 21).

Revision 7:

The MCAQD deleted Section 501.1 and added new Section 501.2 to clarify how vapor tightness determinations are made in other circumstances.

Recommendation 9:

Section 222 specifies vapor tight status is determined by a "suitable detector." We recommend clarifying or defining the term "suitable detector."

Revision 9:

The MCAQD revised the definition of vapor tight to clarify the term suitable detector.

Recommendation 10:

Section 501.3 includes the term "certified operator," however the term is not defined in the rule. We recommend either defining or removing that term. Additionally, section 501.3 is confusing, as it requires a determination of whether a "vapor leak" exists whenever a "vapor leak" is detected. This could be clarified by changing the second "vapor leak" reference to "vapor tight condition."

Revision 10:

The MCAQD is not requiring that an operator of an Optical Gas Imaging (OGI) be certified but only that the OGI be calibrated prior to identifying a potential leak. The MCAQD deleted Section 501.3 and added Section 501.1.c to clarify the use of an OGI.

Recommendation 11:

Section 504.1 references 40 CFR 60.18(g) for OGI. Please also reference (h) and (i), as those parts also include relevant requirements when using an OGI.

Revision 11:

The MCAQD added subsections (h) and (i) to include the relevant requirements when using an OGI.

Recommendation 13:

Sections 303.1(e)(4) and (5) and 303.2(d)(4) and (5), require openings in the roof be covered and that those covers be in a closed position at all times "where applicable." We recommend specifying the types of roof openings that are incompatible with these requirements, instead of authorizing compliance with this provision based on the ambiguous term "where applicable."

Revision 13:

The MCAQD added new Sections 303.2.d and 303.3.e to clarify the covering of roof openings on an external and internal floating roof storage tanks and deleted Section 303.1.

Recommendation 14:

Section 401.1 specifies that one or more of the four types of inspection techniques can be used when performing monthly inspections. As that provision may be read as permissive and potentially allowing for any other inspection techniques, we recommend revising "can" to "shall."

Revision 14:

The MCAQD deleted Section 401.1 and added Section 403.1 to clarify that one or more of the four types of inspection techniques shall be used when performing monthly inspections.

Additional revisions were made to address stakeholder and staff comments, which can be discerned in the "strikeout and underline" version of the rule included in this notice and described in all Stakeholder Workshop notices and workshop slides/presentations that are posted on the EROP website.

**5. Studies relied on in the control officer's evaluation of or justification for the rule and where the public may obtain or review the studies, all data underlying the studies, any analysis of the studies and other supporting material.**

United States Environmental Protection Agency Region IX Air Division (2019). Technical Support Document for EPA's Rulemaking for the Arizona State Implementation Plan Regarding Rule 351, "Storage and Loading of Gasoline at Bulk Gasoline Plants and Bulk Gasoline Terminals." <https://www.regulations.gov/document?D=EPA-R09-OAR-2019-0493-0002>

U. S. Environmental Protection Agency, "Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks" December, 1978, [https://www3.epa.gov/airquality/ctg\\_act/197812\\_voc\\_epa450\\_2-78-047\\_petrol\\_roof\\_tanks.pdf](https://www3.epa.gov/airquality/ctg_act/197812_voc_epa450_2-78-047_petrol_roof_tanks.pdf)

U. S. Environmental Protection Agency, "Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks" December, 1977, [https://www3.epa.gov/airquality/ctg\\_act/197712\\_voc\\_epa450\\_2-77-036\\_fixed\\_roof\\_tanks.pdf](https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-036_fixed_roof_tanks.pdf)

U. S. Environmental Protection Agency, "Control of Volatile Organic Emissions from Bulk Gasoline Plants" December, 1977, [https://www3.epa.gov/airquality/ctg\\_act/197712\\_voc\\_epa450\\_2-77-035\\_bulk\\_gasoline\\_plants.pdf](https://www3.epa.gov/airquality/ctg_act/197712_voc_epa450_2-77-035_bulk_gasoline_plants.pdf)

U. S. Environmental Protection Agency, "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals" October, 1977, [https://www3.epa.gov/airquality/ctg\\_act/197710\\_voc\\_epa450\\_2-77-026\\_tank\\_truck\\_terminals.pdf](https://www3.epa.gov/airquality/ctg_act/197710_voc_epa450_2-77-026_tank_truck_terminals.pdf)

**6. An economic, small business and consumer impact statement:**

The following discussion addresses each of the elements required for an economic, small business and consumer impact statement, as prescribed by A.R.S. §§ 41-1055, subsections A, B and C, and 41-1035:

**An identification of the rulemaking, including all of the following:**

This rulemaking revised Rule 351.

**(a) The conduct and its frequency of occurrence that the rule is designed to change.**

The MCAQD revised Rule 351 to remedy deficiencies identified by the EPA. This rulemaking is required to secure approval of Rule 351 into the Arizona SIP. The revisions are explained in more detail in Item #4 of this notice.

**(b) The harm resulting from the conduct the rule is designed to change and the likelihood it will continue to occur if the rule is not changed.**

The MCAQD revised Rule 351 to remedy deficiencies identified by the EPA. This rulemaking is required to secure approval of Rule 351 into the Arizona SIP and avoid sanctions and imposition of a Federal Implementation Plan (FIP) under the Clean Air Act.

**(c) The estimated change in frequency of the targeted conduct expected from the rule change.**

The MCAQD revised Rule 351 to remedy deficiencies identified by the EPA. This rulemaking is required to secure approval of Rule 351 into the Arizona SIP. As with other rules, the MCAQD will use education, outreach, and other compliance assurance tools to increase the number of people in compliance with the revised rule. The MCAQD strives to achieve the highest possible compliance rates.

**A brief summary of the information included in the economic, small business and consumer impact statement.**

The economic, small business and consumer impact statement addresses each of the elements required for an economic, small business and consumer impact statement, as prescribed by A.R.S. §§ 41-1055, subsections A, B and C, and 41-1035.

**Name and address of agency employees who may be contacted to submit or request additional data on the information included in the economic, small business and consumer impact statement.**

Name: Scott Kahldon or Kimberly Butler  
Maricopa County Air Quality Department  
Planning and Analysis Division

Address: 3800 N Central Avenue, Suite 1400  
Phoenix, AZ 85012

Telephone: (602) 506-6706

Fax: (602) 506-6179

Email: AQPlanning@maricopa.gov

Submit Comments At: <http://maricopa.gov/FormCenter/Regulatory-Outreach-17/Citizen-Comments-94>

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

This rulemaking will directly affect facilities in Maricopa County that engage in the storage of gasoline in a stationary gasoline storage tank at a bulk gasoline plant or at a bulk gasoline terminal, and the loading of gasoline from a gasoline cargo tank, railcar, or pipeline into or out of a stationary storage tank at a bulk gasoline plant or at a bulk gasoline terminal.

The revised Rule 351 updates and clarifies existing rule provisions and definitions to be consistent with federal rule language, and reduces confusion to improve understanding and readability. The MCAQD considered the implications of the amendments to the regulated entities, and the implementing agency considers none of the rule revisions have potentially significant economic impacts.

**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.**

This rulemaking should not impose any new costs on the MCAQD or on any other agencies affected by the rulemaking.

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

This rulemaking should not impose any new costs on political subdivisions of this state affected by the rulemaking.

**(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 MCAQD revised Rule 351 to remedy deficiencies identified by the EPA. This rulemaking is required to secure approval of Rule 351 into the Arizona SIP for RACT and avoid sanctions and imposition of a FIP under the Clean Air Act.

The MCAQD anticipates that increased clarity provided by the Rule 351 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 MCAQD does not anticipate these rule revisions to have a significant impact on a person's income, revenue, or employment in this state.

**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.**

This rulemaking should have no impact on private or public employment in businesses, agencies, and political subdivisions of this state.

**A statement of the probable impact of the rulemaking on small businesses. The statement shall include:**

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

Small businesses subject to this rulemaking are those in Maricopa County that store gasoline in a stationary gasoline storage tank at a bulk gasoline plant or at a bulk gasoline

terminal, and the loading of gasoline from a gasoline cargo tank, railcar, or pipeline into or out of a stationary storage tank at a bulk gasoline plant or at a bulk gasoline terminal.

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

This rulemaking updates and clarifies existing rule provisions and definitions to be consistent with federal rule language, and reduces confusion to improve understanding and readability. The MCAQD 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. Establish less stringent compliance or reporting requirements in the rule for small businesses.**

This rulemaking does not impose any significant new compliance requirements on small businesses and does not establish any significant new reporting requirements for small businesses.

**ii. Establish less stringent schedules or deadlines in the rule for compliance or reporting requirements for small businesses.**

This rulemaking does not impose any significant new compliance requirements on small businesses and does not establish any significant new reporting requirements for small businesses.

**iii. Consolidate or simplify the rule's compliance or reporting requirements for small businesses.**

This rulemaking does not impose any significant new compliance requirements on small businesses and does not establish any significant new reporting requirements for small businesses.

**iv. Establish performance standards for small businesses to replace design or operational standards in the rule.**

This rulemaking is unlikely to impose any new design or operational requirements on small businesses.

**v. Exempt small businesses from any or all requirements of the rule.**

This rulemaking does not impose any significant new requirements on small businesses.

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

This rulemaking should not result in any significant costs for private persons and consumers.

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

The rulemaking will 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, including the monetizing of the costs and benefits for each option and providing the rationale for not using nonselected alternatives.**

The purpose of this rulemaking was to revise Rule 351 to remedy deficiencies identified by the EPA. This rulemaking is required to secure approval of Rule 351 into the SIP for RACT and avoid sanctions and imposition of a FIP under the Clean Air Act.

**A description of any data on which a rule is based with a detailed explanation of how the data was obtained and why the data is acceptable data.**

Not applicable.

**7. The effective date of the rule:**

The effective date of this rulemaking was November 18, 2020.

**8. Such other matters as are prescribed by statute and that are applicable to the county or to any specific rule or class of rules:**

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 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 requirements are met:

1. The rule, ordinance or regulation is necessary to address a peculiar local condition.
2. There is credible evidence that the rule, ordinance or 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 regulation is equivalent to federal statutes or regulation.
3. Any fee or tax adopted under the rule, ordinance or regulation does not exceed the reasonable costs of the county to issue and administer the permit or plan approval program.

§ 49-112(B)

When authorized by law, a county may adopt rules, ordinances or 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 regulation that does not exceed the reasonable costs of the county to issue and administer that permit or plan approval program.

The MCAQD is in compliance with A.R.S. §§ 49-112(A) and (B). Rule 351 meets A.R.S. § 49-112(A)(1) by demonstrating that the rule is necessary to address a peculiar local condition, in that Maricopa County fails to meet the 2008 8-hour NAAQS for ozone. Rule 351 meets the requirements of A.R.S. § 49-112(A)(2)(b), in that Maricopa County is required by federal law to revise existing rules to address RACT for the Storage and Loading of Gasoline at Bulk Gasoline Plants and at Bulk Gasoline Terminals. As there is no new fee or tax associated with this rulemaking, the MCAQD also affirms that Rule 351 meets the requirements of A.R.S. § 49-112 (A)(3) and A.R.S § 49-112 (B).

**9. List of all previous notices posted to the Maricopa County EROP website addressing the rule and a concise explanatory statement, as prescribed by A.R.S. § 49-471.07, subsection B:**

**(a) List of all previous notices posted to the Maricopa County EROP website addressing the rule:**

<u>Notice</u>	<u>Date of Posting</u>
Briefing Notification to County Manager	January 26, 2018
Notice of Stakeholder Workshop	August 03, 2018 April 29, 2020
Notice of Board of Health Meeting to Initiation Regulatory Change	February 08, 2019
Notice of Proposed Rulemaking	June 12, 2020
Notice of Board of Health Meeting to Make Recommendation to the Board of Supervisors:	July 13, 2020
Notice of Public Hearing	October 7, 2020

**(b) The following discussion addresses each of the elements required for a concise explanatory statement, as prescribed by A.R.S. § 49-471.07, subsection B:**

**i. A description of any change between the proposed rule or ordinance, the final rule or ordinance or notice of final supplemental rule or ordinance.**

The following changes were made after the Notice of Proposed Rulemaking was published on June 12, 2020:

1. Based off of stakeholder comments, the MCAQD added the phrase “not to exceed 12 months between inspections” to clarify the annual inspection requirements. This clarification was added to the following sections as indicated below:

Section 401.2.b: Annual Inspection, not to exceed 12 months between inspections:

Section 402.2: Annual Inspection, not to exceed 12 months between inspections:

Section 403.2: Annual Leak Detection Inspections (not to exceed 12 months between inspections): Inspect for liquid leaks, vapor leaks, and for faulty equipment.

2. Based off of stakeholder comments, the MCAQD added the phrase “not to exceed 60 months between inspections” to clarify the five (5) year inspection requirements. This clarification was added to the following sections as indicated below:

Section 401.2.c: Five (5) Year Inspection and Empty Tank Inspection: Each time the internal floating roof stationary storage tank is emptied and degassed or at least once every five (5) years, not to exceed 60 months between inspections.

Section 402.3: Five (5) Year Inspection and Empty Tank Inspection: Each time the external floating roof stationary storage tank is emptied and degassed or at least once every five (5) years, not to exceed 60 months between inspections. This inspection can be conducted while the tank is in service.

3. The MCAQD revised the rim vent language for internal floating roof openings to match the rim vent language for external floating roof openings. The section was revised as indicated below:

Section 303.2.d5: Rim vents, if provided, shall be set to open only:

- (a) When the roof is being floated off the roof leg supports; or
- (b) At the manufacturer’s recommended setting.

**ii. A summary of the comments and arguments for and against the notice and the county’s response to the comments and arguments.**

The following discussion evaluates the arguments for and against the rule and includes responses to comments received on the rule or the preamble in the Notice of Proposed Rulemaking. The MCAQD received written comments from two stakeholders. All of the comments were reviewed and evaluated by the MCAQD.

**Comment #1:** [Our Company] supports the proposed rule changes for 350, 351, 352, and 353. [Our Company] would also like to Recommend that the rules include a definition for "Mobil Storage Tank" to address the use of Mobil fueling stations that are on the order of a few thousand gallons in capacity.

**Response #1:** The MCAQD thanks you for your support of the proposed rule changes to Rules 350, 351, 352 and 353. Regarding your comment about adding a definition of “mobile storage tank”, the MCAQD considered your comment and determined the addition of this term to the rules was not necessary. Having said that, the MCAQD revised the definition of “stationary gasoline storage tank” in Rule 353, and added the same revised definition to Rule 352, to further clarify which stationary

gasoline storage tanks are regulated under the rules. The phrase: “Any such tank that is connected to permanent piping and not moved to another service location within any twelve (12)-month period will be considered a stationary gasoline storage tank” was added to the definition. The MCAQD believes the addition of this phrase will help stakeholders understand which gasoline storage tanks are regulated under this rule. A similar revision to the definition of “stationary gasoline storage tank” was not made to rule 350 because gasoline is not regulated under Rule 350 and was not made to Rule 351 because it regulates the storage of large quantities of gasoline.

**Comment #2:** The submerged fill requirement only applies for bulk plant per Subpart 6Bs. However, if the submerged fill requirement will be added for terminals, please remove “completely” from the phrase “tank is being drained completely”. There was an incident at another terminal where a tank valve was weeping. In order to make the repairs, the tank liquid had to be drained below the fill line.

**Response #2:** The MCAQD expanded the submerged fill exemption under Section 103 to allow the tank liquid to be drained below the fill pipe in order to make a repair. The definition reads as follows: A submerged fill pipe in a stationary storage tank shall be submerged at all times except:

- a. During the initial fill until the fill pipe is submerged. The process of filling shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.
- b. When the organic liquid storage tank is in the process of being completely drained and subsequently refilled. The process of emptying and refilling shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.
- c. When the tank liquid has to be drained below the fill pipe in order to make a repair. The repair is to be made as expeditiously as possible. The process of refilling the organic liquid storage tank to meet the submerged fill pipe requirement shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.

**Comment #3:** Rule states accumulated area shall not exceed 10 square inches per foot (21.2 cm<sup>2</sup> per meter). This should be 1.0 square inches per foot.

**Response #3:** The MCAQD considered your comment and deleted sections 303.1.c(2) and 303.2.d(2) that contained an error with the conversion to centimeters, and added new sections 303.2.d(7) and 303.3.c(1) to clarify the correct gap measurements. The clarification of the gap measurements reads as follows: Section 303.2d(7) The accumulated area of gaps between a tank's wall and primary seal shall not exceed ten square inches per foot (10 in<sup>2</sup>/ft) of tank diameter, and Section 303.3c(1) The accumulated area of gaps between a tank's wall and primary seal shall not exceed ten square inches per foot (10 in<sup>2</sup>/ft.) of tank diameter.

**Comment #4:** Can the rule clarify if “once per year” refers to once per calendar year, or not to exceed 12 months between gap measurement inspections?

**Response #4:** The MCAQD considered your comment and clarified "once per year" by adding "not to exceed 12 months between inspections".

**Comment #5:** Rule states gap shall not exceed 1.27cm (0.2 inch). 1.27cm is equal to 0.5 inch. Please clarify which value should be used.

**Response #5:** The MCAQD deleted section 401.1.b(2) and added new section 303.3.d(2) to clarify the gap measurements. The clarification of the gap measurements reads as follows: The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 1.0 square inch per foot (1in<sup>2</sup>/ft.) of tank diameter. Determinations of gap area shall only be made at the point(s) where the gaps exceed one eighth inch (1/8"). The width of any portion of any gap shall not exceed one half inch (1/2"). [40 CFR § 60.113b(b)(4)(ii)].

**Comment #6:** Can the rule clarify if "once every 5 years" refers to once per 5 calendar years, or not to exceed 60 months between inspections?

**Response #6:** The MCAQD considered your comment and clarified "once every 5 years" by adding "once every 5 years, not to exceed 60 months between inspections".

**Comment #7:** Can the rule clarify if "once a year" refers to once per calendar year, or not to exceed 12 months between visual inspections?

**Response #7:** The MCAQD considered your comment and clarified "once per year" by adding "not to exceed 12 months between inspections".

## **EXACT WORDING OF THE RULE**

### **MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS REGULATION III - CONTROL OF AIR CONTAMINANTS**

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#### **STORAGE AND LOADING OF GASOLINE AT BULK GASOLINE PLANTS AND AT BULK GASOLINE TERMINALS**

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

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

**SECTION 100 - GENERAL**

- 101 PURPOSE:** To limit emissions of volatile organic compounds (VOCs) from gasoline emitted during the storage and loading of gasoline at bulk gasoline plants and at bulk gasoline terminals.
- 102 APPLICABILITY:** ~~This rule is applicable to:~~
- 102.1** ~~The storage of gasoline in a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal. This rule applies to:~~
- a.** The storage of gasoline in a stationary gasoline storage tank at a bulk gasoline plant or at a bulk gasoline terminal.
- 102.2 b.** The loading of gasoline from a gasoline cargo tank, ~~railroad tank car railcar,~~ or pipeline into or out of a stationary storage tank at a bulk gasoline plant or at a bulk gasoline terminal.
- 102.2** 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** ~~Aviation Gasoline: The loading of aviation gasoline into stationary storage tanks at airports, and the subsequent loading of aviation gasoline within the airport, is exempt from Section 304 of this rule. The storage of aviation gasoline at airports is subject to this rule.~~
- 103.2** ~~Seal Gap: The owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when performing gap measurements or inspections of the primary seal.~~
- 103.3** ~~Submerged Fill: A gasoline stationary storage tank is exempt from the requirement that a submerged fill discharge pipe be fully submerged when:~~
- a.** ~~The tank is being drained completely.~~
- b.** ~~The tank is being initially filled or filled after being completely drained.~~

- 103.4 ~~Floating Roof: As long as either of the following processes is accomplished continuously and as rapidly as practicable, a floating roof is exempt from the requirement that its roof be floating when:~~
- ~~a. The tank is being drained completely.~~
  - ~~b. The tank is being filled.~~
- 103.5 ~~Bulk Gasoline Plants with a Throughput of Less than 120,000 Gallons Per 30-Day Period: At a bulk gasoline plant built before October 2, 1978, vapor loss control specified in Section 303 of this rule is not required at the loading rack when all of the following conditions are met:~~
- ~~a. The bulk gasoline plant loads less than 120,000 gallons (454,800 l) of gasoline into gasoline cargo tanks in any consecutive 30-day period. Any bulk gasoline plant that becomes subject to all of the provisions of Section 303 of this rule by exceeding the throughput threshold of 120,000 gallons of gasoline in any consecutive 30-day period will remain subject to these provisions even if its throughput later falls below the threshold.~~
  - ~~b. Keep current records of amount of gasoline loaded and keep them readily accessible to the Control Officer upon request for at least five (5) years.~~
  - ~~c. Load gasoline using submerged fill only.~~
  - ~~d. The owner or operator of the bulk gasoline plant shall observe all parts of the gasoline loading process and shall discontinue the gasoline loading if any leaks are observed.~~
  - ~~e. 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 gasoline cargo tank or rail car when the gasoline is in the process of being loaded from the gasoline cargo tank or rail car into a stationary storage tank. The owner or operator shall reclose the hatch, vent valve or other vapor sealing device at the completion of the loading process.~~
    - ~~(2) When VOC vapors from gasoline are present within a gasoline cargo tank, authorized government agents, as well as the owner or operator and their contractors may open vapor containment equipment while performing operations required by this rule or by other statutory entities, but shall be restricted as follows, unless approved in advance by the Control Officer:~~
      - ~~(a) Wait at least 3 minutes after the loading of gasoline is complete or gasoline 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.~~

- (e) ~~Limit wind speed at opened hatch or other opened sealing device to not more than 3 mph (1.34 m/sec).~~

**103.1 Submerged Fill:** A submerged fill pipe in a stationary gasoline storage tank shall be submerged at all times except:

- a. During the initial fill until the fill pipe is submerged. The process of filling shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.
- b. When the stationary gasoline storage tank is in the process of being completely drained and subsequently refilled. The process of emptying and refilling shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.
- c. When the tank liquid has to be drained below the fill pipe in order to make a repair. The repair is to be made as expeditiously as possible. The process of refilling the stationary gasoline storage tank to meet the submerged fill pipe requirement shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.

**103.2 Floating Roof:** The floating roof shall be floating on the liquid surface at all times (i.e., off the roof leg supports) except:

- a. During initial fill until the roof is lifted off leg supports. The process of filling shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.
- b. When the tank is completely emptied and subsequently refilled. The process of emptying and refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.
- c. When a repair requires the gasoline to be drained below the level where the roof is floating. The repair work shall be accomplished as rapidly as possible. Upon completion of the repair, the process of refilling the gasoline storage tank to meet the floating requirement shall be continuous and shall be accomplished as rapidly as possible while minimizing vapors.

**103.3 Seal Gap:** An owner or operator is exempted from the requirements for secondary seals and the secondary seal gap criteria when:

- a. Performing gap measurements.
- b. Inspecting the primary seal.
- c. Conducting repair work on the secondary seal. The repair work shall be accomplished as rapidly as possible.

**103.4 Bulk Gasoline Plants with a Throughput of Less than 120,000 Gallons Per 30-Day Period:** At a bulk gasoline plant built before October 2, 1978, vapor loss control specified in Section 304 (Vapor Loss Control Equipment) is not required at the loading rack when all of the following are met:

- a. The bulk gasoline plant has a throughput of less than 120,000 gallons of gasoline into gasoline cargo tanks in any consecutive 30-day period. If, during any consecutive 30-day period, a bulk gasoline plant has a throughput of 120,000 gallons of gasoline or greater into gasoline cargo tanks, the bulk gasoline plant shall:
  - (1) Become subject to all the provisions of Section 304 (Vapor Loss Control Equipment).
  - (2) Remain subject to the provisions of Section 304 (Vapor Loss Control Equipment) even if the consecutive 30-day throughput falls below the 120,000 gallon threshold.
- b. The owner or operator of the bulk gasoline plant:
  - (1) Loads gasoline by submerged fill only.
  - (2) Observes all parts of the gasoline loading process at all times.
  - (3) Discontinues the gasoline loading if any leaks are observed.
- c. The owner or operator of the bulk gasoline plant maintains records of the gasoline throughput that are:
  - (1) Readily accessible to the Control Officer, upon request.
  - (2) Available for at least five (5) years.

**103.5 Opening of Hatches, Vent Valves, or Other Vapor Sealing Devices:**

- a. A hatch, vent valve, or other vapor sealing device:
  - (1) May be opened to avoid an unsafe operating condition; and
  - (2) Shall be closed once the unsafe operating condition has been resolved.
- b. When VOC vapors from gasoline are present within a gasoline cargo tank, owners or operators, their contractors, and authorized government agents may open a hatch, vent valve, or other vapor sealing device while performing operations required by these Maricopa County Air Pollution Control Regulations or by other statutory entities, but shall be restricted as follows:
  - (1) Wait at least three (3) minutes after the loading of gasoline is complete or gasoline cargo tank has come to a complete stop before opening the hatch, vent valve, or other vapor sealing device.
  - (2) Reclose the hatch, vent valve, or other vapor sealing device within three (3) minutes of opening.
  - (3) Limit wind speed at the opened hatch, vent valve, or other opened vapor sealing device to not more than three miles per hour (3 mph), using a barrier if necessary.

**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 and Regulations, the definitions in this rule take precedence.

- 201 ~~AVIATION GASOLINE (AVgas): A type of gasoline used to fuel a piston engine aircraft.~~
- 202 **201 BULK GASOLINE PLANT:** Any gasoline storage and ~~distribution~~ gasoline loading facility that meets all of the following:
- 201.1 Loads gasoline from a pipeline, ~~and rail~~ railcar, or gasoline cargo tank into a stationary gasoline storage tank;
- 201.2 Loads gasoline from the stationary gasoline storage tank into a gasoline cargo tank for transport to a gasoline dispensing facility (GDF) or a bulk gasoline plant; and
- 201.3 Has a gasoline throughput of less than 20,000 gallons per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State, or local law, and discoverable by the Control Officer and any other person. [40 CFR § 63.11100]
- 203 ~~BULK GASOLINE TANK: Any stationary storage tank serving a loading rack which loads gasoline cargo tanks with gasoline.~~
- 204 **202 BULK GASOLINE TERMINAL:** Any gasoline storage and gasoline loading facility that meets all of the following:
- 204.1 **202.1** Loads gasoline from a pipeline, ~~and rail~~ railcar, or gasoline cargo tank into a stationary gasoline storage tank;
- 204.2 **202.2** Loads gasoline from the stationary gasoline storage tank into a gasoline cargo tank for transport to a gasoline dispensing facility (GDF) or a bulk gasoline plant; ~~and~~.
- 204.3 **202.3** Has a gasoline throughput of 20,000 gallons per day or greater. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State, or local law, and discoverable by the ~~Administrator~~ Control Officer and any other person. [40 CFR § 63.11100]
- 203 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]
- 205 ~~DISPENSING TANK: Any stationary tank which dispenses gasoline directly into a motorized vehicle’s fuel tank, dispenses gasoline into an aircraft’s fuel tank, or dispenses gasoline into a watercraft’s fuel tank that directly fuels its engine(s).~~
- 206 **204 EXCESS GASOLINE DRAINAGE:** More than 10 milliliters (0.34 fluid ounces or 2 teaspoonsful) of liquid gasoline lost from the end of a fill hose or vapor recovery hose in the process of connecting or disconnecting the hose; or any quantity of gasoline escaping out the end of such a hose that wets any area(s) on the ground having an aggregate area greater than 113 square inches, or the perimeter of which would encompass a circle of 12 inches (30.5 cm) diameter. This does not include drainage into a fill pipe’s spill containment receptacle. The quantity of gasoline that drains out of the end of a gasoline loading hose or vapor recovery hose during the process of connecting or disconnecting that is one or more of the following:

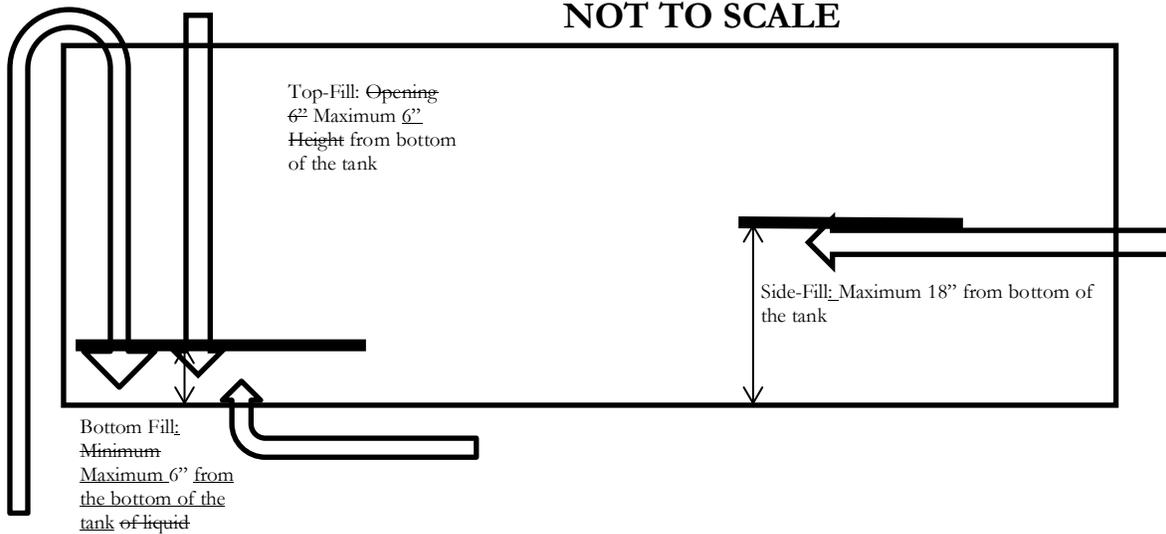
- 204.1 More than 0.34 fluid ounces or two teaspoonsful (2 tsp) of liquid gasoline lost from the end of a gasoline loading hose or vapor recovery hose. This does not include drainage into a fill pipe's spill containment receptacle.
- 204.2 Wets any area(s) on the ground having an aggregate area greater than 113 square inches (113 in<sup>2</sup>).
- 204.3 The perimeter of which would encompass a circle of twelve inches (12") diameter or larger. This does not include drainage into a fill pipe's spill containment receptacle.

- 207 205 **EXTERNAL FLOATING ROOF STATIONARY STORAGE TANK:** An open top stationary 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.
- 208 **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.
- 209 **GASOLINE:** 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.
- 210 206 **GASOLINE CARGO TANK:** A delivery tank truck or railcar which is loading gasoline or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load. [40 CFR § 63.11132] This includes any gasoline loading hoses the gasoline cargo tank carries through which deliveries are made.
- 211 207 **GASOLINE DISPENSING FACILITY (GDF):** Any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on-road, off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline fueled engines and equipment. [40 CFR § 63.11132] This includes all stationary gasoline storage. All gasoline dispensing tanks and associated equipment located on one or more contiguous or adjacent properties under the control of the same owner or operator under common control.
- 212 208 **GASOLINE LOADING FACILITY:** Any gasoline operation or facility such as a gasoline storage tank farm, pipeline terminal, bulk gasoline plant, bulk gasoline terminal, loading dock, or combination thereof, where gasoline is loaded into or out of gasoline cargo tanks for future distribution. Included are all related pollutant-emitting activities which are located on one or more contiguous or adjacent properties, and are under the control of the same owner or operator under common control.
- 213 209 **INTERNAL FLOATING ROOF STATIONARY STORAGE TANK WITH A FIXED ROOF 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 tank that has been retrofitted with a geodesic dome or other fixed roof shall be considered to be an internal floating roof tank stationary storage tank with a fixed roof. for the purposes of this rule.~~

- 214 **210** **LEAK FREE:** A condition in which there is no liquid gasoline escape or seepage of more than ~~3~~ three (3) drops per minute from gasoline storage, handling, ~~and~~ or ancillary equipment, including, but not limited to, seepage and escapes from above ground fittings, gasoline loading hose(s), and vapor recovery hose(s). This does not include the disconnecting or connecting of either a gasoline loading hose from a gasoline fill pipe or a vapor recovery hose from a vapor pipe.
- 211** **LOADING RACK:** The gasoline loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill gasoline cargo tanks. [40 CFR § 60.501]
- 215 **ORGANIC LIQUID:** ~~Any organic compound which exists as a liquid under any actual conditions of use, transport or storage.~~
- 216 **212** **PURGING:** Removing, cleaning, or scouring out gasoline vapors from all or a portion of a gasoline cargo tank by active or passive means and emitting the vapors into the atmosphere.
- 217 **213** **STATIONARY GASOLINE STORAGE TANK:** Any stationary tank or reservoir ~~or other container~~ used to store, but not transport, gasoline.
- 218 **214** **SUBMERGED FILL:** Any gasoline ~~discharge~~ fill pipe or nozzle extension which meets at least one of the ~~applicable~~ specifications below:
- 218.1 **214.1** **Top-Fill or Bottom-Fill:** The end of the ~~discharge~~ fill pipe or nozzle extension is totally submerged when the liquid level is six inches (6") ~~(15 cm)~~ from the bottom of the tank, ~~unless exempted by Section 103.3 of this rule.~~
- 218.2 **214.2** **Side-Fill:** The end of the ~~discharge~~ fill pipe or nozzle extension is totally submerged when the liquid level is eighteen inches (18") ~~from the bottom of the stationary gasoline storage tank. 18 inches (46 cm) from the bottom of the tank, unless exempted by Section 103.3 of this rule. A side-fill pipe that is greater than 18" from the bottom of the stationary storage tank shall remain submerged at all times.~~

**Submerged Fill Pipe Diagram  
NOT TO SCALE**



- 219    **215**    **SWITCH LOADING:** Loading diesel fuel into a gasoline cargo tank whose previous load was gasoline; or loading any organic liquid not subject to this rule into a gasoline cargo tank whose previous load was gasoline ~~and subject to this rule.~~
- 216    **216**    **THROUGHPUT:** The amount of gasoline received.
- 220    **217**    **VAPOR BALANCE SYSTEM:** ~~A piping system that is designed to collect gasoline vapors displaced from the loading of gasoline, and to route the collected vapors to the gasoline cargo tank from which the gasoline is being loaded. Vapor loss control equipment that collects gasoline vapors displaced from the loading of gasoline into:~~
- 217.1**    A gasoline cargo tank and routes the collected vapors to a stationary gasoline storage tank; or
- 217.2**    A stationary gasoline storage tank and routes the collected vapors to the gasoline cargo tank from which the storage tank is loaded; or
- 217.3**    A gasoline cargo tank and routes the collected vapors to the gasoline cargo tank from which the gasoline cargo tank is loaded.
- 218**    **VAPOR COLLECTION/PROCESSING SYSTEM:** A vapor loss control device consisting of a vapor gathering subsystem capable of collecting the gasoline vapors plus a second subsystem capable of processing such vapors and gases, reducing the inlet concentration of VOCs by at least 95 percent by weight.
- 219**    **VAPOR LOSS CONTROL EQUIPMENT:** Any piping, vapor recovery hose(s), equipment, or devices which are used to collect, store, and or process VOC vapors at a bulk gasoline plant, bulk gasoline terminal, gasoline dispensing facility, or any other operation handling gasoline.

224 ~~VAPOR LOSS CONTROL SYSTEM: 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 loading of gasoline.~~

222 **220** ~~VAPOR TIGHT: A condition in which a suitable detector at the site of (potential) leakage of vapor shows less than 10,000 ppmv when calibrated with methane or the detector shows less than 1/5 lower explosive limit (LEL) when calibrated with a gas specified by the manufacturer and used according to the manufacturer's instructions. A condition at the site of a (potential) vapor leak in which:~~

~~**220.1** An organic vapor analyzer (OVA) shows less than 10,000 ppmv when calibrated with methane; or~~

~~**220.2** A combustible gas detector (CGD) shows less than one-fifth lower explosive limit (1/5 LEL) when:~~

~~**a.** Calibrated with a gas specified by the manufacturer; and~~

~~**b.** Used according to the manufacturer's instructions.~~

## SECTION 300 – STANDARDS

### 301 **FEDERAL STANDARDS OF PERFORMANCE FOR BULK GASOLINE**

~~**PLANTS AND BULK GASOLINE TERMINALS:** An owner or operator of a bulk gasoline plant or bulk gasoline terminal ~~must~~ shall meet the applicable federal standards of performance set forth in New Source Performance Standards (NSPS) set forth in 40 CFR Part 60; and the National Emission Standards for Hazardous Air Pollutants (NESHAP) set forth in 40 CFR Part 63. Subparts K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978; Ka – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984; 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; Subpart XX – Standard of Performance for Bulk Gasoline Terminals; and the national emission standards for hazardous air pollutants (NESHAP) set forth in 40 CFR Part 63, Subpart BBBBBB – NESHAP Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities, and all accompanying appendices, excluding the authorities that cannot be delegated to the department. These federal standards are adopted and incorporated by reference in Rule 360 and Rule 370 in these rules. The following federal standards are adopted and incorporated by reference in Rule 360 (New Source Performance Standards) and Rule 370 (Federal Hazardous Air Pollutant Program) of the Maricopa County Air Pollution Control Rules and Regulations. The applicable subparts include, but are not limited to the following:~~

~~**301.1** 40 CFR Part 60, Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978.~~

- 301.2** 40 CFR Part 60, Subpart Ka – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984.
- 301.3** 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.
- 301.4** 40 CFR Part 60, Subpart XX – Standard of Performance for Bulk Gasoline Terminals.
- 301.5** 40 CFR Part 63, Subpart BBBB – NESHAP Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities.
- 301.6** All accompanying appendices, excluding the authorities that cannot be delegated to the MCAQD.

302 **GASOLINE STATIONARY STORAGE TANK STANDARDS:**

- 302.1** Submerged Fill: The owner or operator of a gasoline stationary storage tank with a capacity more than 250 gallons (946 l) shall only allow the loading of gasoline into a stationary storage tank or a gasoline cargo tank using submerged fill.
- 302.2** Gasoline Stationary Storage Tanks with a Capacity Between 250 Gallons (946 l) and 40,000 Gallons (151,400 L): For gasoline stationary storage tanks with a capacity more than 250 gallons (946 l) but less than 40,000 gallons (151,400 l), an owner or operator shall store gasoline in a stationary storage tank that meets all of the following requirements:
  - a. Each tank has a fill pipe that is maintained leak free and vapor tight.
  - b. Each tank has a permanently installed submerged fill pipe. Where, because of government regulation including, but not limited to, Fire Department codes, such a fill pipe cannot be installed, a nozzle extension that reaches within 6 inches of the tank bottom shall be used to fill the tank.
  - c. Each fixed roof tank has a pressure/vacuum valve that is maintained in good working order and that is installed with a pressure/vacuum vent valve that is either set within ten percent of the tank's maximum, safe working pressure or is set at least at 0.5 psia (25.8 mm Hg).
  - d. The tank is equipped with a vapor balance system which collects and returns displaced vapors to the gasoline cargo tank using vapor tight fittings and lines; or such tank uses at least one of the vapor loss control methods in Sections 303 of this rule.
- 302.3** Gasoline Storage Tanks with a Capacity Equal to or Greater than 40,000 Gallons (151,400 L): An owner or operator of a gasoline stationary storage tank with a capacity equal to or greater than 40,000 gallons (151,400 l), shall store gasoline in a stationary storage tank that is equipped with at least one of the following:
  - a. An external floating roof storage tank; or
  - b. An internal floating roof storage tank with a fixed cover; or

- e. ~~A vapor loss control system.~~

303 VAPOR LOSS CONTROL:

303.1 ~~External Floating Roof Stationary Storage Tanks: 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 a vapor balance system or vapor loss control system shall properly install, properly maintain and properly operate the equipment.~~
- b. ~~An owner or operator shall operate an external floating roof stationary storage 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.~~
- e. ~~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 cave and tank wall, except as provided in Section 103.4 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 petroleum industry. The secondary seal shall meet the requirements of Section 303.1(d) of this rule.~~
- d. ~~Secondary Seal Requirements:~~
  - (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 Section 303.1(d)(2) of this rule.~~
  - (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 inch (3 mm). The width of any portion of any gap shall not exceed 1/2 inch (1.27 cm).~~
  - (3) ~~Stationary storage tanks constructed after July 13, 1988, shall have a secondary seal that is rim-mounted.~~
- e. ~~Floating Roof Openings:~~
  - (1) ~~Floating roof tanks subject to the provisions of Section 303.1 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 10 square inches per foot of tank diameter (21.2 cm<sup>2</sup> per meter).~~
  - (3) ~~The width of any portion of any gap shall not exceed 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.~~

303.2 ~~Internal Floating Roof Stationary Storage Tank with Fixed Roof Covering: An internal floating roof stationary storage tank with fixed coverings and its appurtenances must meet the following requirements:~~

- a. ~~The owner or operator of an internal floating roof stationary storage tank and a vapor balance system or vapor loss control system shall properly install, properly maintain and properly operate the equipment.~~
- b. ~~Gasoline 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, as incorporated by reference July 1, 2016.~~
- e. ~~All tanks not subject to Section 303.2(b) must comply with one of the following:~~
  - (1) ~~Comply with 40 CFR Part 60, Subpart Kb, notwithstanding the type of facility and the date of tank construction, reconstruction or modification; or~~
  - (2) ~~Have at least one continuous seal which completely covers the space between the roof edge and tank wall, except as provided in Section 303.2(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. ~~Floating Roof Openings:~~
  - (1) ~~Floating roof tanks subject to the provisions of Section 303.2 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 10 square inches per foot of tank diameter (21.2 cm<sup>2</sup> per meter)~~
  - (3) ~~The width of any portion of any gap shall not exceed 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.~~
- 303.3 ~~Vapor Balance System: An owner or operator of a bulk gasoline plant shall properly install, properly operate, and properly maintain a vapor balance system or, alternatively, use a vapor loss control system.~~
- 303.4 ~~Vapor Loss Control System: An owner or operator of a bulk gasoline terminal shall properly install, properly operate, and properly maintain a vapor loss control system.~~
- a. ~~The vapor processing subsystem shall be vapor tight except for the designated exhaust.~~
  - b. ~~Any gasoline cargo tank or stationary storage tank gauging or sampling device on a gasoline cargo tank or stationary storage tank, vented to such a vapor loss control system, shall be equipped with a vapor tight cover, which shall be closed at all times except during gauging or sampling procedures.~~
  - c. ~~All pressure vacuum vent valves shall be constructed and maintained in a vapor tight condition except when the operating pressure exceeds the valve release setting.~~
  - d. ~~Switch loading shall be subject to vapor loss control system that is capable of preventing at least 95% by weight of the VOCs escaping into the atmosphere and reduces emissions of VOC to not more than 0.08 pounds per 1000 gallons of gasoline transferred.~~
  - e. ~~The terminal owner or operator and the operator of the receiving vessel shall act to ensure that the vapor recovery hose is connected before gasoline is loaded.~~
- 303.5 ~~Equipment Maintenance, Operation and Repair: The owner or operator of a bulk gasoline plant or bulk gasoline terminal shall:~~
- a. ~~Maintain the equipment associated with the storage and loading of gasoline as follows:~~
    - (1) ~~Leak free;~~
    - (2) ~~Vapor tight; and~~
    - (3) ~~In good working order.~~
  - b. ~~Repair and Retest: The owner or operator of a vapor balance system or 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:~~
    - (1) ~~Concentrations at or above the lower explosive limit must be brought into compliance within 24 hours of detection.~~

- (2) ~~For vapor collection/processing equipment subject to gas-tight standard, vapor leak concentrations exceeding 10,000 ppmv but less than 50,000 ppmv as methane shall be brought into compliance within five (5) days of detection.~~
- (3) ~~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.~~

**302 GENERAL REQUIREMENTS:** An owner or operator of a bulk gasoline plant or a bulk gasoline terminal shall:

**302.1** Maintain all containers, stationary gasoline storage tanks, and equipment associated with the storage and loading of gasoline to be:

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

**302.2** Install a permanent submerged fill pipe in all stationary storage tanks with a capacity greater than 250 gallons. 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 inches (6") of the tank bottom shall be used to fill the tank.

- a. A side-fill pipe that is greater than 18" from the bottom of the stationary storage tank shall remain submerged at all times. Documentation demonstrating the side-fill pipe is submerged at all times shall be made available to the Control Officer during the course of a site visit.

**302.3** Minimize gasoline spills.

**302.4** Clean up spills as expeditiously as practicable.

**302.5** Cover all open gasoline containers and storage tanks when not in use.

**302.6** Minimize the amount of gasoline sent to waste collection systems that collect and transport gasoline to reclamation and recycling equipment such as an oil/water separator.

**302.7** Properly dispose of any VOC containing material.

**302.8** Not allow the purging of gasoline vapors and of JP-4 (jet petrol) vapors.

**303 CONTROL OF VOC VAPORS DURING THE STORAGE OF GASOLINE IN A STATIONARY GASOLINE STORAGE TANK:**

**303.1** Control of VOC Vapors During the Storage of Gasoline in a Fixed Roof Gasoline Stationary Storage Tank: The owner or operator of a fixed roof stationary gasoline storage tank shall:

- a. **Fixed Roof Gasoline Stationary Storage Tank with a Capacity of 250 Gallons but less than 40,000 Gallons:** Equip the storage tank with one of the following:
  - (1) A pressure/vacuum vent valve that meets the following requirements:
    - (a) Is set per one of the following:
      - (i) Within ten percent (10%) of the tank's maximum, safe working-pressure.
      - (ii) At least at 0.5 psi (25.9 mm Hg).
    - (b) Is maintained in a vapor-tight condition except when the operating pressure exceeds the valve release setting.
  - (2) A vapor collection/processing system that meets the requirements of Section 304.
  - (3) An internal floating roof that meets the requirements of Section 303.2.
- b. **Fixed Roof Gasoline Stationary Storage Tank with a Capacity of 40,000 Gallons or Greater:** Equip the storage tank with one of the following:
  - (1) A vapor collection/processing system that meets the requirements of Section 304.
  - (2) An internal floating roof that meets the requirements of Section 303.2.

**303.2 Control of VOC Vapors During the Storage of Gasoline in a Fixed Roof Gasoline Storage Tank with an Internal Floating Roof:** An internal floating roof stationary gasoline storage tank and its appurtenances shall meet the following requirements:

- a. The owner or operator of an internal floating roof stationary gasoline storage tank shall properly:
  - (1) Install the equipment.
  - (2) Operate the equipment.
  - (3) Maintain the equipment.
- b. Stationary gasoline storage tanks for which construction, reconstruction, or modification commenced after July 23, 1984, shall 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 (New Source Performance Standards) of these regulations.
- c. All stationary gasoline storage tanks not subject to Section 303.2(b) shall comply with one of the following:
  - (1) 40 CFR Part 60, Subpart Kb, notwithstanding the type of facility and the date of tank construction, reconstruction or modification; or

- (2) Have at least one continuous seal which completely covers the space between the roof edge and tank wall, except as provided in Section 303.2(d), and shall have at least one of the following:
  - (a) A contact-type roof resting completely on the liquid surface.
  - (b) A liquid mounted seal.
  - (c) A primary seal and a secondary seal.

**d. Internal Floating Roof Openings:**

- (1) Floating roof tanks shall have no visible holes, tears, or other openings in the seal or in any seal fabric.
- (2) All openings in a floating roof, except drains, shall be equipped with a cover, seal, or lid.
- (3) All covers, seals, and lids shall be in a closed position at all times, except when they are in actual use.
- (4) Automatic bleeder vents shall be closed at all times, except when the roof is floated off of or landed onto the roof leg supports.
- (5) Rim vents, if provided, shall be set to open only:
  - (a) When the roof is being floated off the roof leg supports; or
  - (b) At the manufacturer's recommended setting.
- (6) Shall have a slit fabric cover that covers at least 90 percent (90%) of the sample well opening. [40 CFR § 60.112b(a)(1)(vii)]
- (7) The accumulated area of gaps between a tank's wall and primary seal shall not exceed ten square inches per foot (10 in<sup>2</sup>/ft) of tank diameter.
- (8) The width of any portion of any gap shall not exceed one and one-half inches (1 1/2").

**303.3 Control of VOC Vapors During the Storage of Gasoline in an External Floating Roof Stationary Gasoline Storage Tank: An external floating roof stationary gasoline storage tank and its appurtenances shall meet the following requirements:**

- a. An owner or operator utilizing an external floating roof stationary gasoline storage tank to control vapor loss shall properly:
  - (1) Install the equipment.
  - (2) Operate the equipment.
  - (3) Maintain the equipment.
- b. **External Floating Roof Requirements:** The floating roof shall:
  - (1) Rest on and be supported by the surface of the liquid contents.
  - (2) Be equipped with a continuous primary seal to close the space between the roof eave and tank wall. The primary seal shall meet the requirements of Section 303.3.c (Primary Seal Requirements).

(3) Have a continuous secondary seal which is of a design that is in accordance with accepted standards of the gasoline industry. The secondary seal shall meet the requirements of Section 303.3.d (Secondary Seal Requirements).

**c. Primary Seal Requirements:**

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

(2) The width of any portion of any gap shall not exceed one and one half inches (1½").

**d. Secondary Seal Requirements:**

(1) The secondary seal shall be:

(a) Rim-mounted.

(b) Not attached to the primary seal.

(c) Installed above the primary seal so that it completely covers the space between the roof edge or primary seal and the tank wall.

(2) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 1.0 square inch per foot (1 in<sup>2</sup>/ft.) of tank diameter. Determinations of gap area shall only be made at the point(s) where the gaps exceed one eighth inch (1/8"). The width of any portion of any gap shall not exceed one half inch (1/2"). [40 CFR § 60.113b(b)(4)(ii)]

**e. External Floating Roof Openings:**

(1) Floating roof tanks shall have no visible holes, tears, or other openings in the seal or in any seal fabric.

(2) All openings, except drains, shall be equipped with a cover, seal, or lid.

(3) All covers, seals, and lids shall be in a closed position at all times, except when they are in actual use.

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

(5) Rim vents, if provided, shall be set to open only:

(a) When the roof is being floated off the roof leg supports; or

(b) At the manufacturer's recommended setting.

**304 VAPOR LOSS CONTROL EQUIPMENT:**

**304.1 General Requirements for Vapor Loss Control Equipment:**

a. The owner or operator of a bulk gasoline plant or a bulk gasoline terminal and the owner or operator of a gasoline cargo tank shall ensure:

(1) Any vapor loss control equipment required by this rule is connected between the gasoline cargo tank and the stationary gasoline storage tank during the loading and unloading of gasoline.

- (2) Loading into a gasoline cargo tank is accomplished in a manner that prevents:
  - (a) Gauge pressure from exceeding 18 inches (18") of water (33.6 mm Hg).
  - (b) Vacuum pressure from exceeding six inches (6") of water (11.2 mm Hg).
- (3) Vapor transfer piping is equipped with fittings that are:
  - (a) Vapor tight.
  - (b) Automatically and immediately close upon disconnection.

**304.2 Vapor Balance System:** The owner or operator of a vapor balance system shall properly install, operate, and maintain the system to:

- a. Prevent any vapors collected at one loading rack from passing to another loading rack.
- b. Reduce the VOC emissions:
  - (1) To not more than 0.6 pounds per 1000 gallons of gasoline loaded; or
  - (2) By preventing at least 90% of the displaced vapors from being released into the atmosphere.

**304.3 Vapor Collection/Processing System:** The owner or operator of a vapor collection/processing system shall properly install, operate, and maintain the system to:

- a. Reduce the inlet concentration of VOCs to the vapor collection/processing system by at least 95 percent by weight.
- b. Reduce the VOC emissions to not more than 0.08 pounds of VOC per 1000 gallons of gasoline loaded.
- c. Vent the displaced vapors and air during the loading of a gasoline cargo tank to the vapor collection/processing system.
- d. Prevent the capacity of the vapor collection/processing system from being exceeded.
- e. Be vapor tight except for the designated exhaust.
- f. Maintain any diaphragm(s) used in the vapor storage tanks to be vapor tight.
- g. Maintain all pressure-vacuum vent valves in a vapor tight condition except when the operating pressure exceeds the valve release setting.

304 ~~GENERAL REQUIREMENTS FOR THE LOADING OF GASOLINE: The owner or operator of a bulk gasoline plant or a bulk gasoline terminal shall comply with the following:~~

~~304.1 Loading of Gasoline into Stationary Storage Tanks:~~

- ~~a. Comply with Section 302.1 of this rule.~~
- ~~b. Verify the proper connection to a vapor balance system or a vapor loss control system prior to loading gasoline at facilities.~~

- e. Verify the proper disconnection from a vapor balance system or a vapor loss control system at the completion of loading gasoline at facilities.
- d. Minimize spills during storage and loading of gasoline.
- e. Clean up spills as expeditiously as practicable.
- f. Cover all open containers of gasoline or gasoline-soaked material when not in use.
- g. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

304.2 Loading of Gasoline into Gasoline Cargo Tanks:

- a. Verify that the gasoline cargo tank displays a valid Maricopa County Vapor Tightness Certification decal or a signed affidavit indicating an exemption from vapor tightness testing.
- b. Verify the proper connection to a vapor balance system or a vapor loss control system prior to the loading of gasoline.
- c. Verify the proper disconnection from a vapor balance system or a vapor loss control system at the completion of loading gasoline.
- d. Minimize spills during storage and loading of gasoline.
- e. Clean up spills as expeditiously as practicable.
- f. Cover all open containers of gasoline and gasoline-soaked material when not in use.
- g. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
- h. Purging of gasoline vapors is prohibited.

304.3 Loading of Gasoline at a Bulk Gasoline Plant:

- a. Loading of Gasoline into Gasoline Cargo Tanks: An owner or operator shall not load gasoline from a gasoline cargo tank into a stationary storage tank at a bulk gasoline plant if the stationary storage tank has a capacity of more than 250 gallons (946 l), unless the gasoline cargo tank displays a valid Maricopa County Vapor Tightness Certification decal and uses a vapor balance system equipped with fittings which are vapor tight or, alternatively, uses a vapor loss control system that reduces emissions of VOC to not more than 0.6 pounds per 1000 gallons of gasoline transferred.
- b. Loading from Stationary Storage Tanks at Bulk Gasoline Plants: An owner or operator shall not load gasoline from a stationary storage tank at a bulk gasoline plant if the stationary storage tank has a capacity of more than 250 gallons (946 l) into a gasoline cargo tank unless both the loading rack and gasoline cargo tank use a vapor balance system equipped with fittings which are vapor tight or, alternatively,

use a vapor loss control system that reduces emissions of VOC to not more than 0.6 pounds per 1000 gallons of gasoline transferred.

304.4 ~~Loading of Gasoline at a Bulk Gasoline Terminal: An owner or operator of a bulk gasoline terminal shall load gasoline from a stationary storage tank, if the owner or operator meets all the conditions of Sections 303.4 and 304.2 of this rule and uses a vapor loss control system that is capable of preventing at least 95% by weight of the VOCs escaping into the atmosphere and reduces emissions of VOC to not more than 0.08 pounds per 1000 gallons of gasoline transferred.~~

### **305 CONTROL OF VOC VAPORS DURING THE LOADING OF GASOLINE:**

**305.1 General Requirements for the Loading of Gasoline:** The owner or operator of a gasoline loading facility and the owner or operator of a gasoline cargo tank shall ensure:

- a. All parts of the gasoline loading process are observed at all times.
- b. Dry break couplings:
  - (1) Are leak free.
  - (2) Are vapor tight.
  - (3) Automatically and immediately close upon disconnect.
- c. Proper connection of:
  - (1) The vapor recovery hose.
  - (2) The gasoline loading hose.
- d. Gasoline is loaded:
  - (1) Using submerged fill.
  - (2) In a leak free manner.
- e. Appropriate measures are implemented to prevent:
  - (1) Overfill.
  - (2) Excess gasoline drainage.
- f. The loading of gasoline is stopped immediately if:
  - (1) A liquid leak is observed.
  - (2) A vapor leak is observed.
- g. Proper disconnection of:
  - (1) The vapor recovery hose to prevent excess gasoline drainage.
  - (2) The gasoline loading hose to prevent excess gasoline drainage.
- h. Use of a bucket or other effective capture device to catch any gasoline dripping during the connection or disconnection of the gasoline loading hose and the vapor hose.
- i. Collection and containment of any gasoline that escapes, drips, spills, or leaks in a manner that will prevent evaporation into the atmosphere.

**305.2 Loading of Gasoline at Bulk Plants:**

**a. Loading of Gasoline from a Gasoline Cargo Tank into a Stationary Storage Tank Exceeding 250 Gallons:** The owner or operator of a bulk gasoline plant shall:

- (1) Ensure the gasoline cargo tank has been demonstrated to be vapor tight by one of the following:
  - (a) A valid Maricopa County Vapor Tightness Certification decal.
  - (b) A certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements in 49 CFR Part 173.31 (Use of Tank Cars) for railcars.
  - (c) A complete copy of a signed affidavit exempting the gasoline cargo tank from obtaining a Maricopa County Vapor Tightness Certification Decal pursuant to section 103.1(e) in Rule 352.
    - (i) This affidavit shall be in the gasoline cargo tank and made available for inspection by a bulk gasoline plant operator or the Control Officer.
    - (ii) A gasoline cargo tank exempted pursuant to 103.1(e) in rule 352 shall only load gasoline at bulk plants meeting requirements under section 103.4 of this rule.
- (2) Ensure the gasoline cargo tank is properly connected to either:
  - (a) A vapor balance system that meets the requirements in Section 304.1 and 304.2; or
  - (b) A vapor collection/processing system that meets the requirements in Section 304.1 and 304.3.

**b. Loading of Gasoline from a Stationary Storage Tank Exceeding 250 Gallons into a Gasoline Cargo Tank:** The owner or operator of a bulk gasoline plant shall ensure the requirements in 305.2.a.(1) and (2) are met.

**305.3 Loading of Gasoline at a Bulk Gasoline Terminal:** The owner or operator of a bulk gasoline terminal shall:

- a. Ensure the gasoline cargo tank has been demonstrated to be vapor tight by one of the following:
  - (1) A valid Maricopa County Vapor Tightness Certification decal.
  - (2) A certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements in 49 CFR Part 173.31 (Use of Tank Cars) for railcars.
- b. Ensure the gasoline cargo tank is properly connected to a vapor collection/processing system that meets the requirements in Section 304.1 and 304.3.

**305.4 Loading of Gasoline from One Gasoline Cargo Tank Into Another Gasoline Cargo Tank:** The owner or operator of a gasoline cargo tank shall ensure the

gasoline cargo tank is properly connected to a vapor balance system that meets the requirements in Sections 304.1 and 304.2.

**305.5 Switch Loading – Loading of Non-Gasoline liquids Into a Gasoline Cargo Tank Where the Previous Load was Gasoline:** The owner or operator of a bulk gasoline plant or a bulk gasoline terminal shall ensure the gasoline cargo tank is properly connected to a vapor collection/processing system that meets the requirements in Section 304.1 and 304.3. The emissions limit specified in section 304.3(b) shall be 0.08 pounds of VOC per 1000 gallons of liquid loaded.

**305** ~~OPERATING REQUIREMENTS FOR A VAPOR LOSS CONTROL SYSTEM:~~ The owner or operator of a vapor loss control system subject to this rule shall operate the system and gasoline loading equipment as follows:

~~305.1 Loading shall be accomplished in a manner that prevents gauge pressure from exceeding 18 inches of water (33.6 mm Hg) and vacuum from exceeding six inches of water (11.2 mm Hg) in the gasoline cargo tank. Each owner or operator shall ensure that a vapor loss control system is connected between the gasoline cargo tank and the gasoline storage tank during the loading of gasoline.~~

~~305.2 Loading shall be accomplished in a manner that prevents leaks, overfills, and excess gasoline drainage. An owner or operator of a bulk gasoline plant or bulk gasoline terminal and the operator of a gasoline cargo tank shall observe all parts of the loading and shall discontinue loading if any leaks are observed. All appropriate measures shall be taken to prevent liquid leaks from the loading device when it is not in use, and to complete drainage before the loading device is disconnected. During the loading of gasoline, potential leak sources shall be vapor tight as demonstrated by the test procedure described in Section 501 of this rule.~~

~~305.3 During the loading of gasoline, an owner or operator shall operate the vapor loss control system in such a manner that the displaced vapor and air will be vented only to the vapor loss control system, which shall be operated gas-tight and in a manner such that the vapor processing capacity is not exceeded. Diaphragms used in vapor storage tanks shall be maintained gas-tight.~~

~~305.4 Vapor recovery hoses shall be equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection. Vapor balance systems shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.~~

**306** **EQUIPMENT REPAIR AND RETESTING:** The owner or operator of any piping, hoses, equipment, and devices used to collect, transport, store, and/or process gasoline and/or vapors that exceeds the standards of this rule, shall:

**306.1 Exceedance Notification Schedule:** Notify the Control Officer:

a. By phone within 24 hours of such exceedance; and

b. Submit a written notice:

(1) Within 72 hours from the date of discovery documenting the exceedance of the standards of this rule. The written notice may be submitted by mail, email, facsimile, commercial delivery, or hand delivery.

(2) To include:

(a) The date and time of the exceedance.

(b) A description of the exceedance.

(c) Steps taken to mitigate the exceedance.

**306.2 Corrective Action Schedule:** Observe the following time schedule for corrective action:

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

b. Leak concentrations exceeding 10,000 ppmv when calibrated with methane, or 1/5 the lower explosive limit (1/5 LEL) of the calibration gas, shall be brought into compliance within five (5) days of detection.

c. Except as the Control Officer otherwise specifies, a leak source shall 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 faulty equipment shall be discontinued until correction is verified by retesting.

## **SECTION 400 - ADMINISTRATIVE REQUIREMENTS**

### **401 EQUIPMENT LEAKS:**

401.1 ~~The owner or operator shall perform monthly inspections, while gasoline is being transferred, for liquid and vapor leaks and for faulty equipment. Monthly inspection leak detection methods can include one or more of the following methods:~~

~~a. Incorporation of sight, sound, smell and/or touch.~~

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

~~c. 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.~~

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

401.2 ~~A log book shall be used and signed by the owner or operator at the completion of each monthly inspection for equipment leaks. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility.~~

401.3 ~~Leak detection tests shall be conducted annually by the owner or operator of each bulk gasoline plant or bulk gasoline terminal. Testing shall be done according to procedures in Section 504 of this rule, except that EPA Method 21 shall be used to test for leaks from a vapor loss control system and its associated piping outside the loading area. Equipment shall conform to the specifications of those test methods cited in Section 504 of this rule. Prior to testing, the owner or operator shall notify the Control Officer of the date, time and location of the testing. The Control Officer shall at their discretion observe the tests.~~

402 GASOLINE STORAGE TANK INSPECTIONS:

402.1 Inspection of an External Floating Roof Stationary Storage Tank:

- 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.
- e. Five-Year, Full Circumference Inspections of External Floating Roof Stationary Storage Tanks: The owner or operator of a floating roof tank of 20,000 gallons (75,700 l) or more storing 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 gasoline storage tank as described in Section 402.1(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> per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

402.2 Inspection of Internal Floating Roof Stationary Storage Tanks with a Fixed Roof 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 roof 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.~~

402.3 ~~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.~~

403 ~~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 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.

**401 INSPECTION OF A FIXED ROOF STATIONARY GASOLINE STORAGE TANK:**

**401.1 Inspection of a Fixed Roof Stationary Gasoline Storage Tank without an Internal Floating Roof:** The owner or operator shall conduct a visual inspection of the tank at least once every six (6) months to ensure the stationary gasoline storage tank is:

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

**401.2 Inspection of a Fixed Roof Stationary Gasoline Storage Tank with an Internal Floating Roof:** The owner or operator shall conduct a visual inspection, through manholes or roof hatches if necessary, at the following frequencies to verify the following:

**a. Six (6) Month Inspection:**

- (1) There are no visible holes, tears, or other openings in the seal or in any seal fabric.
- (2) No visible liquid is on top of the floating roof.
- (3) All covers, seals, and lids are in a closed position at all times except when they are in actual use.
- (4) Automatic bleeder vents are closed at all times except when the roof is floated off of or landed onto the roof leg supports.
- (5) The tank is in compliance with the rule.

**b. Annual Inspection, not to exceed 12 months between inspections:**

- (1) No visible liquid is on top of the floating roof.
- (2) All seals are attached.
- (3) The primary seal does not have any holes, tears, or other openings.
- (4) The secondary seal, if one is in service, does not have any holes, tears, or other openings.

**c. Five (5) Year Inspection or Empty Tank Inspection:** Each time the stationary gasoline storage tank is emptied and degassed or at least once every five (5) years, not to exceed 60 months between inspections.

- (1) The internal floating roof does not have any defects.

- (2) The primary seal does not have any holes, tears, or other openings.
- (3) The secondary seal, if one is in service, does not have any holes, tears, or other openings.
- (4) Gaskets prevent liquid surfaces from exposure to atmosphere.
- (5) The slotted membrane does not have more than a ten percent (10%) open area.
- (6) The slit fabric cover complies with the requirements in Section 303.2.d(6).
- (7) The accumulated area of gaps between the tank's wall and the primary seal comply with the requirements in Section 303.2.d(7).
- (8) The width of any portion of any gap complies with the requirements in Section 303.2.d(8).

402 **INSPECTION OF AN EXTERNAL FLOATING ROOF STATIONARY GASOLINE STORAGE TANK:** The owner or operator shall conduct inspections at the following frequencies to verify the following:

**402.1 Six (6) Month Inspection:**

- a. There are no visible holes, tears, or other openings in the seal or in any seal fabric.
- b. No visible liquid is on top of the floating roof.
- c. The floating roof has a continuous primary seal to close the space between the roof cave and tank wall.
- d. The floating roof has a continuous secondary seal.
- e. The tank is in compliance with the rule.

**402.2 Annual Inspection, not to exceed 12 months between inspections:**

- a. The secondary seal covers the space between the roof edge and the tank.
- b. The gaps between the tank wall and the secondary seal comply with the requirements in Section 303.3.d.
- c. There are no holes, tears, or other openings in the seal or seal fabric.

**402.3 Five (5) Year and Empty Tank Inspection:** Each time the external floating roof storage tank is emptied and degassed or at least once every five (5) years, not to exceed 60 months between inspections. This inspection can be performed while the tank is in service.

- a. Measurements of the gaps between the primary seal and the tank wall comply with the requirements in Section 303.3.c.
- b. Measurements of the gaps between the secondary seal and the tank wall comply with the requirements in Section 303.3.d.
- c. There are no holes, tears, or other openings in the seal or seal fabric.
- d. The external floating roof does not have any defects.

**403**     **EQUIPMENT LEAK DETECTION INSPECTIONS:** The owner or operator of a bulk plant or a bulk terminal shall conduct equipment leak detection inspections at the following frequencies:

**403.1**   **Monthly Leak Detection Inspections:** Inspect for liquid leaks, vapor leaks, and faulty equipment while the gasoline is being loaded. Monthly inspection leak detection methods shall include one or more of the following methods as described in Section 501.1 (Identifying a Potential Vapor Leak):

- a. Incorporation of sight, sound, or smell.
- b. Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3, use of a soap solution.
- c. Use of an optical gas imaging instrument.
- d. Use of a combustible gas detector (CGD).
- e. Use of an organic vapor analyzer (OVA).

**403.2**   **Annual Leak Detection Inspections (not to exceed 12 months between inspections):** Inspect for liquid leaks, vapor leaks, and faulty equipment. Conduct vapor leak inspections following procedures in Section 501.2 (Determining Vapor Tight Status), except that EPA Method 21 shall be used to test for leaks from a vapor collection/processing system and its associated piping outside the gasoline loading area. Equipment shall conform to the specifications of those test methods cited in Section 504 (Compliance Determination –Test Methods Incorporated by Reference).

**403.3**   **Leak Detected:** If a leak is detected, follow the corrective action time schedule in Section 306 (Equipment Repair and Retesting).

**403**     **404**     **GASOLINE STORAGE TANK AND EQUIPMENT LEAK INSPECTIONS – AVAILABILITY TO CONTROL OFFICER:** The owner or operator shall notify the Control Officer of the date, time, and location of the inspections and tests in Sections 404.1, 404.2, and 404.3 no less than seven (7) working days prior to the inspection or test date. The Control Officer shall at their discretion observe the inspection or test.

**404.1**   **Inspection of a Fixed Roof Gasoline Storage Tank with an Internal Floating Roof:** The owner or operator shall make the following parts of the tank available for inspection by the Control Officer at the specified frequencies:

- a. The entire tank, including the internal floating roof, prior to initial filling of the storage tank.
- b. The internal floating roof for visual inspection through the manholes or roof hatches on an annual basis.
- c. The primary seal envelope for its full length every five (5) years on a tank with a capacity of 20,000 gallons or more. This inspection can be performed while the tank is in-service.
- d. The primary seal envelope for its full length on a tank with a capacity of 20,000 gallons or more any time the secondary seal is removed or if the tank is drained and cleaned by the owner or operator for any reason.

**404.2 Inspection of an External Floating Roof Stationary Gasoline Storage Tank:**

The owner or operator shall make the following parts of the tank available for inspection by the Control Officer at the specified frequencies:

- a. The primary seal envelope and the secondary seal for unobstructed inspection 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.
- b. The primary seal envelope for its full length every five (5) years on a tank with a capacity of 20,000 gallons or more. This inspection can be performed while the tank is in-service.
- c. The primary seal envelope for its full length on a tank with a capacity of 20,000 gallons or more any time the secondary seal is removed or if the tank is drained and cleaned by the owner or operator for any reason.

**404.3 Equipment Leak Detection Tests:** The owner or operator shall allow the Control Officer to observe all annual equipment leak detection tests.

404    **405 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:** In addition to any federal testing, monitoring, and recording requirements, an owner or operator of a bulk gasoline plant or bulk gasoline terminal shall comply with the following:

501    ~~DETERMINING VAPOR TIGHT STATUS: If a determination of vapor tight status is to be made during the loading of a gasoline cargo tank, an owner or operator or Control Officer shall use one or more of the methods listed in Section 501 of this rule.~~

501.1    ~~Combustible Gas Detector (CGD) or Organic Vapor Analyzer (OVA) Test Procedure: During loading of gasoline cargo tanks, the peripheries of all potential sources of leakage at the gasoline loading 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.~~

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

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

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

501.3 ~~Optical Gas Imaging: A certified operator of a calibrated optical gas imaging instrument 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 ~~Gasoline Cargo Tank Loading Pressure: During a performance test, a pressure tap shall be placed in the gasoline loading facility's vapor loss control system, as close as possible to the gasoline cargo tank. The pressure shall be recorded every five (5) minutes while a gasoline cargo tank is being loaded. The highest instantaneous pressure that occurs during each loading shall be recorded. A pressure measurement device capable of measuring 20 inches (50.8 cm) of water pressure with a precision of 0.1 (2.5 mm) inch of water shall be calibrated. This device shall fit the tap and shall either be permanently installed or shall be kept available at all times at the facility.~~

## **501 MONITORING FOR LEAKS:**

**501.1 Identifying a Potential Vapor Leak:** Equipment leak detection inspections as required in Section 400 (Administrative Requirements), shall be conducted using one or more of the test procedures listed below to identify a potential vapor leak. If a potential leak is detected, refer to Section 501.2 (Determining Vapor Tight Status), to determine the vapor tight status.

- a. The use of sight, sound, or smell.
- b. Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3:
  - (1) Spray a soap solution over the potential leak source. 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.
  - (2) Observe the potential leak site to determine if any bubbles are formed. If no bubbles are observed, the source is presumed to have no detectable vapor leak.
- c. **Optical Gas Imaging:** An operator of a calibrated optical gas imaging device may use an optical gas imaging instrument to identify a potential vapor leak.
- d. **Combustible Gas Detector (CGD) or Organic Vapor Analyzer (OVA):** An operator of a calibrated CGD or an OVA may use the test procedure described in Section 501.2 (Determining Vapor Tight Status) to identify a potential leak.

**501.2 Determining Vapor Tight Status:** An owner, operator, or the Control Officer shall follow the test procedure below to determine the vapor tight status of any piping, hoses, equipment, and devices used to collect, transport, store, or process gasoline at a bulk gasoline plant or a bulk gasoline terminal.

- a. **Combustible Gas Detector (CGD) or Organic Vapor Analyzer (OVA) - Test Procedure:** A CGD or an OVA meeting the specifications and performance criteria contained in EPA Method 21 and this section shall be used to determine vapor tight status.
  - (1) **Calibration:** Calibrate the CGD or the OVA within four (4) hours prior to monitoring as follows:
    - (a) The CGD shall be:
      - (i) Calibrated with a gas specified by the manufacturer.
      - (ii) Used according to the manufacturer's instructions.
    - (b) The OVA shall be properly calibrated to 10,000 ppm as methane.
  - (2) **Probe Distance:** The probe inlet shall be:
    - (a) At the surface of the potential leak source when searching for leaks.
    - (b) At the surface of the leak source when the highest detector reading is being determined for a discovered leak.
    - (c) At the closest practical probe distance when the probe is either obstructed from moving on the surface of an actual or potential leak source, or if the source is a rotating shaft.
  - (3) **Probe Movement:** The probe shall be moved slowly, not faster than 1.6 inches per second (1.6"/sec). 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.

(4) 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 coaxial with the path of the most concentrated vapors.

(5) Wind: Wind shall be blocked as much as possible from the space being monitored. Monitoring results shall be valid only when wind speed in the space being monitored is five miles per hour (5 mph) or less.

(6) Data Recording: The highest detector reading and location for each incidence of detected leakage shall be recorded along with the date and time. If no gasoline vapor is detected, that fact shall be entered into the record.

b. Vapor Leak Detected: If a vapor leak is detected, follow the corrective action time schedule in Section 306 (Equipment Repair and Retesting).

**501.3 Gasoline Cargo Tank Loading Pressure:** During a performance test:

a. A pressure measurement device capable of measuring twenty inches (20") of water pressure with a precision of one-tenth of an inch (1/10") of water shall be calibrated.

b. This device shall fit the tap and shall either be:

(1) Permanently installed; or

(2) Be kept available at all times at the facility.

c. A pressure tap shall be placed in the gasoline loading facility's vapor loss control system, as close as possible to the gasoline cargo tank.

d. The pressure shall be recorded every five (5) minutes while a gasoline cargo tank is being loaded.

e. The highest instantaneous pressure that occurs during each loading shall be recorded.

502 ~~COMPLIANCE INSPECTIONS: The Control Officer, at any time, may monitor a gasoline cargo tank vapor collection system, a loading rack's vapor loss control devices, a gasoline loading facility, or a vapor loss control system for vapor leaks by the methods described in Section 501 of this rule or by applicable EPA Reference Methods specified in Section 504 of this rule.~~

503 ~~RECORDS RETENTION: Records and information required by this rule shall be retained for at least five (5) years.~~

~~503.1 Vapor Pressure Records:~~

~~a. Bulk Gasoline Plant: An owner or operator of a stationary storage tank located at a bulk gasoline plant shall keep accurate records of the following:~~

~~(1) The amount of gasoline stored in each tank.~~

~~(2) The Reid vapor pressure ranges of each such liquid.~~

~~(3) These records shall be kept for a minimum of five (5) years.~~

- b. ~~Bulk Gasoline Terminal: An owner or operator of a stationary storage tank located at a bulk gasoline terminal shall keep accurate records of the following:~~
  - ~~(1) The amount of gasoline stored in each tank.~~
  - ~~(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 storage tank.~~
  - ~~(3) The Reid vapor pressure of the contents of each stationary storage tank shall be recorded at least once each month.~~
  - ~~(4) These records shall be kept for a minimum of five (5) years.~~

503.2 ~~Leak Inspection Records: The owner or operator of a bulk gasoline plant or bulk gasoline terminal shall keep a log book documenting each leak inspection. The log book shall include the items listed below:~~

- ~~a. The owner or operator shall sign the log book at the completion of each monthly inspection for equipment leaks.~~
- ~~b. Each monthly inspection log shall contain a list, summary description, or diagram(s) showing the location of all equipment at the bulk gasoline plant or bulk gasoline terminal.~~
- ~~c. Each monthly inspection log shall include any maintenance that occurred.~~
- ~~d. Each annual inspection log shall include any maintenance that occurred.~~
- ~~e. For an external floating roof, record the seal gap measurements, including the raw data obtained and any calculations performed.~~
- ~~f. The date the stationary storage tank was removed from service, if applicable.~~
- ~~g. These records shall be kept for a minimum of five (5) years.~~
- ~~h. Additional recordkeeping 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.~~

**502 RECORDKEEPING AND REPORTING REQUIREMENTS:** The owner or operator of a bulk gasoline plant or a bulk gasoline terminal shall:

**502.1** Maintain the records and information required by this rule. The records shall be:

- a.** Legible.

- b. Signed by the person performing the activity.
- c. Retained for at least five (5) years.
- d. Provided to the Control Officer upon verbal or written request, within a reasonable time. If the Control Officer is at the site where requested records are kept, records shall be provided without delay.

**502.2 Storage Tank Inspection and Maintenance Records:** Maintain accurate records for each storage tank that include, but are not limited to the following:

- a. Certifications.
- b. Testing conducted.
- c. Inspections performed.
- d. Repair work.

**502.3 Vapor Pressure Records:**

a. **Bulk Gasoline Plant:** Keep accurate records of the following:

- (1) The amount of gasoline stored in each tank. Current amount shall be available upon request of the Control Officer.
- (2) **Monthly:** The Reid vapor pressure ranges of the gasoline.

b. **Bulk Gasoline Terminal:** Keep accurate records of the following:

- (1) The amount of gasoline stored in each tank. Current amount shall be available upon request of the Control Officer.
- (2) The temperature of the contents of each stationary storage tank, using at least one of the following methods:
  - (a) Take the actual temperature of the contents of the stationary storage tank weekly.
  - (b) Obtain the maximum local monthly average ambient temperature as reported by the National Weather Service.
- (3) **Monthly:** The Reid vapor pressure of the contents of each stationary gasoline storage tank.

**502.4 Leak Inspection Records:** Keep a log documenting each leak inspection that includes the items listed below:

a. **Monthly:**

- (1) A list, summary description, or diagram(s) showing the location of all equipment inspected for leaks.
- (2) Any maintenance that occurred.

b. **Annually:** Any maintenance that occurred.

**502.5 Throughput Records:** Record the total monthly throughput of gasoline by the end of the following month.

**502.6 Additional Record Requirements When Using an Optical Gas Imaging Instrument:** 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.

**502.7 Disposal Records of VOCs:** Maintain records of the type, amount, and method of disposing of VOC containing materials on each day of disposal.

**503 COMPLIANCE INSPECTIONS:** Where applicable, the Control Officer may at any time inspect the following for liquid or vapor leaks:

**503.1** A bulk gasoline plant.

**503.2** A bulk gasoline terminal.

**503.3** The loading of gasoline.

**503.4** A gasoline cargo tank's vapor balance system during the loading of gasoline.

**503.5** A gasoline loading rack's vapor collection/processing system.

**503.6** The vapor loss control equipment.

**504 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.

**504.1 EPA Test Methods:**

- a. EPA Method 2A—Direct Measurement of Gas Volume Through Pipes and Small Ducts.
- b. EPA Method 2B—Determination of Exhaust Gas Volume Flow Rate from Gasoline Vapor Incinerators.
- c. EPA Method 18—Measurement of Gaseous Organic Compound Emissions by Gas Chromatography.
- d. EPA Method 21—Determination of Volatile Organic Compound Leaks.
- e. EPA Method 21—Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3.
- f. EPA Method 25A—Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.
- g. EPA Method 25B—Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer.
- h. EPA Method 27—Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test.

- i. Optical Gas Imaging: Alternative Work Practice for Monitoring Equipment Leaks, 40 CFR § 60.18(g), (h), and (i). ~~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.~~
- j. AP 42, Fifth Edition, Volume I, Chapter 7: Liquid Storage Tanks, November 2006, errata August 2012.

**504.2 EPA Approved California Air Resources Board (CARB) Test Procedures:**

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

**504.3 EPA Approved ASTM Standards:**

- a. ~~ASTM D323-15a~~ ASTM D323-06 “Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).
- b. ASTM D2879-10 Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isotenoscope.
- c. ~~ASTM D4953-15~~ ASTM D4953-06 “Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method).
- d. ~~ASTM D5191-15~~ ASTM D5191-13 “Standard Test Method for Vapor Pressure of Petroleum Products (Mini Method):” except the following correction equation shall be used:

$$\text{RVP psi} = (0.956 * X) - 0.347$$

$$\text{RVP kPa} = (0.956 * X) - 0.239$$

Where X = Total measured vapor pressure, in psi or kPa. [40 CFR § 80.46(c)(2)]

- e. ASTM D6420-99 (Reapproved 2004); Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry.

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