

NOTICE OF FINAL RULEMAKING
MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS
RULE 351: LOADING OF ORGANIC LIQUIDS

PREAMBLE

- | <u>1.</u> | <u>Rule affected</u> | <u>Rulemaking action</u> |
|------------------|--|--|
| | Rule 351: Loading of Organic Liquids | Amended |
| <u>2.</u> | <u>Statutory authority for the rulemaking:</u> | |
| | Authorizing statutes: A.R.S. §§ 49-474, 49-479, and 49-480 | |
| | Implementing Statute: A.R.S. § 49-112 | |
| <u>3.</u> | <u>The effective date of the rule:</u> | |
| | Date of adoption: November 2, 2016 | |
| <u>4.</u> | <u>List of public notices addressing this rulemaking:</u> | |
| | Notice of Briefing to Maricopa County Manager: May 2015 | |
| | Notice of Stakeholder Workshops: June 30, 2015, September 14, 2015, and February 22, 2016 | |
| | Notice of Maricopa County Board of Health Meeting: April 25, 2016 | |
| | Notice of Proposed Rulemaking: 22 A.A.R. 1224, May 13, 2016 | |
| <u>5.</u> | <u>Name and address of department personnel with whom persons may communicate regarding the rulemaking:</u> | |
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| <u>6.</u> | <u>Explanation of the rule, including the department's reasons for initiating the rulemaking:</u> | |

Summary: Rule 351 limits the emission of volatile organic compounds (VOCs) from organic liquids under actual loading conditions. The rule is applicable to the transfer of organic liquids having a true vapor pressure of 1.5 psia or greater under actual loading conditions. The rule regulates the transfer of organic liquids from a stationary storage tank located at a bulk plant or bulk terminal into and out of delivery vessels. Rule 351 applies to both the organic liquid (non-gasoline) and the gasoline industries.

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

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

Background: As early as the 1960’s, the Maricopa County Health Department (as the department was then called), Air Pollution Control regulations, Section IV, Handling of Materials, Regulation 1, required “Material such as...gasoline or other volatile compounds...be kept, processed, used, and transported in such a manner and by such means that they will not unreasonably leak, escape, evaporate or be otherwise discharged into the ambient air so as to cause or contribute to air pollution...”¹ This early rulemaking established the basis for the current Rule 351. In 1970, the passage of the Clean Air Act established federal air quality standards.

Congress established the basic structure of the Clean Air Act (CAA) in 1970. The CAA requires the U.S. Environment Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) for common and widespread pollutants based on the most current science available. For areas that were determined to be in nonattainment of the NAAQS, the state was required to adopt federally enforceable state implementation plans (SIP) in order to achieve and maintain air quality and meet the federally established air quality standards (the NAAQS)². The states were responsible for developing and implementing rules that require reasonably available control technology (RACT) for sources of VOCs located in the designated ozone nonattainment areas. Local air agencies were required to establish RACT for source categories not already covered by EPA's Control Techniques Guidelines (CTGs) as well as tighten RACT for source categories for which RACT had already been defined in the NAAQS³. EPA defined RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility” (44 FR 53762; September 17, 1979).

In the 1970's, using the EPA NAAQS and CTGs to identify the established RACT standards, the Maricopa County Bureau of Air Pollution Control (as the department was then called) revised and renumbered the county air pollution rules and regulations. The revised county rules established specific requirements for petroleum products in Regulation III, Rule 33: Storage and Handling of Petroleum Products⁴. This rule established requirements to control vapor loss during storage; submerged filling of tanks; loading dock requirements; and leak proof fill pipe connections.

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

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

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

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

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

liquid (non-gasoline) have evolved into two distinct industries. The use of different terminology, definitions and methods of operation have created confusion in the applicability of Rule 351 to each industry. In this rulemaking, the department drafted rules specific to the gasoline storage and distribution industry and for the organic liquid (non-gasoline) storage and distribution industry. This rulemaking did not propose new rules for the industries but rather revisions to current rules that improved the clarity and enforceability of the regulatory requirements for each industry.

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

On May 19, 1993, the department issued technical guidance #TG-003 to address a Stakeholder concern that Section 301.2 of Rule 350 requiring a tank to have a pressure vacuum valve set to within 10% of the tank's maximum, safe working pressure. The Stakeholder provided documentation stating the design working pressure should not exceed 1 psig and recommended applying the ½ psia operating pressure as CARB required. Revisions to Rule 351 provided the owner or operator the option of either setting the pressure/vacuum valve on fixed roof tanks within 10% of the tank's maximum working pressure or at 0.5 psia, as included in revised Section 302(c) of Rule 351. The department rescinded #TG-003 (May 19, 1993) with this rule revision.

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

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

The guidance concluded “The subsection 301.2 requirement to have a pressure/vacuum valve does not apply to floating roof tanks or pressure tanks.” The department revised Rule 351, Section 302.2(c) to require pressure/vacuum valves on “Each fixed roof stationary storage tank...” This rule revision corrected the error in the previous rule. The department rescinded #TG98-002 with this rule revision.

Other revisions included the relocation of any exemptions to Section 100; the deletion of definitions and terms specific to the organic liquid (non-gasoline) industry; the inclusion of definitions specific to the gasoline industry and in line with terms defined in 40 CFR 63.11100 (Gasoline Distribution Bulk Terminal, Bulk Plants and Pipeline Facilities NESHAP); clarified the regulatory requirements for storing and loading gasoline at bulk plants and bulk terminals; added monthly equipment leak inspection requirement; and added optical gas imaging as an alternative work practice to monitor and identify leaking equipment.

The department also included the recommendations set forth in the Maricopa Environmental Quality, Air Pollution Control Division, Technical Guidance #TG-003 and TG-003, to clarify the vapor vent/vacuum valve requirements at bulk plants and bulk terminals.

Issues Raised and Discussed During This Rulemaking Process:

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

Rule 351 is applicable to the storage of gasoline and the loading of gasoline at bulk plants and bulk terminals. Stakeholders questioned if the rule was only applicable to gasoline. Per one Stakeholder the proposed rule does not take into account other petroleum products such as denatured ethanol and transmix, a mixture of refined petroleum products such as gasoline, diesel, and/or jet fuel. There is a wide variety of other petroleum products. The department defined gasoline in the rule as having a Reid vapor pressure between 4.0 and 14.7 psi and used as a fuel for internal combustion engines. If a petroleum product meets the definition of gasoline as defined in the rule, then the rule is applicable.

The terms VAPOR COLLECTION/PROCESSING SYSTEM and VAPOR LOSS CONTROL DEVICE were used inconsistently within the rule. A vapor balance system is different than a vapor loss control

system. A vapor balance system is a system that is designed to capture the VOC emissions that occur during the loading of gasoline cargo tanks. No destruction of the VOC emissions occurs during this type of loading process. A vapor loss control system is a system that collects the VOC emissions and uses an abatement device to reduce the VOC emissions. The department deleted the definitions of VAPOR COLLECTION/PROCESSING SYSTEM and VAPOR LOSS CONTROL DEVICE; added the definitions of VAPOR BALANCE SYSTEM and VAPOR LOSS CONTROL SYSTEM; and revised sections throughout the rule that referred to VAPOR COLLECTION/PROCESSING SYSTEM and VAPOR LOSS CONTROL DEVICE.

The current definitions of BULK TANK and BULK TERMINAL were confusing. Stakeholders recommended clarification and applicability of terms to be consistent throughout the department's rules pertaining to gasoline. The department revised the terms to be consistent with other department rules pertaining to gasoline.

Stakeholders requested the addition or revision of numerous definitions to reflect the rule applicability to the gasoline industry, specifically to include definitions for LEAK or LEAK FREE and PURGING. A request was made to clarify the definitions VAPOR TIGHT and GAS TIGHT. The department revised the definitions in the rule.

In Section 400, the owner or operator "shall make the primary seal envelope available for inspection by the Control Officer for its full length every five years." Stakeholders questioned if it was Maricopa County's intention to perform the inspection when the tank is in service or out of service? Did this requirement apply to internal floating roof tanks as well? Per discussions with the Stakeholder, the primary seal envelope can be inspected when the tank is "in-service." The department will not require the floating roof tank to be emptied prior to each five-year inspection if the primary seal envelope is available for inspection by the Control Officer. The department clarified the section to reflect the requested requirements.

Stakeholders questioned the intent of the weekly monitoring requirement under vapor pressure records. Monitoring the product temperature on a weekly basis for a facility that has more than 70 tanks requires a great deal of manpower and coordination. TVP of products stored in storage tanks operated at ambient temperature are typically calculated using meteorological data provided in the EPA TANKS 4.0 database. Stakeholders requested that the department reduce the monitoring requirement from weekly to monthly.

The requirement for weekly monitoring of temperature came from Rule 350, Section 501. Reducing the temperature monitoring to once a month may be considered a relaxation of current rule; therefore, the department did not reduce the frequency of the current weekly requirement. The department did add an option to use the maximum local monthly average ambient temperature as reported by the National Weather Service and record monthly for each storage tank in Section 503.1.b(2).

The department originally proposed to remove the “horizontal fill” pipe maximum height of 39” from the rule. Per Stakeholder comment, at least one terminal has multiple bulk gasoline storage tanks with side fill pipes that would exceed the originally proposed maximum height of 18”. These tanks were built between the 1950’s and the 1990’s. The Stakeholder suggested referencing the American Petroleum Institute storage tank design specifications API Standard 650, Welded Tanks for Oil Storage, 12th Edition, 2013. The department deleted the “horizontal fill pipe” requirements and wording from the rule. To accommodate fill pipes that are over 18” from the bottom of the tank, the department added an option for the gasoline storage tank to be API Standard 650 Compliant.

Description of Amendments:

Amended the following throughout the rule:

- Revised the title of the rule to: STORAGE AND LOADING OF GASOLINE AT BULK GASOLINE PLANTS AND BULK GASOLINE TERMINALS
- Deleted references to organic liquid loading and storage
- Deleted the term “transfer” and replaced with the term “loading”
- Changed the term “delivery vessel” to “gasoline cargo tank”
- Deleted the word “person” and inserted the words “owner or operator”
- Deleted past compliance dates
- Added or revised specific rule section references

Amended the following in Section 100:

- Revised Section 101 (Purpose) to include the storage and loading of gasoline
- Revised Section 102 (Applicability) to apply to the bulk storage and loading of gasoline
- Added Section 103 (Exemptions)

Amended the following in Section 200:

- Deleted the definition BULK PLANT
- Added the definition AVIATION GASOLINE (AVgas)
- Added the definition BULK GASOLINE PLANT
- Revised the definition BULK TANK
- Revised the definition BULK TERMINAL
- Deleted the definition DELIVERY VESSEL
- Revised the definition DISPENSING TANK
- Revised the definition EXCESS ORGANIC LIQUID DRAINAGE
- Added the definition EXTERNAL FLOATING ROOF STATIONARY STORAGE TANK
- Deleted the definition FUGITIVE LIQUID LEAK
- Revised the definition GASOLINE
- Added the definition GASOLINE CARGO TANK
- Revised the definition GASOLINE DISPENSING OPERATION
- Revised the definition LOADING FACILITY
- Added the definition INTERNAL FLOATING ROOF STATIONARY STORAGE TANK WITH
FIXED ROOF COVERING
- Added the definition LEAK FREE
- Deleted the definition OFFSET FILL LINE
- Added the definition PURGING
- Revised the definition STATIONARY STORAGE TANK
- Revised the definition SUBMERGED FILL PIPE
- Revised the definition SWITCH LOADING
- Deleted the definition TRUE VAPOR PRESSURE
- Added the definition VAPOR BALANCE SYSTEM
- Deleted the definition VAPOR COLLECTION/PROCESSING SYSTEM
- Deleted the definition VAPOR LOSS CONTROL DEVICE
- Added the definition VAPOR LOSS CONTROL SYSTEM
- Revised the definition VAPOR TIGHT

Amended the following in Section 300:

- Deleted Section 301: General Requirements for Loading Facilities
- Deleted Section 302: Operating Requirements for Vapor Loss Control Devices
- Deleted Section 303: Repair and Retesting Requirement
- Deleted Section 304: Equipment Maintenance and Operating Practices
- Deleted Section 305: Exemptions
- Added Section 301: Federal Standards of Performance for Bulk Gasoline Plants and Bulk Gasoline Terminals
- Added Section 302: Gasoline Stationary Storage Tank Standards
- Added Section 302.1: Submerged Fill
- Added Section 302.2: Gasoline Stationary Storage Tanks with a Capacity Between 250 Gallons (946 l) and 40,000 Gallons (151,400 L)
- Added Section 302.3: Gasoline Storage Tanks with a Capacity Equal to or Greater than 40,000 Gallons (151,400 L)
- Added Section 303: Vapor Loss Control
- Added Section 303.1: External Floating Roof Storage Tanks
- Added Section 303.2: Internal Floating Roof Stationary Storage Tank with Fixed Roof Covering
- Added Section 303.3: Vapor Balance System
- Added Section 303.4: Vapor Loss Control System
- Added Section 303.5: Equipment Maintenance, Operation and Repair
- Added Section 304: General Requirements for The Loading of Gasoline
- Added Section 304: General Requirements for the Loading of Gasoline
- Added Section 304.1: Loading of Gasoline into Stationary Storage Tank
- Added Section 304.2: Loading of Gasoline into Cargo Tankers
- Added Section 304.3: Loading of Gasoline at a Bulk Gasoline Plant
- Added Section 304.4: Loading of Gasoline at Bulk Gasoline Terminal
- Added Section 305: Operating Requirements for Vapor Loss Control Devices

Amended the following in Section 400:

- Revised Section 401: Equipment Leaks
- Deleted Section 402: Compliance Schedule
- Added Section 402: Gasoline Storage Tank Inspections
- Added Section 402.1: Semi-Annual Inspection by an Owner or Operator
- Added Section 402.2: Inspection of External Floating Roof Stationary Storage Tank
- Added Section 402.3: Inspection of Internal Floating Roof Stationary Storage Tanks with a Fixed Roof Covering
- Added Section 403: Performance Testing
- Added Section 404: Gasoline Storage Tank Inspections-Availability to Control Officer
- Added Section 404.1 Annual Inspections of External Floating Roof Tanks
- Added Section 404.2 Annual Inspections of Internal Floating Roof Stationary Storage Tanks with a Fixed Roof Covering
- Added Section 404.3 Five-Year, Full Circumference Inspections
- Added Section 405: Other Agency's Requirements

Amended the following in Section 500:

- Revised Section 500: Monitoring and Records
- Deleted Section 501: Leak Detection-Test Procedure
- Deleted Section 501.1: Pressure
- Added Section 501: Monitoring for Leaks
- Added Section 501.1: Combustible Gas Detector or Organic Vapor Analyzer (OVA) –Test Procedure
- Renumbered Section 501.2: Calibration to Section 501.1(a)
- Renumbered Section 501.3: Probe Distance to Section 501.1(b)
- Renumbered Section 501.4: Probe Movement to Section 501.1(c)
- Renumbered Section 501.5: Probe Positions to Section 501.1(d)
- Renumbered Section 501.6: Wind to Section 501.1(e)
- Renumbered Section 501.2: Data Recording to Section 501.1(f)
- Added Section 501.2: Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3

- Added Section 501.3: Optical Gas Imaging
- Revised Section 502: Compliance Inspections
- Revised Section 503: Record Retention
- Added Section 503.1: Vapor Pressure Records
- Added Section 503.2: Leak Inspection Records
- Revised Section 504: Compliance Determination-Test Methods
- Deleted Section 504.1: Vapor Collection/Processing System
- Deleted Section 504.2: Vapor Balance and Loading Systems
- Deleted Section 504.3: True Vapor Pressure
- Deleted Section 504.4: Reid Vapor Pressure
- Added Section 504.1 EPA Test Methods
- Added Section 504.2 California Air Resources Board (CARB) Test Procedures:
- Added Section 504.3 ASTM Standards
- Added Section 504.4 American Petroleum Institute Standard API STD 650 Welded Tanks for Oil Storage

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

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

§ 49-112 County regulation; standards

§ 49-112(A)

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

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition.
2. There is credible evidence that the rule, ordinance or other regulation is either;
 - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.

- (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the county rule, ordinance or other regulation is equivalent to federal statutes or regulation.
3. Any fee or tax adopted under the rule, ordinance or other regulation will not exceed the reasonable costs of the county to issue and administer that permit or plan approval program.

§ 49-112(B)

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

The department complies with A.R.S. § 49-112(A) in that Maricopa County fails to meet the National Ambient Air Quality Standards for both ozone and particulates. The County failed to meet 2008 8-hour ozone standard by the marginal area attainment date of July 20, 2015. The EPA issued a final rule, effective June 3, 2016, reclassifying the Maricopa County area to “moderate” (published at 86 FR 26697, May 4, 2016). Further, a portion of the County was classified as a serious ozone nonattainment area under the previous 1-hour ozone standard requiring the County to continue to maintain the measures and requirements that allowed the county to attain that standard. Currently, a portion of Maricopa County and Apache Junction in Pinal County is designated serious nonattainment for the PM₁₀ 24-hour standard. This is the only serious PM₁₀ nonattainment area in Arizona. Revisions to Rule 350 addressed the requirements of the State Implementation Plan (SIP) for “moderate” nonattainment for the 2008 eight-hour ozone national ambient air quality standard (NAAQS). The amendments in Rule 351 included Reasonably Available Control Technology (RACT).

The department complies with A.R.S. § 49-112(B) in that the amendments to Rule 351 are not more stringent than or in addition to a provision of Title 49 or rule adopted by the director or any board or

commission authorized to adopt rules pursuant to Title 49; addressed the peculiar local conditions in Maricopa County; are authorized under A.R.S. Title 49, Chapter 3, Article 3; and are not in lieu of a state program.

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

Not applicable

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

Not applicable

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

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

An identification of the rulemaking.

This rulemaking revised Rule 351 (Loading of Organic Liquids). The revised Rule will be titled: Storage and Loading of Gasoline at Bulk Gasoline Plants and Bulk Gasoline Terminals.

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

The persons who are directly affected by and bear the costs of this rulemaking to revised Rule 351 are facilities in Maricopa County that engage in the storage of gasoline in a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal, and the loading of gasoline from a gasoline cargo tank, railroad tank car or pipeline into or out of a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal. The department has issued permits to 27 facilities subject to Rule 351, prior to this rule revision.

A cost benefit analysis of the following:

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

Because this rulemaking did not impose any new compliance burdens on permitted regulated entities or introduce additional regulatory requirements, the department deemed that none of the revisions have potentially significant economic impacts on permitted sources. It is expected that the department will

benefit from the increased clarity of the rule with decreased time to inspect a facility or prepare a permit. In addition, the rulemaking did not impose increased monetary or regulatory costs on other state agencies, political subdivisions of this state, persons, or individuals so regulated.

The benefits of the rule revision are anticipated to be a result of the following changes:

- Consolidation of the gasoline requirements in Rule 351 while moving the organic liquid loading requirements to Rule 350.
- Deletion of some definitions and the addition of new definitions specific to the gasoline industry and in line with terms defined in 40 CFR 63.11100, the Gasoline Distribution Bulk Terminal, Bulk Plants and Pipeline Facilities NESHAP;
- Clarification of the regulatory requirements for storing and loading gasoline at bulk plants and bulk terminals;
- Addition of monthly equipment leak inspection requirement;
- Addition of optical gas imaging as an alternative work practice to monitor and identify leaking equipment;
- Clarification of the vapor vent/vacuum valve requirements at bulk plants and bulk terminals pursuant to the Maricopa Environmental Quality, Air Pollution Control Division, Technical Guidance TG-003 (May 19, 1993) and TG98-002 (March 11, 1998) addressing the requirement of pressure/vacuum (P/V) valves on both fixed roof and floating roof tanks.

The permitted sources subject to revised Rule 351 already have permits in which these requirements are addressed. Therefore, this revised rule did not impose new requirements on the permitted facilities, and no costs would be incurred for compliance with the rule revisions.

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

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

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

The department anticipates that increased clarity provided by the Rule 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 department does not anticipate these rule revisions to have a significant impact on a person's income, revenue, or employment in this state related to this activity. The rule revision did not impose increased monetary or regulatory costs on individuals so regulated.

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

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

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

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

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

Small businesses subject to this rulemaking are those facilities in Maricopa County that engage in the storage of gasoline in a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal, and the loading of gasoline from a gasoline cargo tank, railroad tank car or pipeline into or out of a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal.

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

This rulemaking updated and clarified existing rule provisions and definitions to be consistent with federal performance standards; and to reduce confusion and improve understanding and readability.

The department considered the implications of the amendments to the regulated entities and the implementing agency and deemed that none of the rule revisions have potentially significant economic impacts.

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

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

By correcting and clarifying existing rule provisions and definitions, this rulemaking lessens or eases the regulatory burden for small businesses.

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

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

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

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

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

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

A statement of the probable effect on state revenues.

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

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

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

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

Name: Cheri Dale or Hether Krause
Maricopa County Air Quality Department

Planning and Analysis Division

Address: 1001 N Central Avenue, Suite 125

Phoenix, AZ 85004

Telephone: (602) 506-6010

Fax: (602) 506-6179

E-mail: aqplanning@mail.maricopa.gov

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

Since the Notice of Proposed Rulemaking was published on May 13, 2016 (22 A.A.R 1224), the department made the following amendments:

- Deleted the term “transfer” and inserted the term “loading” in the following sections:
 - Section 103.1
 - Section 303.4(d)
 - Section 303.4(e)
- Deleted the term “person” and inserted the term “owner or operator” in the following sections:
 - Section 211
 - Section 212
 - Section 304.3(a)
 - Section 304.3(b)
 - Section 405
- Deleted proposed new text “under actual storage and loading conditions” from the end-of the sentence in Section 101 (Purpose)
- Added the term “gasoline” to definition in Section 203
- Changed the term “Gasoline Dispensing Operation” to “Gasoline Dispensing Facility” in Section 211
- Deleted the term “organic liquid” and inserted the term “gasoline” in Section 218.3
- Deleted the term “pipe” in Section 302.1 section title
- Revised the title of Section 302.2 per Stakeholder comment
- Moved the second and third sentences in Section 303.1(c)(1) to new Sections 303.1(c)(3) and 303.1(b), respectively

- Clarified, in Section 303.4(d) (Vapor Loss Control System-Bulk Gasoline Terminal), that vapor loss control system must prevent at least 95% by weight of the VOCs escaping into the atmosphere and must reduce emissions of VOC to not more than 0.08 pounds per 1000 gallons of gasoline transferred. The “0.08 pound per 1000 gallons” standard is original text from Section 301.1 (General Requirements for Loading Facilities-Bulk Terminals); standard is a California Air Resources Board (CARB) standard for vapor recovery systems
- Added the term “stationary” to Section 304.1
- Deleted the wording “volatile organic compounds” and inserted “VOC” in Sections 304.3(a) and (b)
- Clarified, in Sections 304.3(a) and (b) (General Requirements for The Loading of Gasoline-Loading of Gasoline At A Bulk Gasoline Plant), that if using a vapor loss control system, then such system must reduce emissions of VOC to not more than 0.6 pounds per 1000 gallons of gasoline transferred. The “0.6 pound per 1000 gallons” standard is original text from Sections 301.2(a) and (b) (General Requirements for Loading Facilities-Bulk Plant Tanks Over 250 Gallons-Transfer To Bulk Plant Tanks and Loading from Bulk Plant Tanks)
- Clarified, in Section 304.4 (General Requirements for The Loading of Gasoline-Loading of Gasoline At A Bulk Gasoline Terminal), that vapor loss control system must prevent at least 95% by weight of the VOCs escaping into the atmosphere and must reduce emissions of VOC to not more than 0.08 pounds per 1000 gallons of gasoline transferred. The “0.08 pound per 1000 gallons” standard is original text from Section 301.1 (General Requirements for Loading Facilities-Bulk Terminals)); standard is a California Air Resources Board (CARB) standard for vapor recovery systems
- Deleted the term “vapor collection/processing unit” and inserted “vapor loss control system” in Section 401.3
- Deleted the wording “or his representative” in Section 401.3
- Moved Section 403 to new Section 501.4 and changed the requirement that pressure be recorded at least once every one (1) minute to every five (5) minutes while a gasoline cargo tank is being loaded during performance testing and added the requirement that the highest instantaneous pressure that occurs during each loading shall be recorded per Stakeholder comment
- Added the acronym “OVA” in Section 501.1

- Underlined the new language where it was not previously identified as new language in the following sections:
 - Section 214
 - Section 500
- Section 501: Changed the title of the section from “Monitoring for Leaks” to “Determining Vapor Tight Status”. Changing the title of the section from “Monitoring for Leaks” to “Determining Vapor Tight Status” clarifies the intent of the section. The department deems the phrase “If a determination of vapor tight status is to be made...” to set the parameters as to when a vapor tight status is to be determined.
- Section 504 (Compliance Determination-Test Methods Incorporated By Reference): Included text that allows for the use of alternative test methods to determine compliance with the rule and that allows test methods as approved by the Administrator to be used and clarified the provision regarding when more than one test method is permitted for a compliance determination.

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

Since the Notice of Proposed Rulemaking was published on May 13, 2016 (22 A.A.R. 1224), the department received comments from Kinder Morgan/SFPP. The comments and the department’s responses are provided below.

Comment #1: Section 403 (Administrative Requirements-Performance Testing)

What is the basis for the every minute pressure recording? Per 40 CFR Subpart XX, Section 60.503(d)(2), during the performance test the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded and the highest instantaneous pressure that occurs during each loading shall also be recorded. SFPP proposes to revise the section to delete “The pressure shall be recorded periodically during performance testing at least once every minute” and to add “The pressure shall be recorded every 5 minutes while a gasoline truck 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.

Response #1: Section 403 (Administrative Requirements-Performance Testing)

The department moved Section 403 (Performance Testing) to new Section 501.4 (Determining Vapor Tight Status-Gasoline Cargo Tank Loading Pressure) and changed the requirement for recording pressure every one (1) minute while a gasoline cargo tank is being loaded during performance testing to every five (5) minutes. The five (5) minute requirement is consistent with 40 CFR Subpart XX, Section 60.503(d)(2). The department discussed the comment with Kinder Morgan/SFPP and the U.S. Environmental Protection Agency (EPA) and reviewed the federal requirements. Kinder Morgan/SFPP stated that the back pressure is continuously monitored by the source test contractor while a gasoline truck is being loaded during performance testing and that the instantaneous reading at the five (5)-minute mark and the maximum instantaneous reading during the last five (5) minutes are recorded. The federal requirements (40 CFR Subpart XX Section 60.503(d)(2)) state that during the performance test, the pressure shall be recorded every five (5) minutes while a gasoline truck is being loaded and the highest instantaneous pressure that occurs during each loading shall be recorded. After considering the comments, reviewing the federal requirements, and reviewing the text as proposed in draft Rule 351, the department changed the requirement for recording pressure every one (1) minute while a gasoline cargo tank is being loaded during performance testing to every five (5) minutes to be consistent with the federal requirement in 40 CFR Subpart XX, Section 60.503(d)(2). With this change, the department has determined that Rule 351 is no less stringent than the SIP-approved rule. Rule 351 is clarified to match federal requirements.

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

Not applicable

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

The following test methods are incorporated by reference in Rule 351, Section 504:

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

EPA Method 2B- Determination of Exhaust Gas Volume Flow Rate from Gasoline Vapor Incinerators

EPA Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

EPA Method 21 - Determination of Volatile Organic Compound Leaks

EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

EPA Method 25B - Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer

EPA Method 27 - Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test

California Air Resources Board (CARB) Test Procedures TP-201.1E Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, October 8, 2003.

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

ASTM D2879-10 Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope

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

ASTM D5191-15 "Standard Test Method for Vapor Pressure of Petroleum Products (Mini Method)"

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

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

16. Was this rule previously an emergency rule?

No

17. Full text of the rule follows:

MARICOPA COUNTY

AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 351

STORAGE AND LOADING OF ORGANIC LIQUIDS GASOLINE AT BULK GASOLINE PLANTS AND

BULK GASOLINE TERMINALS

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Revised 07/13/88

Revised 04/06/92

Revised 02/15/95

Revised 07/13/1988; Revised 04/06/1992; Revised 02/15/1995; and **11/02/2016**

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

RULE 351

STORAGE AND LOADING OF ORGANIC LIQUIDS GASOLINE AT BULK GASOLINE PLANTS AND
BULK GASOLINE TERMINALS

SECTION 100 - GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds (VOCs) ~~from~~ emitted during the storage and the loading of ~~organic liquids~~ gasoline at bulk gasoline plants and bulk gasoline terminals.

102 APPLICABILITY: This rule is applicable to: ~~the transfer of organic liquids having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual loading conditions. It regulates transfers at bulk terminals and bulk plants from stationary storage tanks to delivery vessels and from delivery vessels to stationary storage tanks.~~

102.1 The storage of gasoline in a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal.

102.2 The loading of gasoline from a gasoline cargo tank, railroad tank car or pipeline into or out of a stationary storage tank at a bulk gasoline plant or bulk gasoline terminal.

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

SECTION 200 - DEFINITIONS: For the purpose of this rule, the following definitions shall apply, in addition to those definitions found in Rule 100 (General Provisions and Definitions) of these rules. In the event of any inconsistency between any of the Maricopa County air pollution control rules, the definitions in this rule take precedence.

~~201 **BULK PLANT**— Any loading facility at which gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual storage conditions are received from delivery vessels for storage in on-site stationary tanks, and from which such liquids also are transferred to delivery vessels.~~

201 AVIATION GASOLINE (AVgas): A type of gasoline used to fuel a piston engine aircraft.

202 BULK GASOLINE PLANT: Any gasoline storage and distribution facility that meets all of the following:

201.1 Loads gasoline from a pipeline, rail, or gasoline cargo tank into a stationary storage tank;

201.2 Loads gasoline from the stationary storage tank into a gasoline cargo tank for transport to a gasoline dispensing facility 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.

~~202 **203 BULK GASOLINE TANK:** Any stationary storage tank serving a loading rack which loads ~~delivery~~ vessels gasoline cargo tanks with organic liquids gasoline.~~

~~203 **204 BULK GASOLINE TERMINAL:** Any ~~primary distributing~~ gasoline storage and gasoline loading facility that meets all of the following: which has ever received in any consecutive 30-day period over 600,000~~

~~gallons (2,271,180 l) of gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual storage conditions; or any loading facility where delivery of such liquids to the facility is primarily by pipeline.~~

204.1 Loads gasoline from a pipeline, rail, or gasoline cargo tank into a stationary storage tank;

204.2 Loads gasoline from the stationary storage tank into a gasoline cargo tank for transport to a gasoline dispensing facility or a bulk gasoline plant; and

204.3 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 and any other person.

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

205 **205** **DISPENSING TANK:** Any stationary tank which dispenses ~~organic liquid fuel~~ gasoline directly into the fuel tanks of motor vehicles including aircraft, 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). ~~This includes aircraft.~~

206 **206** **EXCESS ORGANIC LIQUID GASOLINE DRAINAGE:** More than 10 milliliters (0.34 fluid ounces or 2 teaspoonsful) ~~per disconnect~~ 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.

207 **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.

207 **FUGITIVE LIQUID LEAK:** An organic liquid leak of more than three drops per minute from any single leak source other than the disconnect operation of liquid fill line and vapor line.

- 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 ~~having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual conditions of storage and handling, and which is~~ 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 and which is used as a fuel for internal combustion engines.
- 210 **GASOLINE CARGO TANK:** A delivery tank truck or railcar which is loading gasoline or which has loaded gasoline on the immediately previous load.
- 210 **GASOLINE DISPENSING OPERATION FACILITY:** All gasoline dispensing tanks and associated equipment located on one or more contiguous or adjacent properties under the control of the same ~~person or persons~~ owner or operator under common control.
- 211 **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 ~~organic liquids are transferred or~~ gasoline is loaded into or out of ~~delivery vessels~~ 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 ~~person or persons~~ owner or operator under common control.
- 212 **INTERNAL FLOATING ROOF STATIONARY STORAGE TANK WITH 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. 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 for the purposes of this rule.
- 213 **LEAK FREE:** A condition in which there is no liquid gasoline escape or seepage of more than 3 drops per minute from gasoline storage, handling, and ancillary equipment, including, but not limited to, seepage and escapes from above ground fittings.
- 214 **OFFSET FILL LINE:** Any organic liquid fill line (piping and fittings) which contains one or more bends.

243 **215** **ORGANIC LIQUID:** Any organic compound which exists as a liquid under any actual conditions of use, transport or storage.

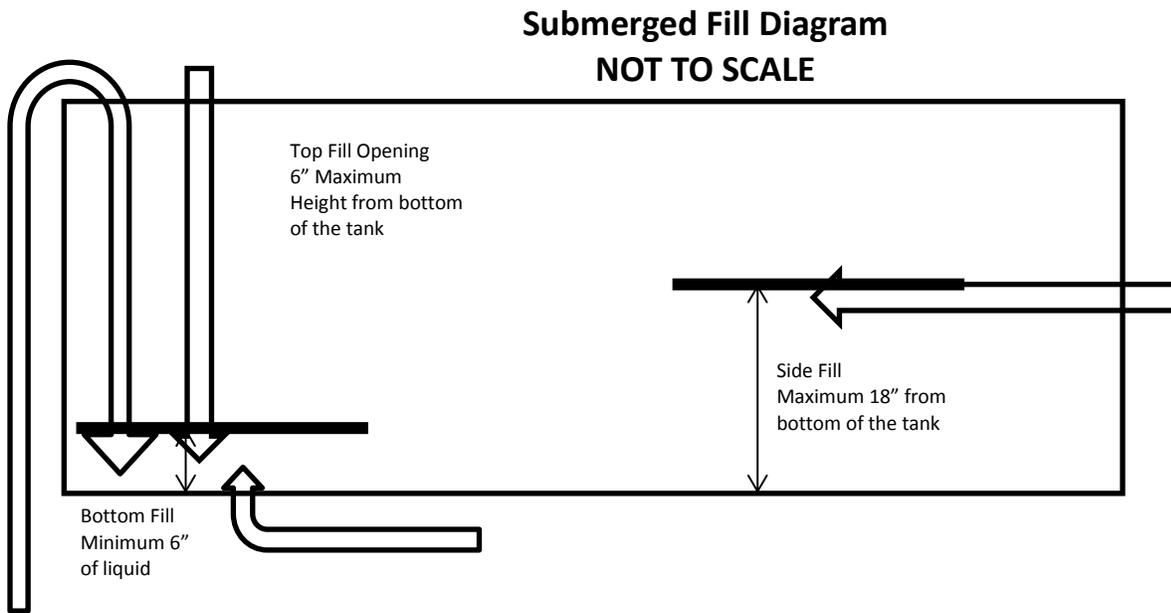
216 **PURGING:** Removing, cleaning, or scouring out gasoline vapors from all or a portion of a gasoline cargo tank by active or passive means and emitting the vapors into the atmosphere.

244 **217** **STATIONARY STORAGE TANK:** Any tank, reservoir or other container used to store, but not transport, ~~organic liquids~~ gasoline.

245 **218** **SUBMERGED FILL PIPE:** ~~Any discharge pipe or nozzle which meets the applicable specification as follows:~~ Any gasoline discharge pipe or nozzle which meets at least one of the applicable specifications:

245.1 **218.1** **Top-Filled Fill or Bottom-Filled Fill Tanks:** The end of the discharge pipe or nozzle is totally submerged when the liquid level is six inches (15 cm) from the bottom of the tank, unless exempted by Section 103.3 of this rule.

245.2 **218.2** **Side-Filled Fill:** The end of the discharge pipe or nozzle is totally submerged when the liquid level is 18 inches (46 cm) from the bottom of the tank, unless exempted by Section 103.3 of this rule.



246 **219** **SWITCH LOADING:** Loading diesel fuel into a ~~delivery vessel~~ gasoline cargo tank whose previous load was gasoline; or loading any organic liquid not subject to this rule into a ~~delivery vessel~~ gasoline cargo tank whose previous load was ~~an organic liquid~~ gasoline and subject to this rule.

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

220 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.

218 ~~VAPOR COLLECTION/PROCESSING SYSTEM: A vapor loss control device consisting of a vapor-gathering subsystem capable of collecting the organic vapors and organic gases plus a second subsystem capable of processing such vapors and gases, preventing at least 95 percent of the volatile organic compounds entering it from entering the atmosphere.~~

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

221 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.

220 **222 VAPOR TIGHT:** A condition where no organic vapor leak reaches or exceeds 100 percent of the lower-explosive limit at a distance of one inch (2.5 cm) from a leak when measured with a combustible gas detector or an organic vapor analyzer, both calibrated with propane. in which a suitable detector at the site of (potential) leakage of vapor shows less than 10,000 ppmv when calibrated with methane or the detector shows less than 1/5 lower explosive limit (LEL) when calibrated with a gas specified by the manufacturer and used according to the manufacturer's instructions.

SECTION 300 – STANDARDS

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

301.1 ~~Bulk Terminals: No person shall load organic liquids having a TVP of 1.5 psia (77.5 mm Hg) or greater into any delivery vessel from a stationary storage tank at a bulk terminal unless the vessel bears a current pressure test decal issued by the Control Officer and the terminal uses a vapor-~~

collection/processing system which reduces the emissions of volatile organic compounds to not more than .08 pounds per 1000 gallons of such liquids transferred (10 grams per 1000 liters). Switch loading shall be subject to this standard. The terminal owner or operator and the operator of the receiving vessel shall act to ensure that the vapor line is connected before such liquids are transferred.

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

a. Transfer To Bulk Plant Tanks: No person shall transfer gasoline from a delivery vessel into a bulk plant tank exceeding 250 gallons (946 l) capacity unless the delivery vessel bears a current county pressure test decal and uses a vapor balance system equipped with fittings which are vapor tight; or, alternatively, a vapor loss control system is used which emits to atmosphere less than 0.6 pound of volatile organic compounds per 1000 gallons transferred (72 grams per 1000 liters).

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

302 OPERATING REQUIREMENTS FOR VAPOR LOSS CONTROL DEVICES: The owner or operator of a vapor loss control device subject to this rule shall operate the device and organic liquid transfer equipment as follows:

302.1 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 tank truck. Each owner or operator of a facility shall act to ensure that any vapor recovery system required by this Rule 351 is connected between the delivery vessel and the storage tank during all organic liquid transfers.

302.2 Loading shall be accomplished in a manner that prevents overfills, fugitive liquid leaks or excess organic liquid drainage. Owners or operators of bulk plants or operators of delivery vessels shall observe all parts of the transfer and shall discontinue transfer if any leaks are observed. Measures shall be taken to prevent liquid leaks from the loading device when it is not in use, and to

~~complete drainage before the loading device is disconnected. During loading or unloading operations, potential leak sources shall be vapor tight as demonstrated by the test procedure described in Section 501 of this rule.~~

~~302.3 Loading operations which use vapor collection/processing equipment shall be accomplished in such a manner that the displaced vapor and air will be vented only to the vapor collection/processing system, which shall be operated gas-tight and in a manner such that the vapor processing capacity is not exceeded. Diaphragms used in vapor storage tanks shall be maintained gas-tight.~~

~~302.4 Vapor transfer lines shall be equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection. Vapor balance systems shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.~~

~~303 REPAIR AND RETESTING REQUIREMENT: Except as superseded by Division actions pursuant to the procedures of Rule 100, Section 501 ("Malfunctions"), the owner/operator of a vapor loss control device that exceeds the standards of this rule shall notify the Control Officer and observe the following time-schedule in ending such exceedances:~~

~~303.1 Concentrations at or above the lower explosive limit must be brought into compliance within 24 hours of detection.~~

~~303.2 Leak concentrations exceeding 10,000 ppm but less than 50,000 ppm as methane for vapor collection/processing equipment subject to gas-tight standard shall be brought into compliance within 5 days of detection.~~

~~303.3 Except as the Control Officer otherwise specifies, a leak source subject to Sections 303.1 or 303.2 must be tested after presumed leak correction within 15 minutes of recommencing use; if leak standards are exceeded in this test, the use of the faulty equipment shall be discontinued within 15 minutes until correction is verified by retesting.~~

~~304 EQUIPMENT MAINTENANCE AND OPERATING PRACTICES: All equipment associated with delivery and loading operations shall be maintained to be leak free, vapor tight and in good working order. Gasoline shall not be spilled, discarded in sewers, stored in open containers, or handled in any other~~

manner that would result in evaporation to the atmosphere. Purging of gasoline vapors and of JP-4 (jet-petrol) vapors is prohibited.

305 **EXEMPTIONS:**

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

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

305.2 ~~Opening Hatches: When VOC vapors from organic liquids are present within a non-exempt delivery vessel, authorized government agents as well as owners/operators and their contractors may open vapor containment equipment while performing operations required by Division rules 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 unloading is complete or delivery vessel has stopped before opening hatch or other vapor seal.~~
- ~~b. Reclose hatch or other sealing device within 3 minutes of opening.~~
- ~~c. Limit windspeed at opened hatch or other opened sealing device to not more than 3 mph (1.34 m/sec).~~

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 meet the applicable federal standards of performance set forth in new source performance standards

(NSPS) set forth in 40 CFR Part 60, 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.

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
- c. 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.
- c. Floating Roof Requirements:**
 - (1) The floating roof shall rest on and be supported by the surface of the liquid contents.
 - (2) The floating roof shall be equipped with a continuous primary seal to close the space between the roof eave and tank wall, except as provided in Section 103.4 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 cm² per meter) of tank diameter. Determinations of gap area shall only be made at the point(s) where the gaps exceed 1/8 inch (3 mm). The width of any portion of any gap shall not exceed 1/2 inch (1.27 cm).
- (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 cm² 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.
- c.** 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 cm² 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.

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.
- c. 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 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.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 EQUIPMENT LEAKS:

- 401.1** The owner or operator shall perform monthly inspections, while vapor gasoline is being transferred, for liquid and vapor leaks and for faulty equipment. ~~In these monthly inspections, detection methods incorporating sight, sound, smell and/or touch may be used.~~ 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 ~~loading~~ facility ~~or by a consultant, at the expense of the owner.~~ gasoline plant or bulk gasoline terminal. Testing shall be done according to procedures in Section ~~504~~ 504 of this rule, except that EPA Method 21 shall be used to test for leaks from a ~~vapor collection/processing unit~~ 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 ~~504.2~~ 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 ~~or his~~ representatives shall at their discretion observe the tests.

402 ~~COMPLIANCE SCHEDULE: By September 30, 1995, the owner or operator of any loading facility which requires modification subject to a requirement of Section 300 of this rule shall submit to the Control Officer for approval an emission control plan and a schedule for achieving compliance with all requirements by April 30, 1996. The plan shall specify the date of completion of each major step leading to compliance.~~

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 cm² (3.29 square inches) per meter of tank diameter and the width of any portion of any gap shall not exceed 1.27 cm (0.2 inch).
- (3) Verify there are no holes, tears, or other openings in the seal or seal fabric.

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

Tanks: The owner or operator of 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 cm² 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 rood hatches and shall include all of the following:

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

(2) The seal shall be attached.

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

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.

403 **404 OTHER AGENCIES' REQUIREMENTS:** Compliance with this rule does not relieve or otherwise affect the owner's or operator's obligation to comply with any other applicable federal, state, or local legal requirement including, but not limited to, rules promulgated by Arizona Department of Agriculture, Weights and Measures Services Division, local fire department codes, and local zoning ordinances.

SECTION 500 - MONITORING AND RECORDS: 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 LEAK DETECTION— TEST PROCEDURE: During loading into or unloading out of delivery vessels, the peripheries of all potential sources of leakage at the loading facility are checked with a combustible gas detector or organic vapor analyzer (OVA) as follows:~~

~~501.1 Pressure: A pressure tap shall be placed in the loading facility's vapor control system, as close as possible to the delivery vessel's tank. The pressure shall be recorded periodically during testing, at least once every minute. Instantaneous maximum pressure shall be recorded either automatically or by visual observation. A pressure measurement device capable of measuring 20 inches (50.8 cm) of~~

~~water pressure with a precision of 0.1 (2.5 mm) inch of water shall be calibrated. This device shall fit the tap and shall either be permanently installed or shall be kept available at all times at the facility.~~

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:

~~501.2~~ **a. Calibration:** Within ~~four (4)~~ hours prior to monitoring, the ~~combustible gas detector CGD~~ or OVA shall be properly calibrated with 10,600 ppm propane by volume in air for a 50 percent lower explosive limit (LEL) response. for a 20 percent lower explosive limit (LEL) response or to 10,000 ppm with methane.

~~501.3~~ **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.

~~501.4~~ **c. Probe Movement:** The probe shall be moved slowly, not faster than 1.6 inches per second (4 centimeters per second). If there is any meter deflection at ~~a potential or actual~~ an actual or potential leak source, the probe shall be positioned to locate the point of highest meter response.

~~501.5~~ **d. Probe Position:** The probe inlet shall be positioned in the path of the vapor flow from ~~a~~ 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.

~~501.6~~ **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.

501.7 **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.

502 COMPLIANCE INSPECTIONS: The Control Officer, at any time, may monitor a ~~delivery vessel~~ gasoline cargo tank vapor collection system, a loading rack's vapor loss control devices, a gasoline loading facility, or a ~~vapor collection/processing 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 ~~three~~ 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.

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

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). 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 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 ASTM Standards

- a. ASTM D323-15a “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 Isoteniscope.
- c. ASTM D4953-15 “Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method).
- d. ASTM D5191-15 “Standard Test Method for Vapor Pressure of Petroleum Products (Mini Method).”

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).

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

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

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

504.4 ~~Reid Vapor Pressure shall be determined by ASTM Method D-323-82 or by ASTM Method D-5191~~