Reasonably Available Control Technology (RACT) Analysis, Negative Declaration and Rules Adoption

Prepared by the Pinal County Air Quality Control District pursuant to Sections 182(b)(2) and 182(f) of the Clean Air Act for the Pinal County portion of the

Phoenix Metro Nonattainment Area for the

2008 8-hour Ozone National Ambient Air Quality Standard

Proposed Analysis Released August 30, 2016

Public Hearing Month ##, 2016

Staff Report

DRAFT

Table of Contents

Reasonably Available Control Technology (RACT) Analysis, Negative Declaration and Rules Adoption 1
EXECUTIVE SUMMARY 3
BACKGROUND 4
RACT ANALYSIS FOR 2008 OZONE NAAQS 5
Source Category Identification 6
RACT Determination-Gasoline Service Stations & Surface Coatings 6
RACT Determination – all other CTG's 9
RACT Determination-major sources 9
Negative Declaration 10
State Implementation Plan Submittal 11
Appendices 12
Appendix A: PCAQCD Permitted Sources in the Pinal County portion of the Phoenix-Mesa Ozone Nonattainment Area (as of August, 2016) 13
Appendix B: Definition of Pinal County Portion of Phoenix-Mesa Ozone Nonattainment Area 15
Appendix C: Negative Declaration CTGs (as of August 30, 2016) 17
Appendix D: Chapter 5, Articles 13 and 20 (as proposed in Arizona Administrative Register (AAR), August 26, 2016) 19
CHAPTER 5, ARTICLE 13 19
ARTICLE 13 - SURFACE COATING OPERATIONS 19
5--13-100 – GENERAL 19
5-13-200 – DEFINITIONS: 21
5-13-300 – STANDARDS 26
5-13-400 – ADMINISTRATIVE REQUIREMENTS 31
5-13-500 – MONITORING AND RECORDS 32
CHAPTER 5, ARTICLE 20. 37
ARTICLE 20. STORAGE AND LOADING OF GASOLINE AT GASOLINE DISPENSING FACILITIES 37
5-20-100. GENERAL 37
5-20-200. DEFINITIONS 37
5-20-300. STANDARDS 39
5-20-400. ADMINISTRATIVE REQUIREMENTS 42
5-20-500. MONITORING AND RECORDS 42

DRAFT

EXECUTIVE SUMMARY

The Clean Air Act requires certain sources in ozone nonattainment areas to implement control methods called reasonably available control technology (RACT). The United States Environmental Protection Agency defines RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

The RACT requirement is meant to ensure that moderate and above ozone nonattainment areas have in place RACT for all source categories covered by a Control Techniques Guideline (CTG) document and for major sources of volatile organic compounds or oxides of nitrogen that are not subject to a CTG. A local air District adopts the control methods if it has a source in its area subject to a CTG. Alternatively, the local District may declare that there are no sources in its area subject to a RACT requirement, and then the requirement to adopt a rule for those sources is no longer applicable. This is known as a "Negative Declaration."

The RACT determination and/or Negative Declaration should be submitted by each nonattainment area within two years from the effective date of the designation.

The Pinal County Air Quality Control District (District) has prepared this RACT Analysis for sources located in the Pinal County portion of the Phoenix Metro nonattainment area. This area was initially designated as marginal nonattainment for the 2008 8-hour ozone national ambient air quality standard effective July 20, 2012. Unfortunately the area didn't attain the 2008 8-hour ozone NAAQS by the July 20, 2015 attainment date and was reclassified to a moderate nonattainment area (81 FR 26697).

This analysis affirmed Negative Declarations for RACT for a vast majority of CTGs except for Design Criteria for Stage 1 Vapor Control Systems Gasoline Service Stations and surface coatings. For these CTGs, the District staff evaluated the PCAQCD Rules and determined that there were no RACT level rules for these sources in the nonattainment area.

The RACT Analysis and rules along with the Negative Declaration, once adopted by the Board of Supervisors, shall be submitted to the Arizona Department of Environmental Quality (ADEQ) for transmission to the US EPA as a revision to the State Implementation Plan.

DRAFT

BACKGROUND

National Ambient Air Quality Standards for Ozone

The Clean Air Act (CAA) was adopted in 1970. The legislation authorized the development of comprehensive federal and state regulations to limit emissions from stationary and mobile sources. The CAA was amended in 1977 and again in 1990. The CAA and amendments require the United States Environmental Protection Agency (US EPA) adopt national ambient air quality standards (NAAQS) for six criteria pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. US EPA formally designates areas as "nonattainment" (not meeting the standard), "unclassifiable/attainment" (meeting the standard or expected to be meeting the standard despite a lack of monitoring data), or "unclassifiable" (insufficient data to classify). The CAA requires US EPA to conduct a periodic review of the science upon which the standards are based and the standards themselves.

Ground level ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Ozone-related adverse health effects range from decreased lung function and increased respiratory symptoms to serious indicators of respiratory morbidity including emergency department visits and hospital admissions from respiratory causes, and possibly cardiovascular-related morbidity.

The US EPA first promulgated NAAQS for ozone in 1971 with revisions in 1979, 1997, 2008 and 2015. The standard began as a 1-hour averaging time and later changed to an 8-hour averaging time, which was determined to be more health protective.

Nonattainment Area within the District

The US EPA revised the ozone NAAQS effective May 27, 2008. The revision lowered the level of the 8-hour standard to 0.075 ppm. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. The revision was to provide increased protection for children and other "at risk" populations.

A small portion of Pinal County (See Appendix B) was designated nonattainment for the 2008 8-hour ozone NAAQS effective July 20, 2012. This portion of the District is part of the Phoenix Metro nonattainment area and was classified as a "marginal" nonattainment area. As a marginal nonattainment area, the area was required to meet the 2008 8-hour ozone NAAQS by July 20, 2015.

DRAFT

The remaining portions of the county were designated attainment. Unfortunately the Phoenix metro 8-hour ozone nonattainment area didn't attain the standard by July 20, 2015 and was reclassified to "moderate" nonattainment (81 FR 26697).

Reasonably Available Control Technology Requirement

The CAA requires certain sources in ozone nonattainment areas to implement control methods called reasonably available control technology (RACT). The US EPA defines RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology (i.e., devices, systems, process modification, or other apparatus or techniques that reduce air pollution) that is reasonably available considering technological and economic feasibility. The RACT requirement is meant to ensure that all moderate and above ozone nonattainment areas have in place all RACT for source categories covered by a Control Techniques Guideline (CTG) document and for major sources[1] of VOC or NOx that are not subject to a CTG.

Sections 182(b)(2) and 182(f) of the CAA requires a revision to the State Implementation Plan to implement RACT for each category of VOC sources in the ozone nonattainment areas covered by a CTG document and for any major stationary source of VOC or NOx not covered by a CTG document. A District adopts the control methods if it has a source in its area subject to a CTG.

Alternatively, the District may declare that there are no sources in its area subject to a RACT requirement because it has no sources above the CTG recommended threshold, and then the requirement to adopt a rule for those sources is no longer applicable. This is known as a "Negative Declaration."

Each time US EPA promulgates a revision to the ozone NAAQS, a District with a nonattainment area must re-affirm its Negative Declarations for those source categories for which it is not adopting CTG-based regulations regardless of whether such negative declarations were made for an earlier standard. This is necessary since there may now be sources in the nonattainment area that previously did not exist, or in areas where the boundaries of the nonattainment area have expanded, there may be sources in the new portion of the nonattainment area which should not be overlooked.

The negative declaration must go through the same public review requirements as any other SIP submittal. The RACT Analysis and/or Negative Declaration must be submitted to the US EPA within two years from the effective date of the designations.

[1] The definition of a *major source* is dependent on the severity of the air quality problem in a region. For the Pinal County portion of the Phoenix-Mesa moderate nonattainment area, the major source threshold is the potential to emit at least 100 tons per year of VOC or NOx.

RACT ANALYSIS FOR 2008 OZONE NAAQS

The current RACT Analysis prepared pursuant to Sections 182(b)(2) and 182(f) of the CAA for the 2008 8-hour ozone NAAQS involves the following procedures:

- Source Category Identification: Identify all source categories in the District's portion of the nonattainment area that require RACT. This includes:

  - Source categories which have RACT guidance, and for which any sources (Either major or minor) which operate in the District's portion of the nonattainment area.
  - Source categories for which major sources of NOx or VOC operate in the District's portion of the nonattainment area.

- RACT Determination: For each source category that requires RACT, identify if there is a District Rule. If there is no rule, then a new District Rule that meets RACT must be adopted. If there is an existing District Rule, then a determination must be made if the existing District Rule reflects RACT. This is based on an analysis of the applicable District Rule with guidance and regulations used to establish RACT:

  - Federal US EPA: Control Technique Guidelines (CTG), Alternative Control Techniques (ACT), Maximum Achievable Control Technology (MACT) standards, New Source Performance Standards (NSPS),
  - State: California Suggested Control Measures (SCM) and RACT/Best Available Retrofit Control Technology (BARCT) determinations.
  - Local: Regulations, guidance, and rules adopted by Air Districts and other local agencies.

  The RACT Determination should identify for each source category:

  - Existing District Rules that meet RACT.
  - Existing District Rules that require amendments to meet RACT.
  - New Rules required to meet RACT.

- Negative Declaration: Negative Declarations are required for all CTG source categories for which there is RACT guidance but for which there are no applicable facilities (major or minor) within the nonattainment area, or for which there are facilities but their permitted maximum emissions are below the CTG applicability threshold.

Source Category Identification

The District permitting threshold is 1 ton per year (5.5 lbs/day), therefore virtually all industrial activities are permitted in Pinal County. The District staff have reviewed the permitted facilities located in the nonattainment area portion of Pinal County and have summarized the source categories which have applicable CTGs in Table 1. Table 1 also includes the annual permit limits of VOC of the largest facility within the source types. A complete list of all the permitted facilities in the Pinal County portion of the nonattainment area is included as Appendix A.

The only source categories in the Pinal County portion of the ozone nonattainment area that have permitted industrial facilities with applicable RACT guidance are gasoline service stations and surface coating operations.

The source with the largest potential to emit (PTE) is a facility that conducts surface coatings. The permitted equipment includes a spray booth, blast booth, blast room, Bronco wheel machine, wet ring attachments, a spray room and a BCP4 structural wheel blast machine. This facility's maximum annual PTE of VOCs is 90 tons and 2015 actual emissions of 5.7 tons. The facility is subject to and permitted under District Rule 3-1-084 Federally enforceable provision, which is consistent with the national VOC rules. Therefore, the District has determined that the Miscellaneous Metal Parts CTG (EPA 453/R-08-003 2008/09) applies to this source.

Table 1. Summary of CTG Applicable Source Categories in Pinal County Portion of the Phoenix-Mesa Ozone Nonattainment Area

Source Category	Number of Sources	Max PTE VOC (tons/yr)
Gas Station	13	37.0
Surface Coating	1	90

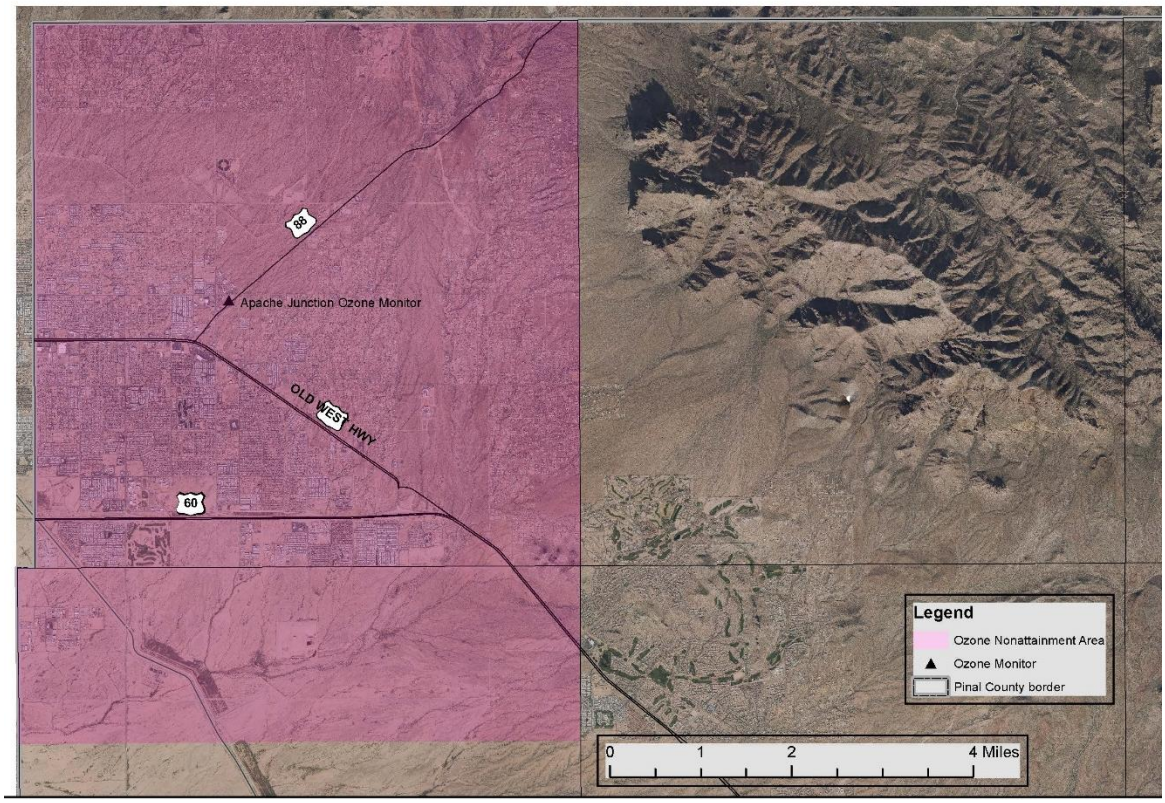
RACT Determination- Gasoline Service Stations & Surface Coatings

The types of sources located in the Pinal County portion of the nonattainment area subject to RACT guidance are gasoline service stations and surface coatings. Therefore the RACT determination needed are for the CTG Design Criteria for Stage I Vapor Control Systems-Gasoline Service Stations (EPA-450/R-75-102 1975/11) and Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (EPA-453/R-08-003), 9/08). The gasoline service stations CTG contain design criteria to control the release of vapors from commercial gasoline stations. It includes the use of submerged fill pipes, systems to control the displaced vapors from the tanks into the delivery vehicle and specifications for maintaining and inspecting the systems. RACT for ozone nonattainment areas is required when gasoline service stations exceed 10,000 gallons/month. The CTG for miscellaneous metal and plastic parts coatings includes control options such as low-VOC coatings, add on controls and work practices. RACT for ozone nonattainment areas is required for surface coating operations that have at least 2.7 tons per year of VOC emissions. Appendix D has the Board of Supervisors adopted PCAQCD ozone RACT rules.

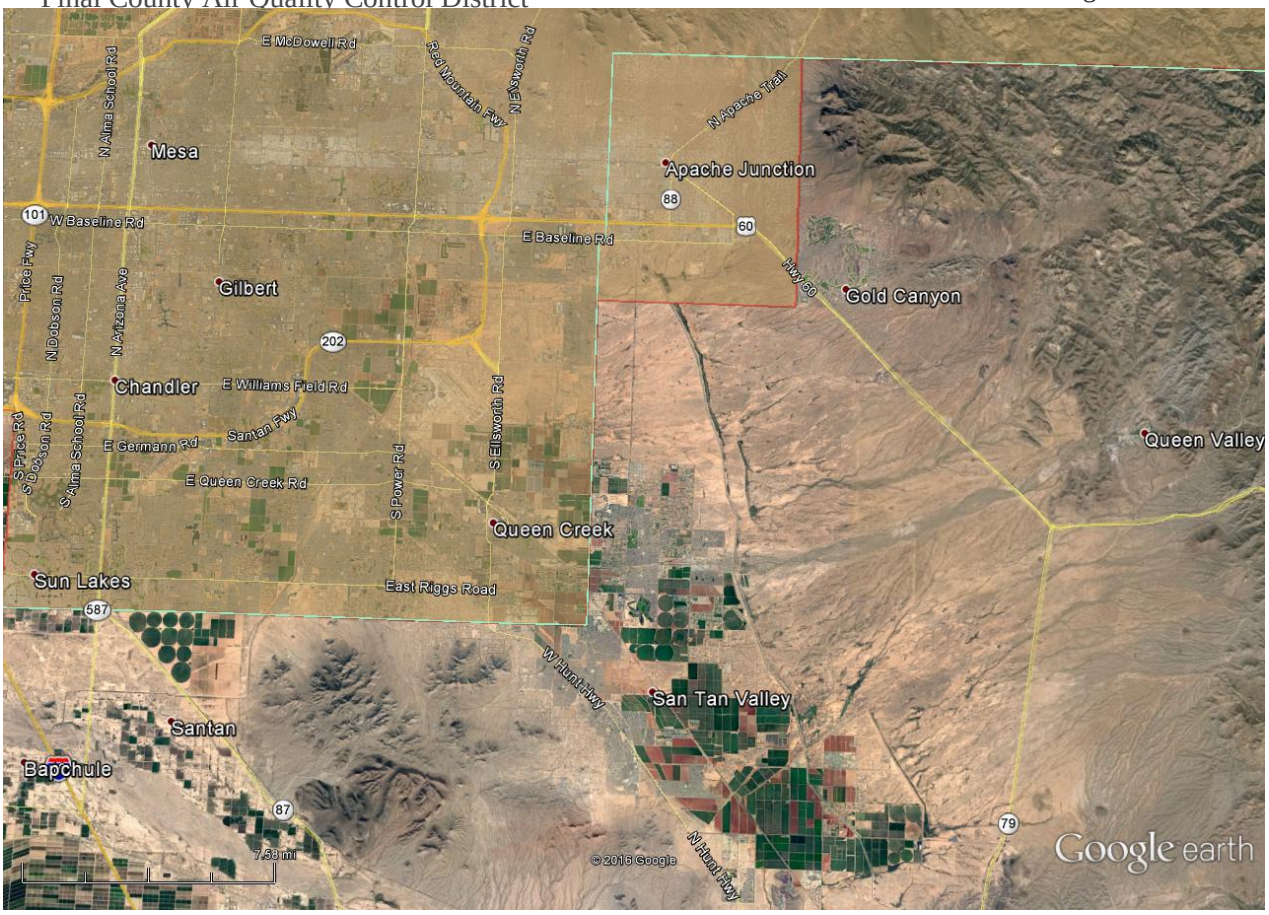
Farm operations storage and loading

An exemption in the PCAQCD Chapter 5, Article 20 rule Storage and Loading of Gasoline at Gasoline Dispensing Facilities involves stationary gasoline dispensing tanks for farm operations. The exemption of farm tanks mirrors the SIP approved Maricopa County Air Quality ozone RACT rule 353 which encompasses the Maricopa County portion of the Phoenix-Mesa ozone nonattainment area. Additionally, the 36 square mile portion of the ozone nonattainment area in Pinal County contains no active agriculture (see maps 1 & 2 below) and has two small areas assessed as agriculture (see map 3). Therefore there are no farm tanks to regulate and so the exemption in the rule has no impact on air quality or the effectiveness of this particular ozone RACT rule. It is included in the rule simply to maintain consistency with the other ozone RACT rule in the nonattainment area.

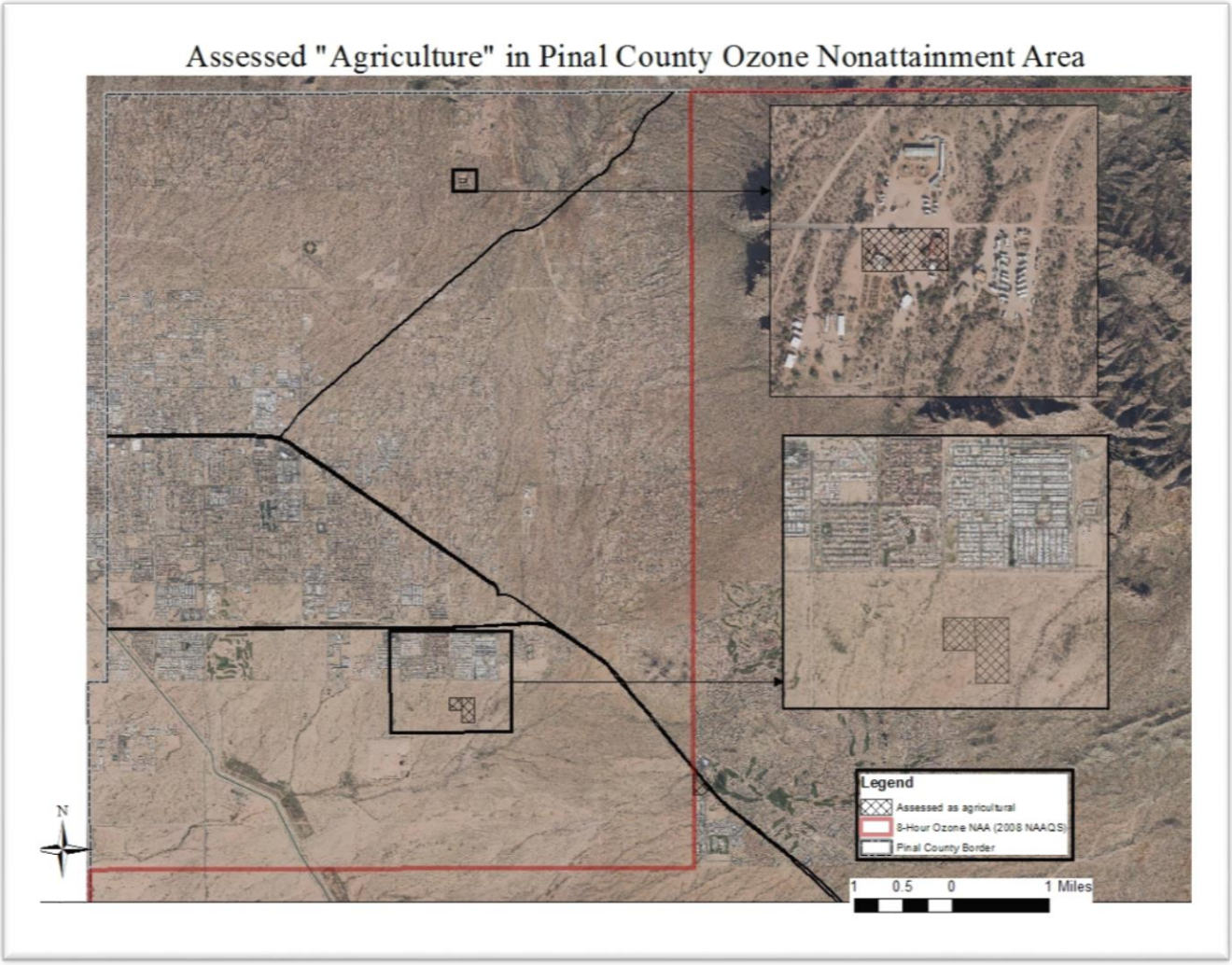
Pinal County Ozone Nonattainment Area



Map 1. Pinal County portion of Phoenix-Mesa Ozone Nonattainment Area



Map 2. Larger view of Pinal County portion of the ozone nonattainment area and agricultural areas outside of the nonattainment area (San Tan Valley). Showing the distinction between the ozone nonattainment area which has no agriculture and areas outside of the nonattainment area which contain agricultural areas.



Map 3. Zoomed in view of Pinal County portion of the ozone nonattainment area and County assessed agricultural areas within the Pinal County nonattainment area.

RACT Determination – all other CTG's

Excluding the aforementioned gasoline service station and surface coating CTGs and RACT rules, there are no other permitted sources applicable to CTGs located in the Pinal County portion of the nonattainment area. Through analysis of historical permitting of new sources in and around the relatively small ozone nonattainment area, the District does not anticipate any new sources in the future.

RACT Determination-major sources

There is one Title V (i.e. major source) in the Pinal County portion of the nonattainment area which is a landfill and as such doesn't have a CTG. This facility is currently subject to the 40 CFR Part 60, Subpart WWW Standards of Performance (NSPS) for Municipal Solid Waste Landfills and the 40 CFR Part 63, Subpart AAAA National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Waste

Landfills. The facility is required to install a Gas Collection and Control System (GCCS) by July 30, 2017 unless the source can demonstrate that their NMOC emissions are less than 50 Mg per year in accordance with 40 CFR Part 60, Subpart WWW. This facility will also potentially be subject to the proposed emission guidelines found in 40 CFR Part 60, Subpart Cf. The District will assess applicability under Subpart Cf once the rule is published in the Federal Register and finalized. Additionally any future expansion of the facility may be subject to the proposed NSPS found in 40 CFR Part 60, Subpart XXX.

NSPS and NESHAP emission limitations are generally considered presumptive RACT. Arizona Administrative Code R-18-234.D lists emissions standards established or revised by the Administrator under section 111 (NSPS) or 112 (NESHAP) of the Act after November 15, 1990 as presumptive RACT. 40 CFR Part 60, Subpart WWW was first published in the Federal Register in 1996 (61 FR 9919, March 12, 1996 appears to be the earliest reference in the CFR) and 40 CFR Part 63, Subpart AAAA was first published in the Federal Register in 2003 (68 FR 2238, January 16 2003 appears to be the earliest reference in the CFR). Additionally the existing source is expected to be subject to updated emission guidelines and any expansion will potentially be subject to an updated performance standard that are expected to be published in the Federal Register in 2016.

Negative Declaration

To determine that there are no operating facilities in the Pinal County portion of the ozone nonattainment area that fall under a source category with RACT guidance besides surface coatings and gasoline service stations, the following checks were conducted:

- District internal database of permitted stationary sources.
- Internet website searches for key words.
- County planning records.

District Internal Database of Permitted Stationary Sources: The results of the review of the District's stationary source database are included as Appendix A. The largest source of VOC emissions associated with surface coating operations in the nonattainment area is 5.7 tons per year. The largest source (and most abundant source type with 14 permitted) of gasoline service station VOC emissions in the nonattainment area is 28 tons per year.

Internet Search: The District staff conducted internet website searches for businesses located in the Pinal County portion of the ozone nonattainment area. Since the County already has a low permitting threshold (1 ton per year), all possible industrial sources have already been identified and determined not to surpass the CTG applicability (excluding the aforementioned surface coating facility and gas stations).

County Planning Records: Through the County's "One Stop Shop" the District is routed each new permit application that undergoes review through the planning department of Pinal County for the unincorporated areas within the nonattainment area. Through this process, the District is alerted to any potential new sources. The District has not received any permit applications from potential new sources in unincorporated areas of the nonattainment area.

Additionally for projects within the City of Apache Junction developers are told by the City that a dust permit is needed for any projects 0.1 acres or larger. Therefore developers associated with any projects of that scope are told to go to the County for a dust permit. It is then through that process that the County determines if an industrial permit is necessary for new sources within the Apache Junction city limit. The District has not received any permit applications from potential new sources in the incorporated area of the nonattainment area.

As a result of these searches, the District has determined that outside of the gasoline service stations and surface coating operation there are no other operating facilities in the Pinal County portion of the ozone nonattainment area that fall under a source category with RACT guidance. The District is making a Negative Declaration for all CTG's listed in Appendix C except Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations (EPA-450/R-75-102 1975/11) and Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coating (EPA-453/R-08-003, September 2008).

State Implementation Plan Submittal

The District will make this RACT Analysis and negative declaration available for public comment beginning August 30, 2016. The District shall hold a public hearing on <Insert Board of Supervisors Public Hearing Date>, at which time the Pinal County Board of Supervisors may adopt the ozone RACT rules and also this RACT Analysis and negative declaration and direct staff to forward it to the Arizona Department of Environmental Quality (ADEQ) who will eventually forward it to the US EPA as a SIP revision.

Appendices

Appendix A: PCAQCD Permitted Sources in the Pinal County portion of the Phoenix-Mesa Ozone Nonattainment Area as of August, 2016

Appendix B: Definition of Pinal County Portion of Phoenix-Mesa Ozone Nonattainment Area

Appendix C: Negative Declaration CTGs as of August, 2016

Appendix D: PCAQCD Rules Chapter 5, Articles 13 and 20 as amended <Insert Board of Supervisors Adoption Date>

Appendix A: PCAQCD Permitted Sources in the Pinal County portion of the Phoenix-Mesa Ozone Nonattainment Area (as of August, 2016)

Facility Name	Permit #	SIC Code(s)	2015 Actual VOC Emissions (TPY)	Potential To Emit (PTE) VOC Emissions
Treasure Chest Granite Pit	B31167.000	1423	0	1.4
Top Drawer	B31061.000	2511	0.3	24.9
Magnum Products	B31092.000	2891	0	0
Apache Junction Plant #31	B31106.000	3273	0	0.6
American Steel	B31105.000	3441	1.9	3.0
R-N-R Steel	S13171.000	3441	0.06	3.0
Temtco Steel	B31043.A01	3443	0	0
Arizona Steel	C31124.R01	3443	6.4	90.0
A-1 Steel Inc.	S13148.000	7692	0.58	3.0
Section 8	B31039.000	3443	0.15*	1.1
Cave's Canopies and Steel	S13192.000	3449	0.14	3.0
Studio Iron	S13191.000	3479	0.67	3.0
Wastewater Treatment Plant No.1	S16069.000	4952	0	0
Wal-Mart Store #1381	S10108.000	5399	0.002	
Circle K Store #2701556	S12502.000	5411	0.26	11.0
Circle K Store #2701989	S12501.000	5411	0.83	11.0
Circle K Store #2708746	S12513.000	5411	0.69	11.0
CST Arizona Stations, Inc.		5411	9.66	
Canyon Food Mart	S12575.000	5411	2.3	7.8
4 Sons Food Store #501	S12528.000	5411	0.54	10.0
4 Sons Food Store #505	S12469.000	5411	1.1	1.0
Circle K Store #3444	S12582.000	5411	17.7	37.0
Fry's Fuel Center #65	S12464.000	5411	13.3	6.5
Goldfield Chevron Gas Station	S12486.000	5411	1.21*	3.4

Shell 1621	S12470.000	5411	2.4*	13.0
Firebird Fuel	S12473.000	5541	0.14	0.1
Quiktrip Store #437	S12525.000	5541	25.8	5.0
Circle K Store #2703442	S12487.000	5541	1.7	13.0
Roadhaven Resort	S10113.000	7033	0	0
Sunrise RV Resort	S10112.000	7033	0	0
Arnold Auto Center	S13170.000	7532	0.38	3.0
Broken Wheel Enterprises	S12167.000	7532	0.13*	7.3
Randalls Towing Auto Body & Paint	S13183.000	7532	0.24	1.0
Linx Auto Body	S13168.000	7532	0.48	7.3
Gamez Auto Body	S13194.000	7532	0.74	2.2
Gear Head Sheds	S13156.A01	7532	0.02	7.3
Excel Collision Centers	S13155.000	7532	0.36	1.0
Custom Sandblasting	S13164.000	7532	0.01*	0.9
Banner Goldfield Medical Center	B31186.000	8062	0.03	0.4
Apache Junction Health Care Center	S10105.000		0	0
Golden Sun RV Resort	S10104.000		0*	0
Golden Vista RV Resort	S10102.000		0	0
Superstition East Central Office	S16080.000		0	0
Apache Junction Landfill	V20650.R01		9.87	15.1
Temcon Concrete Construction (East Yard)	S12576.000		0	2.0
Torco Race Fuels	S12477.000		0.56	1.5
Superstition Cabinets	S13181.ISS	2434	1.51	2.99
RJ Custom Products, LLC	B31155.000	2431	2.65	2.99
Superstition Cremation and Funeral Services	B21067.A02		0.002	0.7

* 2014 emissions

Appendix B: Definition of Pinal County Portion of Phoenix-Mesa Ozone Nonattainment Area

From the Federal Register, Vol. 77, No. 98, May 21, 2012, page 30097: "Pinal County (part) Apache Junction: T1N, R8E; T1S, R8E (Sections 1 through 12)."

Figure 1: Map of Phoenix-Mesa nonattainment area for ozone

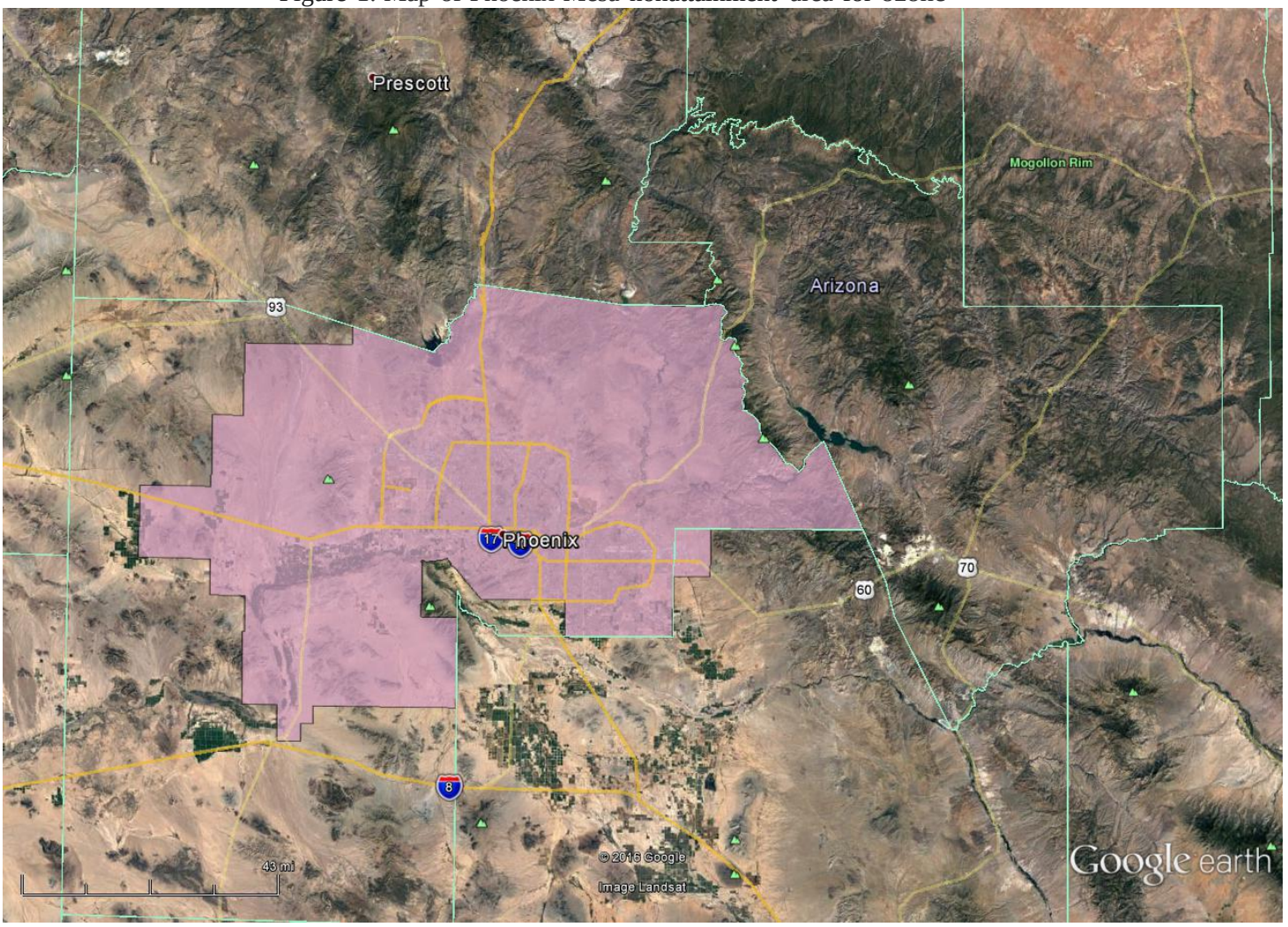
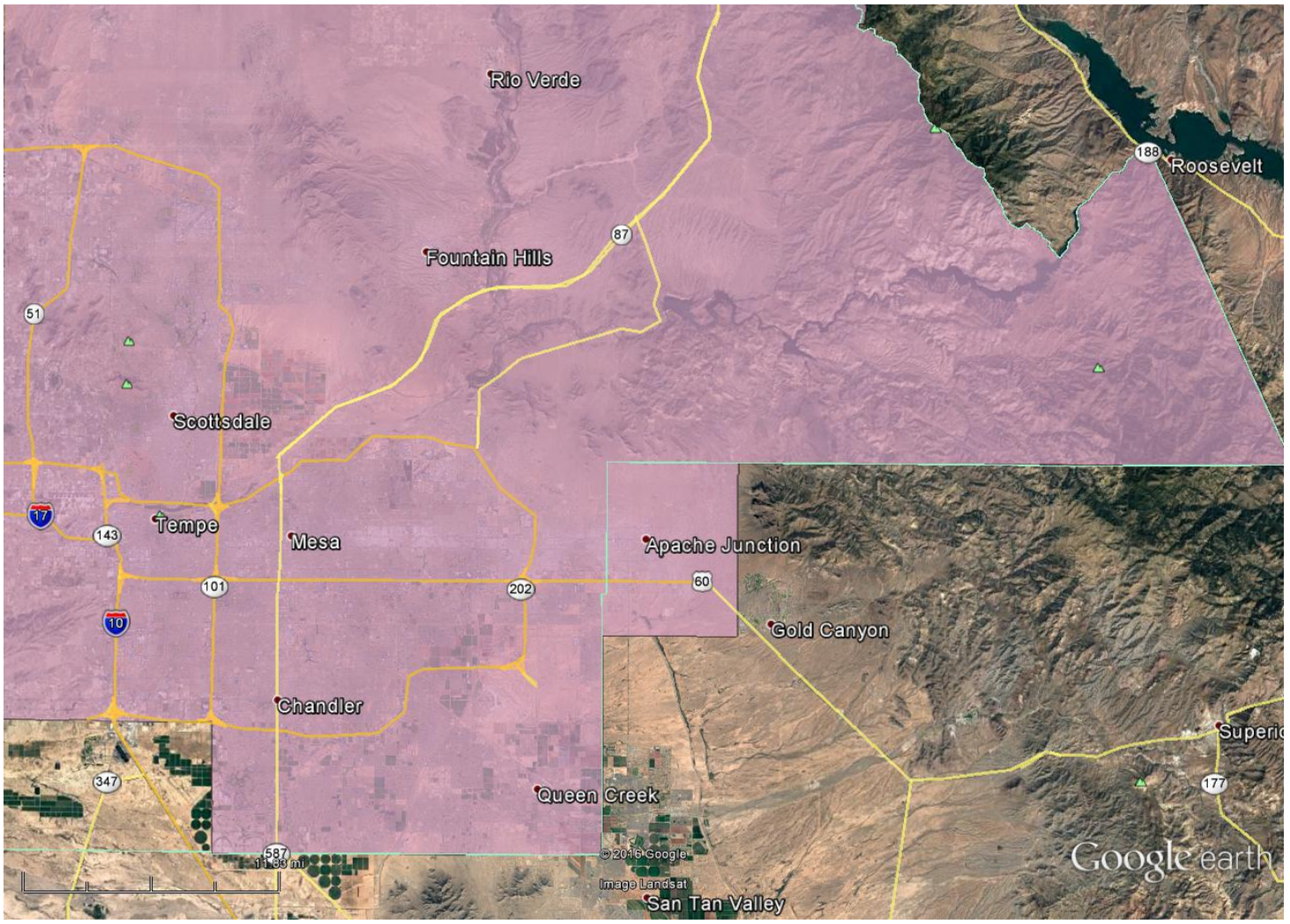


Figure 1: Map of Pinal County portion of the Phoenix-Mesa nonattainment area for ozone



Appendix C: Negative Declaration CTGs (as of August 30, 2016)

The District has reviewed its permit files and emission inventory, as well as business listings and county planning records, and has determined that there are no stationary sources or emitting facilities for the following CTG categories. Therefore these are the CTGs for which the Pinal County Air Quality Control District is adopting a Negative Declaration. The District also does not anticipate these sources in the future.

GUIDANCE DOCUMENT TITLE	DOCUMENT TYPE	DOCUMENT NUMBER
Control of Volatile Organic Emissions from Existing Stationary Sources Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Dutv Trucks	CTG	EPA-450/2-77-008 1977/05
Control of Volatile Organic Emissions from Solvent Metal Cleaning	CTG	EPA-450/2-77-022 1977/11
Control of Refinery Vacuum Producing Systems. Wastewater Separators, and Process Unit Turnarounds	CTG	EPA-450/2-77-025 1977/10
Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals	CTG	EPA-450/2-77-026 1977/10
Control of Volatile Organic Emissions from Existing Stationary Sources - Volume Ill: Surface Coating of Metal Furniture	CTG	EPA-450/2-77-032 1977/12
Control of Volatile Organic Emissions from Existing Stationary Sources - Volume IV: Surface Coating of Insulation of Magnet Wire	CTG	EPA-450/2-77-033 1977/12
Control of Volatile Organic Emissions from Existing Stationary Sources - Volume V: Surface Coating of Large Appliances	CTG	EPA-450/2-77-034 1977/12
Control of Volatile Organic Emissions from Bulk Gasoline Plants	CTG	EPA-450/2-77-035 1977/12
Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks	CTG	EPA-450/2-77-036 1977/12
Control of Volatile Organic Emissions from Use of Cutback Asphalt	CTG	EPA-450/2-77-037 1977/12
Control of Volatile Organic Emissions from Existing Stationary Sources - Volume VI: Surface Coating of Miscellaneous Metal Parts and Products	CTG	EPA-450/2-78-015 1978/06
Control of Volatile Organic Emissions from Existing Stationary Sources - Volume VII: Factory Surface Coating of Flat Wood Paneling	CTG	EPA-450/2-78-032 1978/06
Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment	CTG	EPA-450/2-78-036 1978/06
Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products	CTG	EPA-450/2-78-029 1978/12
Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires	CTG	EPA-450/2-78-030 1978/12
Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography	CTG	EPA-450/2-78-033 1978/12
Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks	CTG	EPA-450/2-78-047 1978/12
Control of Volatile Organic Emissions from Perchloroethylene Dry Cleaning Systems	CTG	EPA-450/2-78-050 1978/12
Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems	CTG	EPA-450/2-78-051 1978/12
Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners	CTG	EPA-450/3-82-009 1982/09
Control of Volatile Organic Compound Emissions from Manufacture of High-Densitv Polyethvlene Polypropylene and Polvstvrene Resins	CTG	EPA-450/3-83-008 1983/11
Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants	CTG	EPA-450/3-83-007 1983/12
Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polvmer and Resin Manufacturing Equipment	CTG	EPA-450/3-83-006 1984/03
Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing industry	CTG	EPA-450/3-84-015 1984/12
Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry	CTG	EPA-450/4-91-031 1993/08
Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations	CTG	EPA-453/R-96-007 1996/04

Alternative Control Technology Document- Surface Coating Operations at Shipbuilding and Ship Repair Facilities	CTG	EPA-453/R-94-032 1994/04
Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating)	CTG	61 FR-44050 8/27/96 1996/08
Aerospace MACT	CTG	59 FR-29216 6/06/94 1994/06
Aerospace (CTG & MACT)	CTG	EPA-453/R-97-004 1997/12
Control Techniques Guidelines for Industrial Cleaning Solvents	CTG	EPA-453/R-06-001 2006/09
Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing	CTG	EPA-453/R-06-002 2006/09
Control Techniques Guidelines for Flexible Package Printing	CTG	EPA-453/R-06-003 2006/09
Control Techniques Guidelines for Flat Wood Paneling Coatings	CTG	EPA-453/R-06-004 2006/09
Control Techniques Guidelines for Paper Film and Foil Coatings	CTG	EPA 453/R-07-003 2007/09
Control Techniques Guidelines for Large Appliance Coatings	CTG	EPA 453/R-07-004 2007/09
Control Techniques Guidelines for Metal Furniture Coatings	CTG	EPA 453/R-07-005 2007/09
Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings	CTG	EPA 453/R-08-003 2008/09
Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials	CTG	EPA 453/R-08-004 2008/09
Control Techniques Guidelines for Miscellaneous Industrial Adhesives	CTG	EPA 453/R-08-005 2008/09
Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings	CTG	EPA 453/R-08-006 2008/09
Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations	CTG	EPA 453/R-08-002 2008/09

Appendix D: Chapter 5, Articles 13 and 20
(as proposed in Arizona Administrative Register (AAR), August 26, 2016)

CHAPTER 5, ARTICLE 13

ARTICLE 13 - SURFACE COATING OPERATIONS

5--13-100 – GENERAL

1. PURPOSE: To limit the emission of volatile organic compounds (VOCs) from surface coating operations in the Pinal County portion of the Phoenix metro 8-hour ozone nonattainment area (2008 ozone National Ambient Air Quality Standard (NAAQS)), defined in 40 CFR 81.303.

2. APPLICABILITY: This rule applies to surface coating operations in the Pinal County portion of the Phoenix metro 8-hour ozone nonattainment area for the 2008 ozone NAAQS, namely T1N, R8E; T1S, R8E (Sections 1 through 12) where the total actual VOC emissions from all operations, including related cleaning activities, as the facility are equal to or exceed 15 lbs/day or an equivalent 2.7 tons per year, before consideration of controls.

Additionally:

i. Surface-coating activities regulated under this rule include, but are not limited to, the application of coating, coating preparation/mixing at the facility applying the coating, and the cleanup of coating application equipment.

ii. §5-13-100.3 sets forth partial exemptions for certain materials or uses employed by a surface coating operation subject to this rule.

iii. In addition to this rule, facilities may be subject to New Source Performance Standards (NSPS) in Chapter 6 and/or to National Emission Standards for Hazardous Air Pollutants (NESHAP) in Chapter 7 of these regulations.

3. PARTIAL EXEMPTIONS:

i. Qualified Materials Exemption:

a. Leak-Preventing Materials: Sealants, caulking, and similar materials used on the following substrates for the primary purpose of leak prevention are exempt from this rule:

(1) Non-metallic substrates; and

(2) Post manufacture, such as, but not limited to, old joints and seals on pipe and valve assemblies.

b. Certain Joint Fillers: Caulking and beaded sealants used to fill gaps or to fill joints between surfaces are exempt from this rule, except those used in manufacturing other metal parts and products or in the manufacturing of cans.

ii. Extreme Performance Coatings: Extreme performance coatings are exempt from the VOC limits in Table 1 of this rule but not from any other sections of this rule when used under the following conditions:

a. Used on internal combustion engine components that are normally above 250°F (121°C) during use; or

b. Used at temperatures above 250°F (121°C) on items that are both included under the North American Industry Classifications System (NAICS) codes 334210, 334220, 334290, 334416, 334417, 334418, 334419, 334310 or 336419 and are electronic products in space vehicles and/or are communications equipment.

iii. **Application Methods Exemptions:** The following coatings are exempt from application methods in §5-13-300.2 of this rule but are subject to the remaining provisions of this rule:

a. Metal part texture coatings;

b. Metal part touch-up and repair coatings;

iv. **Application Methods and VOC-Limit Exemptions:** The following surface coating operations are exempt from §§5-13-300.1(surface coating standards), 5-13-300.2 (Application methods), and 5-13-300.5 (Emission control system requirements) of this rule but shall comply with §§5-13-300.3 (Cleanup of application equipment), 5-13-300.4 (Work practices-handling, disposal and storage of VOC-Containing material), and 5-13-500 (Monitoring & Records) of this rule.

a. Aerosol can spray coating from a non-refillable container that is less than 22 fluid ounces (0.66 liter) capacity without exceeding 2 ton/yr VOC usage or purchase, facility wide threshold.

b. Low usage of VOC coatings which exceed thresholds for coating categories listed in Table 1 of this Rule, which in aggregate of all formulations do not exceed 55 gal/yr (208 liters) facility-wide. The operator shall update usage records of these coatings at the end of each month of their use, pursuant to §5-13-500(1)(ii) of this rule.

c. A Small Surface-Coating Source

d. This rule is not applicable to coatings or solvents having a VOC content, minus exempt compounds, of less than 0.15 lb VOC/gal (18g/L).

f. A tactical military-equipment coating that is approved in a Pinal County Air Pollution Permit subsequent to a sufficient demonstration by the user that no compliant substitute exists.

g. **Metal Parts Coating:**

(1) Stencil coatings.

(2) Safety-indicating coatings.

(3) Solid-film lubricants.

(4) Electric-insulating and thermal-conducting coatings.

(5) Magnetic data storage disk coatings.

(6) Plastic extruded onto metal parts to form a coating.

v. **Low Usage Allowance for Restricted Spray Guns:** Spray guns otherwise prohibited by §5-13-300.2 of this rule for use with coatings over 2 lbs VOC/gal minus exempt compounds, are exempt from this rule under the following limited conditions:

a. If VOC emissions from the finishing application are captured and directed to an ECS complying with the provisions of §5-13-300.5 of this rule; or

b. To coat the inside of pipes and tubes with a wand-style applicator; or

c. Using an airbrush or other small gun that has a reservoir capacity not exceeding 250 cc (8.8 fl. oz) and is used solely for detailing, lettering, touchup, and/or repair.

4. TOTAL CATEGORICAL EXEMPTIONS: This rule does not apply to the following operations:

i. Solvent cleaning (Chapter 5, Article 15).

5-13-200 – DEFINITIONS: For the purpose of this rule, the following definitions shall apply, in addition to those definitions found in §1-3-140 (Definitions) of these rules. In the event of any inconsistency between any of the Pinal County Air Quality Control District Code of Regulations, the definitions in this rule take precedence.

1. **ADHESIVE:** A material used for the primary purpose of bonding two or more surfaces together.

2. **ADHESIVE PRIMER**: A coating applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.

3. **AEROSOL CAN-SPRAY COATING:** A coating sold in a hand-held, pressurized, non-refillable container, of less than 22 fluid ounces (0.66 liter) capacity, and that is expelled from the container in a finely divided form when a valve on the container is depressed.

AIR-DRIED COATING: A coating ~~which is~~ dried by the use of air or forced warm air at temperatures up to and including 200°F (93.3°C).

4. **BAKED COATING:** A coating that is dried or cured in an oven in which the oven temperature exceeds 200°F (93.3°C).

5. **CAMOUFLAGE**: A coating used, principally by the military, to conceal equipment from detection.

6. **CAULKING**: A semisolid material that is used to aerodynamically smooth surfaces or fill cavities.

7. **CLEAR COAT:** A coating that lacks color or opacity or is transparent.

8. **COATING APPLICATION EQUIPMENT:** Any spray gun, wand, rollers, brushes or any other means used to apply or cover a surface with a coating for either beauty, protection or other purpose.

9. **DAY:** A period of 24 consecutive hours beginning at midnight.

10. **DRUM COATING:** Coating of a cylindrical metal shipping container larger than 12 gallons capacity but no larger than 110 gallons capacity.

11. **ELECTRIC INSULATING VARNISH**: A non-convertible-type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

12. **ELECTROSTATIC SYSTEM:** A method of applying atomized paint by electrically charging the coating and the object being coated with opposing charges. A higher proportion of the coating reaches and coats the object than would occur in the absence of a charge.

13. **EMISSION CONTROL SYSTEM (ECS):** A system, approved in writing by the Control Officer, designed

and operated in accordance with the equipment manufacturer's specifications, to reduce emissions of volatile organic compounds. Such system consists of an emissions collection subsystem and an emissions processing subsystem.

14. **ETCHING FILLER:** A coating that contains less than 23 percent solids by weight and at least ½ percent acid by weight, and is used instead of applying a pretreatment coating followed by a primer..

15. **EXTREME HIGH-GLOSS COATING:** A coating when tested by the ASTDM D-523 adopted in 1980 shows reflectance of 75 or more on a 60° meter.

16. **EXEMPT ORGANIC COMPOUNDS**: The federally listed non-precursor organic compounds, organic compounds which have been determined to have negligible photochemical reactivity as listed in 40 CFR 51.100(s).

17. **EXTREME-PERFORMANCE COATING:** A coating used on a surface where the coated surface in its intended use is at temperatures consistently in excess of 250°F (121°C). Extreme-performance coatings include but are not limited to, coatings applied to locomotives, railroads cars, farm machinery, plastic, rubber, leather, or glass.

18. **FABRIC:** A textile material. Non-manufactured items from nature are not fabric except for natural threads, fibers, filaments, and similar that have been manufactured into textile fabric.

19. **FILLER:** A relatively non-adhesive substance added to an adhesive to improve its working properties, permanence, strength, or other qualities.

20. **FLEXIBLE PLASTIC PART OR PRODUCT:** A plastic part or product designed to withstand significant deformation without damaging it for its intended use. Not included are flexible plastic parts that are found on a can, coil, metal furniture, or large appliance, or that are already a part of an aerospace component, highway vehicle, mobile equipment, architectural building or structure, or a previously coated marine-vessel .

21. **FLOW COAT:** A non-atomized technique of applying coatings to a substrate with a fluid nozzle in a fan pattern with no air supplied to the nozzle.

22. **HAND APPLICATION METHODS:** Application of coatings by non-mechanical, hand-held equipment including but not limited to paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, rags, and sponges.

23. **HEAT-RESISTANT COATING:** A coating that must withstand a temperature of at least 400°F during normal use.

24. **HIGH PERFORMANCE ARCHITECTURAL COATING:** A coating used to protect architectural subsections and that meets the requirements of the Architectural Aluminum Manufacturer Association's publication number AAMA 2604-05 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605-05 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels).

25. **HIGH TEMPERATURE COATING:** A coating that is certified to withstand a temperature of 1000°F for 24 hours.

26. **HIGH-VOLUME, LOW PRESSURE (HVLP) SPRAY-GUN**: Spray equipment that is permanently labeled as such and used to apply any coating by means of a spray-gun which is designed and operated between 0.1 and 10 pounds per square inch gauge (psig) air atomizing pressure measured dynamically at the center of the air cap and at the air horns.

27. **HIGHWAY VEHICLE:** ~~Any~~ A vehicle that is physically capable of being driven upon a highway including, but not limited to, cars, pickups, vans, trucks, truck-tractors, motor-homes, motorcycles, and utility vehicles.

28. **IN USE OR HANDLED:** Actively engaging the materials with activities such as mixing, depositing, brushing, rolling, padding, wiping or removing or transferring material into or out of the container.

29. **LARGE APPLIANCE:** A door, case, lid, panel, or interior support part of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, evaporative coolers, and other similar products.

30. **LOW PRESSURE SPRAY GUN:** An air-atomized spray gun that, by design, functions best at tip pressures below 10 psig (516 mm Hg), measured according to §5-13-500(4)(i)(d) of this rule, and for which the manufacturer makes no claims to the public that the gun can be used effectively above 12 psig (619 mm Hg).

31. **METAL FURNITURE:** Furniture made of metal or any metal part which will be assembled with other parts made of metal or other material(s) to form a furniture piece.

32. **METALLIC COATING:** A coating that contains more than 5 grams of metal particles per liter of coating as applied.

33. **MILITARY SPECIFICATION COATING:** A coating that has a formulation that has been approved by a United States Military Agency for use on military equipment.

34. **MOBILE EQUIPMENT:** Equipment that is physically capable of being driven or drawn on a highway including, but not limited to: construction vehicles (such as mobile cranes, bulldozers, concrete mixers); farming equipment (wheel tractor, plow, pesticide sprayer); hauling equipment (truck trailers, utility bodies, camper shells); and miscellaneous equipment (street cleaners, mopeds, golf carts).

35. **MOLD-SEAL COATING:** The initial coating applied to a new mold or a repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

36. **NON-PRECURSOR ORGANIC COMPOUNDS:** Non-Precursor Organic Compounds are compounds having negligible photochemical reactivity. The list of negligible photochemical reactivity compounds is provided in 40 CFR 51.100(s)(1).

37. **OTHER METAL PARTS AND PRODUCTS**: Any metal part or product, excluding the following items that are made of metal: can, coil, furniture, large appliance, aerospace component, metal foil, metal textile fabric, semiconductor metal, highway vehicle, mobile equipment, an architectural building or structure, a previously coated marine-vessel.

38. **PAN BACKING COATING:** A coating applied to the surface of pots, pans, or other cooking implements that are exposed directly to a flame or other heating element.

39. **PLASTIC:** Substrates containing one or more resins and may be solid, porous, flexible, or rigid. Plastics include fiber reinforced plastic composites. Any solid, synthetic: resin, polymer, or elastomer, except rubber. For the purposes of this rule, plastic film is considered film; fabric and paper made of polymeric plastic fibers are considered fabric and paper, respectively.

40. **PREFABRICATED ARCHITECTURAL COMPONENT COATING:** A coating applied to metal parts and products which are to be used as an architectural structure.

41. **PRETREATMENT COATING:** A coating containing no more than 12 percent solids by weight, and at least 1/2 percent acid, by weight, is used to provide surface etching, and is applied directly to metal surfaces to provide corrosion resistance, adhesion and ease of stripping.

42. **PRIMER:** A coating applied directly to substrate for any one or combination of the following purposes: corrosion prevention, protection from the environment, functional fluid resistance, or adhesion of subsequent coatings.

43. **REPAIR COATING:** A coating used to recoat the portion of a completed finish that suffered post-production damage at the facility where the finish was applied.

44. **RESTRICTED SPRAY GUN:** An air-atomizing spray gun that is not a low pressure spray gun, and any other spray gun that is not on the list in §5-13-300.2 of this rule.

45. **SEALANT (BEADED):** A material with adhesive properties that is applied as a rope or bead and that is formulated for use primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealants include sealant primers and caulks.

46. **SMALL SURFACE COATING SOURCE (SSCS):** A facility from which the total VOC emissions for all surface coating operations that are subject to this rule without, or prior to, any emission control, is less than 2 tons/yr (1814 kg); as demonstrated by both adequate records of coating and diluent use (according to §5-13-500.1 of this rule) and a separate tally of the number of days each month such coating operations occur.

47. **STENCIL COATING:** An ink or a coating that is rolled or brushed onto a template or stamp in order to add identifying letters, symbols and/or numbers.

48. **SURFACE COATING:** A liquid, fluid, or mastic composition that is converted to a solid (or semi-solid) protective, decorative, or adherent film or deposit after application as a thin layer. Surface coating is generally distinct and different from impregnation and from applying adhesive for bonding purposes.

49. **SURFACE COATING OPERATION:** Preparation, handling, mixing, and application of surface coating, and cleanup of application equipment and enclosures at a facility where surface coating is applied.

50. **SURFACE PREPARATION:** Surface preparation is the cleaning of a substrate to remove dirt, oils, and other contaminants prior to the application of surface coatings or sealants.

51. **TEXTURE COATING:** A coating that is applied which, in its finished form, consists of discrete raised spots of the coating.

52. **TOUCH UP COATING:** A coating used to cover minor coating imperfections after the main coating

operation. This includes touch-up coating that accompanies the purchase of an object already coated with that coating.

53. **TRANSFER EFFICIENCY:** The ratio of the weight of coating solids adhering to the part being coated, to the weight of coating solids used in the application process expressed as a percentage.

54. **VACUUM-METALIZING COATING:** The undercoat applied to the substrate on which the metal is deposited or the overcoat is applied directly to the metal film. Vacuum metalizing/ physical vapor deposition (PVD) is the process whereby the metal is vaporized and deposited in a substrate in a vacuum chamber.

55. **VOC ACTUAL:** VOC Actual includes the VOC Content minus the weight of water and minus the weight of exempt compounds (§5-13-200.12) divided by the total volume of all materials. Units of VOC actual are in pounds of VOC per gallon (or grams per liter) of material and shall be calculated using the following equation:

$$\text{VOC Content of Cleaners or Reducers} = \frac{W_s - W_w - W_{es}}{V_m}$$

Using consistently either English or metric measures in the calculations, where:

W_s = weight of all volatile material in pounds (or grams) including VOC, water, non-precursor organic compounds ((§5-13-200.30) and dissolved vapors

W_w = weight of water in pounds (or grams)

W_{es} = weight of all non-precursor organic compounds in pounds (or grams)

V_m = volume of total material in gallons (or liters)

56. **VOC CONTENT:** The organic chemicals in a material that have a high vapor pressure at ordinary room temperature. The high vapor pressure results from a low boiling point, which causes large numbers of molecules to evaporate or sublimate from the liquid or solid form of the compound and enter the surrounding air. The term VOC Content is a general term used throughout the rule and includes VOC, VOC Actual or VOC Regulatory.

57. **VOC REGULATORY:** VOC Content Minus Exempt Compounds The VOC content minus the weight of water and minus the weight of Exempt Compounds divided by the volume of material minus the volume of water and minus the volume of Exempt Compounds. Units of VOC Regulatory are in pounds of VOC per gallon (or grams per liter) of material and shall be calculated using the following equation:

$$\text{VOC Regulatory} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Using consistently either English or metric measures in the calculations, where:

W_s = weight of all volatile material in pounds (or grams), including VOC, water, non-precursor organic

compounds and dissolved vapors

W_w = weight of water in pounds (or grams)

W_{es} = weight of all non-precursor organic compounds in pounds (or grams)

V_m = volume of total material in gallons (or liters)

V_w = volume of water in gallons (or liters)

V_{es} = volume of all non-precursor organic compounds in gallons (or liters)

5-13-300 – STANDARDS

1. **SURFACE COATINGS:** An owner or operator shall comply with one of the following for all applications of surface coatings:

i. Meet the limits in Table 1 of this rule. Coating limits are VOC Regulatory; or

ii. Operate an Emission Control System (ECS) in accordance with §5-13-300.5 of this rule when applying a coating that exceeds the VOC limits in Table 1 of this rule; or

iii. Qualify for an exemption under §5-13-100.3 or §5-13-100.4 of this rule.

Table 1: Coating Limits For Metal Parts and Products

Coating Category	Air Dried		Baked	
	g VOC/l	lb VOC/gal	g VOC/l	lb VOC/gal
Clear Coat	515	4.3	515	4.3
Camouflage	420	3.5	420	3.5
Electric-Insulating Varnish	420	3.5	420	3.5
Etching Filler	420	3.5	420	3.5
Extreme High-Gloss	420	3.5	360	3.0
Extreme Performance	420	3.5	360	3.0
Heat-Resistant	420	3.5	360	3.0
High Performance Architectural	740	6.2	740	6.2
High Temperature	420	3.5	420	3.5
Metallic	420	3.5	420	3.5

Coating Category	Air Dried		Baked	
	g VOC/l	**lb VOC/gal**	**g VOC/l**	**lb VOC/gal**
Military Specification	340	2.8	280	2.3
Mold-Seal	420	3.5	420	3.5
Pan Backing	420	3.5	420	3.5
Prefabricated Architectural Component	420	3.5	280	2.3
Pretreatment Coating	420	3.5	420	3.5
Repair	420	3.5	360	3.0
Touch up	420	3.5	360	3.0
Vacuum-Metalizing	420	3.5	420	3.5
Drum Coating, New, Exterior	340	2.8	0.34	2.8
Drum Coating, New, Interior	420	3.5	420	3.5
Drum Coating, Reconditioned, Exterior	420	3.5	420	3.5
Drum Coating, Reconditioned, Interior	500	4.2	500	4.2
OTHER METAL PARTS AND PRODUCTS COATING: includes Adhesive Primer, Caulking, and Beaded Sealants:				
Air Dried	420	3.5		
Baked Coating [above 200°F (93°C)]			360	3.0

2. APPLICATION METHODS FOR SURFACE COATINGS:

i. An owner or operator shall use one of the following methods for all applications of surface coating materials containing more than 2 pounds of VOC per gallon (240 g/L), minus exempt compounds,(VOC regulatory):

a. HVLP Spray-Gun (Low Pressure Spray Gun);

b. Electrostatic System;

c. A system that atomizes principally by hydraulic pressure, including "airless" and "air assisted airless";

d. Hand Application Methods, including but not limited to:

(1) Flow Coat;

(2) Roll Coat;

(3) Dip-Coating;

e. An Alternative Application Method: Any method approved by the Administrator as HVLP-equivalent.

ii. An owner or operator is allowed to use a device or system other than that described in §5-13-300(2)(i) of this rule for applications of surface coating containing less than 2.0 lb VOC/gal (250 g/l).

3. CLEANUP OF APPLICATION EQUIPMENT: An owner or operator shall comply with the following when using VOC-containing material to clean application equipment:

i. Spray-Gun Cleaning Requirements:

a. Clean spray-guns without spraying or atomizing a solvent cleaner with the gun.

b. Spray-Gun Cleaning Machine: Use a spray-gun cleaning machine that complies with the following requirements unless the owner or operator complies with the manual spray-gun cleaning requirements in §5-13-300(3)(ii) of this rule.

(1) Spray-Gun Cleaning Machine-General Requirements: The spray-gun cleaning machine shall meet all of the following requirements:

(a) Be designed to clean spray-guns.

(b) Have at least one pump that drives solvent cleaner through and over the spray-gun.

(c) Have a basin which permits containment of the solvent cleaner.

(d) Be kept in proper repair and free from liquid leaks.

(e) Shall be fitted with a cover.

(f) Be located on-site where the spray application occurs; and

(g) Be operated and maintained according to manufacturer's or distributor's instructions.

(2) Automatic Spray-Gun Cleaning Machine: An automatic spray-gun cleaning machine shall have a self-covering or enclosing cover feature when not loading or unloading that in the cover's closed position allows no gaps exceeding 1/8 inch (3 mm) between the cover and the cabinet. This self-enclosing feature shall be maintained and consistently cover or enclose to these gap limits.

(3) Non-Automatic Remote Reservoir Spray-Gun Cleaning Machine: Non-automatic Remote Reservoir Spray-Gun Cleaning Machine shall meet all of the following requirements:

(a) Drain solvent cleaner from the sink/work-space quickly into a remote reservoir when work-space is not in use; and

(b) Machine reservoir shall not have cumulative total openings, including the drain opening(s)

exceeding two square inches in area so that the reservoir will not allow VOC vapors to escape to the atmosphere; and

(c) Allow a machine design in which the base of the sink/work-space functions as the reservoir's top surface, as long as the fit/seal between sink base and reservoir container allows the reservoir to meet the opening limits specified in §5-13-300(3)(i)(b)(3)(b) of this rule.

ii. **Manual Spray-Gun Cleaning Requirements**: An owner or operator manually cleaning spray-guns shall comply with the following requirements:

a. Disassembled spray-guns must be cleaned by non-mechanical, hand-held method of application of cleaners including but not limited to paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, rags, and sponges;

b. Disassembled spray-guns must be soaked in a vat which remains covered at all times, except when the application equipment is being handled in the container, or transferred into or out of the container;

c. Solvent cleaners used to clean spray-guns shall be less than 10 percent VOC (excluding water and non-precursor organic compounds) and shall contain less than 8.0 percent VOC by weight (including water and non-precursor organic compounds) and calculated pursuant to VOC Regulatory as defined in this rule.

4. **WORK PRACTICES-HANDLING, DISPOSAL AND STORAGE OF VOC-CONTAINING MATERIAL:** An owner or operator of any surface coating facility shall store, handle, and dispose of VOC-containing material in a way to prevent the evaporation of VOC to the atmosphere. Work practices limiting VOC emissions include but are not limited to the following:

i. **Use and Storage:** An owner or operator shall cover and keep covered each VOC-containing material which is not currently in use. A person shall store finishing and cleaning materials in closed or covered leak-free containers.

ii. **Disposal of VOC-Containing Material:** An owner or operator shall store all VOC-containing materials intended for disposal including, but not limited to, rags, waste coatings, waste brushes, waste rollers, waste applicators, waste solvents, and their residues, in closed, leak free containers. The containers shall be clearly marked “Disposal of VOC Material” and remain covered with a leak tight cover, when not in use.

iii. Minimize spills of VOC-containing coatings, thinners, and coating-related waste materials; and

iv. Convey VOC-containing coatings, thinners, and coating-related waste materials from one location to another in closed containers or pipes.

v. **Use of VOC Solvent for Surface Coating Cleanup:** An owner or operator may choose to use a VOC cleaning solvent for the cleaning of coating-application equipment, if such application equipment does not use spray devices and the same principal solvent is used for cleaning as is used in the coating.

5. **EMISSION CONTROL SYSTEM (ECS) REQUIREMENTS:**

i. **ECS Control Efficiencies:** To meet the requirements pursuant to §5-13-300(1)(ii) of this rule, an ECS shall be operated as follows:

a. Overall ECS Efficiency: The ECS shall prevent at least 90% of the mass of the VOC emitted by each coating or process from entering the atmosphere except those controlled pursuant to the alternative in §5-13-300(5)(i)(c)(2) of this rule.

b. Capture Efficiency:

For an ECS used pursuant to §5-13-300(1)(ii) of this rule, capture shall be at least 90%.

c. Control Efficiency of The Emissions Processing Subsystem:

(1) The ECS shall reduce the mass of VOC entering it by at least 90 percent.

(2) **Alternative for Very Dilute Input**: For VOC input-concentrations of less than 100 ppm (as carbon) at the inlet of the ECS emissions processing subsystem, an ECS' VOC processing subsystem also satisfies the processor efficiency requirements of this rule if:

(a) The VOC output is consistently less than 20 mg VOC/m^3 (as carbon) adjusted to standard conditions; and

(b) The ECS consistently shows an overall control efficiency of at least 90% when tested pursuant to §5-13-500(4)(i)(b) of this rule, at VOC input-concentrations exceeding 100 ppm (as carbon).

d. All VOC coatings used that are in excess of the VOC limits in Table 1 of this rule shall be clearly identified such that coating-operators are informed that an ECS must be used.

ii. **Operation and Maintenance (O&M) Plan Required for ECS:**

a. An owner or operator shall provide and maintain (an) O&M Plan(s) for any ECS, any other emission processing equipment, and any ECS monitoring devices used pursuant to this rule or to an air pollution control permit.

b. The owner or operator shall submit to the Control Officer for approval the O&M Plans of each ECS and each ECS monitoring device used pursuant to this rule.

c. The owner or operator shall comply with all identified actions and schedules provided in each O&M Plan.

iii. **Providing and Maintaining ECS Monitoring Devices:** Any owner or operator incinerating, adsorbing, or otherwise processing VOC emissions pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation, devices described in the facility's O&M Plan that indicate temperatures, pressures, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained. Records shall be kept pursuant to §5-13-500.2 which demonstrate that the ECS meets the overall control standard required by §5-13-300(5)(i) of this rule.

iv. **O&M Plan Responsibility:** An owner or operator of a facility that is required to have an O&M Plan pursuant to §5-13-300(5)(ii) must fully comply with all O&M Plans that the owner or operator has submitted for approval, but which have not yet been approved, unless notified otherwise by the Control Officer in writing. If revisions to the plan have been submitted and not yet been approved by the Control Officer, then an owner or operator shall comply with the most recent O&M plan on file at Pinal County Air Quality Control District.

v. Operation and Maintenance (O&M) Plan Contents For an ECS:

a. An O&M Plan for any ECS including any ECS monitoring devices shall include all of the following information:

(1) ECS equipment manufacturer;

(2) ECS equipment model;

(3) ECS equipment identification number or identifier that owner or operator subject to this rule assigns to such ECS equipment when manufacturer's equipment identification number is unknown,; and

(4) Information required by §5-13-500.1 of this rule.

b. **Control Officer Modifications to Plan**: After discussion with the owner or operator, the Control Officer may modify the plan in writing prior to approval of the initial O&M Plan. An owner or operator shall then comply with the plan modified.

c. **Deficient Plan**: The owner or operator subject to this rule, who receives a written notice from the Control Officer that the O&M Plan is deficient or inadequate, must make written revisions to the O&M Plan for any ECS including any ECS monitoring devices, and must submit such revised O&M Plan to the Control Officer within five working days of receipt of the Control Officer's written notice, unless such time period is extended by the Control Officer, upon written request, for good cause. During the time such owner or operator is preparing revisions to the O&M Plan, such owner or operator shall still comply with all requirements of this rule.

5-13-400 – ADMINISTRATIVE REQUIREMENTS

1. COMPLIANCE SCHEDULE VOC LIMITS:

i. Emission Control System (ECS): Any owner or operator installing an ECS shall:

a. Implement all recordkeeping provisions of this rule.

b. Announce the intention to use an ECS to the Control Officer in writing if:

(1) The ECS is used as an alternative to meeting the spray-gun provisions of §5-13-300.2 of this rule; or

(2) The ECS is used as an alternative to meeting the gun cleaning machine provisions of §5-13-300.3 of this rule.

c. One year after rule adoption of this rule, the ECS announced pursuant to §5-13-400(1)(i)(b) shall be in continuous use.

ii. VOC limits and Rule Requirements: Upon adoption of this rule, the owner or operator shall discontinue shelf purchase of materials that are non-compliant with §5-13-300(1)(i). The owner or operator has up to 6 months after rule adoption to complete use of existing non-compliant materials already purchased. A schedule for achieving compliant use of materials shall be prepared and made available to an inspector upon request. This schedule shall specify that 6 months after rule adoption complete material compliance shall be achieved.

2. COMPLIANCE SCHEDULE O&M PLAN:

i. O&M Plans for ECS equipment subject to this rule shall be revised /updated 3 months after rule

adoption.

ii. The Control Officer shall take final action on an O&M Plan revision/update to address the newly amended provisions of this rule within thirty calendar days of the filing of the complete O&M Plan revision/update. The Control Officer shall notify the applicant in writing of approval or denial.

5-13-500 – MONITORING AND RECORDS

1. RECORDKEEPING AND REPORTING: The owner or operator shall comply with the following recordkeeping requirements,

i. The type and amount used of each VOC-containing coating which is regulated by name or type in Table 1 of this rule, and update each VOC-containing material, related to surface coating, that is not addressed by this table. This includes, but is not limited to, thinners, surfacers, and diluents.

ii. Records shall be retained for five years and shall be made available to the Control Officer upon request.

iii. Current Lists:

a. Maintain a current list of coatings, or any other VOC-containing materials regulated by this rule. This list shall include:

VOC content for each as received (before thinning). Express VOC content in 1 of 3 forms:

(1) Pounds VOC per gallon~~,~~;

(2) Grams VOC per liter~~,~~ ; or

(3) The percent VOC by weight along with the specific gravity or density, (Two numbers are required).

b. An owner operator using any VOC coating subject to §5-13-300.1 of this rule shall have on site the written value of the VOC coating in one of the following forms:

(1) A manufacturer's technical data sheet;

(2) A manufacturer's safety data sheet (MSDS); or

(3) Actual test results.

c. Usage or Purchase Records:

(1) Monthly: Records of the amount of VOC coatings used shall be updated by the end of month for the previous month. Show the type and amount of each make-up (as described in §5-13-500(1)(iii) of this rule) and all other VOC cleaners or solvents to which this rule is applicable.

(2) Annually:

(i) Low VOC Coatings: Use of low VOC coatings shall be updated at least annually.

(ii) Low-VOC Cleaner: An owner and/or operator need not keep a record of a cleaning substance that is made by diluting a concentrate with water or non-precursor compound(s) to a level that qualifies as a "Low VOC Cleaner" if records of the concentrate usage are kept in accordance with this rule.

(3) Grouping by VOC Content: For purposes of recording usage, an operator may give VOC coatings, cleaners, and solvents of similar VOC content a single group-name, distinct from any product names in the group. The total usage of all the products in that group is then recorded under just one name. (In such a case, the operator must also keep a separate list that identifies the product names of the particular solvents included under the group name). To the group name shall be assigned the highest VOC content among the members of that group, rounded to the nearest 10th of a pound of VOC per gallon of material, or to the nearest gram VOC per liter of material.

d. Facilities That Are Not Small Surface-Coating Sources: Facilities that are not small surface-coating sources shall for all coatings (except those recorded under §5-13-100(3)(v)(c) low usage allowance), make the following listings for coatings that have VOC limits listed in Table 1 of this rule:

(1) VOC Before Reducing: The VOC content of each coating as received, minus exempt compounds. (This figure is sometimes called the "EPA Method 24" VOC content on manufacturer's data sheets). If the coating is a multi-part coating, list the manufacturer's final VOC content.

(2) List Maximum VOC Content of Coating As Applied: For each coating that you thin/reduce or add any additive to, record in a permanent log either of the following:

(a) The maximum number of fluid ounces thinner/reducer added to a gallon of unreduced coating (or maximum g/liter), and the maximum fluid ounces of every other additive mixed into a gallon of the coating; or

(b) The VOC content of the coating~~,~~ after adding the maximum amount of thinner/reducer and other additives added as determined by the formula in the definition of VOC Regulatory in this rule.

e. Aerosol Spray Cans: Maintain purchase records for aerosol spray-cans, including VOC content.

iv. Frequency of Updating Usage or Purchase Records: Maintain records according to the following schedule:

a. Small Surface-Coating Sources: Small surface-coating sources shall update each month's records of coating use by the end of the following month.

b. All Other Sources: For a source that does not meet the definition of small surface-coating source, update records monthly for each coating used that complies with the VOC limits in Table 1 of this rule. Complete a month's update by the end of the following month.

v. Grouping By VOC Content: The highest VOC content among the members of that grouping shall be assigned to that grouping, rounded to the nearest 10th of a pound. To identify what products belong within each group, after each group name and the group's VOC content of material must appear the name of each product in the group and its VOC content of material. **For example:** For

flexible plastic parts, you use 20 gallons of primer that has 3.04 lb VOC/gal., 30 gallons of primer having 3.14 lb VOC/gal., and 40 gallons of primer having 2.89 lb VOC/gal. You may record usage as 90 gallons of flexible plastic primer containing 3.1 lb VOC/gal. If grams VOC per liter is used to record VOC content, round off to the nearest whole number of grams.

2. ECS RECORDING REQUIREMENTS:

i. On each day an ECS is used at a facility pursuant to this rule, the owner or operator shall:

a. Record the amount and VOC content of coating, the amount of catalyst/hardener, and the amounts of solvent, reducer, and diluent used that were subject to ECS control pursuant to this rule; and

b. Make a permanent record of the operating parameters of the key systems as required by the O&M Plan; and

c. Make a permanent record of the maintenance actions taken within 24 hours of the action's completion for each day or period the O&M Plan requires maintenance be done.

ii.. An explanation shall be entered for scheduled maintenance that is not performed during the period designated for it in the O&M Plan.

3. O&M PLAN RECORDS: An owner or operator of a facility shall maintain all of the following records in accordance with an approved O&M Plan for any ECS,

i. Periods of time an approved ECS is operating to comply with this rule;

ii. Periods of time an approved ECS is not operating;

iii. Flow rates;

iv. Pressure drops;

v. Other conditions necessary to determine if the approved ECS is functioning properly;

vi. Results of visual inspections; and

vii. Correction action taken, if any.

4. COMPLIANCE DETERMINATION AND TEST METHODS:

i. **Compliance Determination:** The following means shall be used to determine compliance with this rule. When more than one test method is permitted for a determination, an exceedance of the limits established in the rule determined by any of the applicable test methods constitutes a violation of this rule.

a. Measurement of VOC content of materials subject to §§5-13-300.1 or 5-13-300.2 of this rule shall be conducted and reported using one of the following means:

(1) VOC content of coatings, solvents, and other substances having less than 5% solids will be determined by the test method in §§5-13-500(4)(ii)(f) of this rule (BAAQMD Method 31 [April 15, 1992]) or 5-13-500(4)(ii)(g) (SCAQMD Method 313-91 [April 1997]) of this rule.

(2) The VOC content of coatings or other materials having 5% or more solids will be determined by the test method in §5-13-500(4)(ii)(c) (EPA Method 24), §§5-13-

500(4)(ii)(f) (BAAQMD Method 31 [May 18. 2005]) or 5-13-500(4)(ii)(g) (SCAQMD Method 313-91 [April 1997]) of this rule.

(a) Plastisols, powder coatings, and radiation-cured coatings shall be cured according to the procedures actually used in the coating process being tested before final VOC-emission determinations are made.

(b) In the case of multi-component, polymerizing coatings tested according to §5-13-500(4)(i)(a) of this rule, Method 24 shall be modified to eliminate the post-mixing dilution-step (that employs toluene or other solvent). Instead, the mixture shall be spread by appropriate technique to form a thin layer, occupying the entire bottom of the foil pan. Techniques included in the method referenced in §5-13-500(4)(i)(b) of this rule, can be used as a guide for such spreading.

b. The VOC content of gaseous emissions entering and exiting an ECS shall be determined by either EPA Method 18 referred to in §5-13-500(4)(ii)(b) of this rule, or EPA Method 25 and its submethod, referred to in in §5-13-500(4)(ii)(d) of this rule.

c. Capture efficiency of an ECS shall be determined either by the methods in §5-13-500(4)(ii)(e) of this rule (EPA Method 204 and its submethods), or by using mass balance calculation methods in concert with the methods in §5-13-500(4)(ii)(a) of this rule (EPA Methods 2, 2a, 2c, and 2d).

d. Measurement of air pressure at the center of the spray gun tip and air horns of an air-atomizing spray gun shall be performed using an attachable device in proper working order supplied by the gun's manufacturer for performing such a measurement.

e. Temperature measurements shall be done with an instrument with an accuracy and precision of less than one-half degree Fahrenheit (0.25°C) for temperatures up to 480°F (250°C).

ii. **Test Methods Adopted By Reference:** The EPA test methods as they exist in the Code of Federal Regulations (CFR) (July 1, 2015), as listed below, are adopted by reference. The other test methods listed here are also adopted by reference, each having paired with it a specific date that identifies the particular version/revision of the method that is adopted by reference. These adoptions by reference include no future editions or amendments.

a. EPA Methods 2 ("Determination of Stack Gas Velocity and Volumetric Flow Rate"), 2a ("Direct Measurement of Gas Volume Through Pipes and Small Ducts"), 2c ("Determination of Stack Gas Velocity and Volumetric Flow rate in Small Stacks or Ducts"), and 2d ("Measurement of Gas volumetric Flow Rates in Small Pipes and Ducts"). All 4 of the foregoing methods are in 40 CFR 60, Appendix A.

b. EPA Method 18 ("Measurement of Gaseous Organic Compound Emissions by Gas Chromatography") and its submethods (40 CFR 60, Appendix A).

c. EPA Test Method 24 ("Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings") (40 CFR 60, Appendix A).

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

e. EPA Test Methods 204 ("Criteria for and Verification of a Permanent or Temporary Total Enclosure"), 204a, 204b, 204c, 204d, 204e, and 204f (Appendix M, 40 CFR 51).

f. California's Bay Area Air Quality Management District (BAAQMD) Method 31 (May 18. 2005), "Determination of Volatile Organic Compounds in Paint Strippers, Solvent Cleaners, and Low Solids Coatings."

g. California's South Coast Air Quality Management District (SCAQMD) Method 313-91 (April 1997).

iii. **Test Methods for ECS:** For coatings/adhesives controlled pursuant to §5-13-300(2)(i) or §5-13-300(5)(iii) of this rule:

a. Measurements of VOC emissions from an ECS shall be conducted in accordance with EPA Methods 18 or its submethods, or by Method 25 or its submethods (40 CFR 60, Appendix A).

b. Capture efficiency of an ECS shall be determined by mass balance in combination with ventilation/draft rate determinations done in accordance with §5-13-500(4)(iii)(c) of this rule or with US EPA Test Methods 204, 204a, 204b, 204c, 204d, 204e, and 204f (Appendix M, 40 CFR 51).

c. Ventilation/draft rates shall be determined by EPA Methods 2, 2a, 2c, and 2d (40 CFR 60, Appendix A).

CHAPTER 5, ARTICLE 20.

ARTICLE 20. STORAGE AND LOADING OF GASOLINE AT GASOLINE DISPENSING FACILITIES

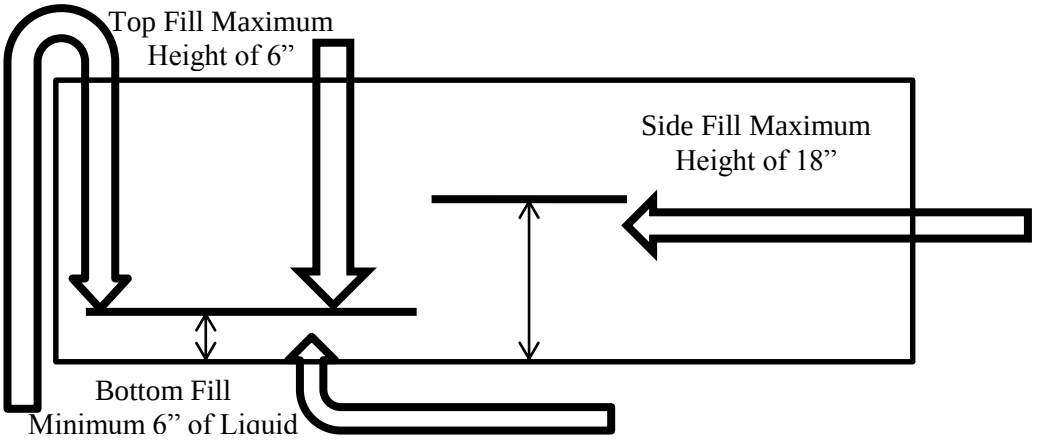
5-20-100. GENERAL

1. Purpose: To limit emissions of volatile organic compounds (VOC) from gasoline during storage and loading of gasoline at gasoline dispensing facilities.
2. Applicability: This Article applies to an owner or operator who operates a gasoline dispensing facility, including those located at airports in the Pinal County portion of the Phoenix-Mesa 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS) nonattainment area, namely T1N, R8E; T1S, R8E (Sections 1 through 12) as defined in 40 CFR 81.303.
3. Exemptions:
    - a. This Article does not apply to the storage and loading of the following fuels:
        - i. Diesel
        - ii. Liquefied petroleum gas (LPG)
    - b. Aviation gasoline loaded at airports: The loading of aviation gasoline into storage tanks at airports, and the subsequent transfer of aviation gasoline within the airport, is exempt from §5-20-300.4 and section §5-20-300.5(a) of this Article. The storage of aviation gas at airports is subject to this Article.
    - c. Bulk gasoline plant or bulk gasoline terminal: This Article does not apply to a bulk gasoline plant or a bulk gasoline terminal.
    - d. Stationary gasoline dispensing tanks for farm operations: Any stationary gasoline dispensing tank used exclusively for the fueling of implements of normal farm operations must comply with Section §5-20-300.2 (General Housekeeping Requirements), but is exempt from all other requirements of this rule.
    - e. Control of VOC Vapors exemption: The Stage 1 Vapory Recovery System provisions of §5-20-300.5.b of this Article shall not apply to the following stationary gasoline dispensing tanks:
        - i. Non-resale gasoline dispensing operations: Any stationary gasoline dispensing facility receiving less than 120,000 gallons of gasoline in any 12 consecutive calendar months, dispensing no resold gasoline, and having each stationary gasoline tank equipped with a permanent submerged fill pipe is exempt from §5-20-300 of this Article. However, any operation shall become subject to the provisions of §5-20-300 of this Article by exceeding the 120,000 gallon threshold, and shall remain subject to such provisions even if annual emissions later fall below this threshold.
        - ii. Stationary gasoline dispensing tanks of 1,000 gallons or less: Any stationary gasoline dispensing tank having a capacity of 1,000 gallons or less which was installed prior to October 2, 1978, provided that such tank is equipped with a permanent submerged fill pipe. Where, because of government regulation including, but not limited to, Fire Department codes, such a fill pipe cannot be installed, the gasoline shall be delivered into the tank using a nozzle extension that reaches within 6 inches of the tank bottom.
    - f. The owner or operator of a gasoline dispensing facility that is unattended or when there is only one owner or operator under control of the gasoline dispensing facility present, the owner or operator of the gasoline dispensing facility is exempt from §5-20-300.4.

5-20-200. DEFINITIONS

1. AVIATION GASOLINE – A type of gasoline used to fuel a piston engine aircraft.
2. CARB-CERTIFIED: A vapor control system, subsystem, or component that has been specifically approved by system configuration and manufacturer's name and model number in an executive order of the California Air Resources Board (CARB), pursuant to Section 41954 of the California Health and Safety Code.
3. COAXIAL VAPOR BALANCE SYSTEM: A type of vapor balance system in which the gasoline vapors are removed through the same opening through which the fuel is delivered.

4. DUAL-POINT VAPOR BALANCE SYSTEM: A type of vapor balance system in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection. [40 CFR 63.11132].
5. GASOLINE: Any petroleum distillate, petroleum distillate/alcohol blend, petroleum distillate/organic compound blend, or alcohol having a Reid vapor pressure between 4.0 and 14.7 psi (200-760 mm Hg.), as determined by §5-20-500(4)(b) of this Article, and which is used as a fuel for internal combustion engines.
6. GASOLINE CARGO TANK: A delivery tank truck or railcar which is loading or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load. This includes any hoses the vessel carries through which deliveries must be made.
7. GASOLINE DISPENSING FACILITY (GDF): Any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on-road and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline fueled engines and equipment. [40 CFR 63.11132]
8. GASOLINE VAPORS: Vapors, originating from liquid gasoline, that are usually found in mixture with air. Included are any droplets of liquid gasoline or of gasoline vapor condensate that are entrained by the vapor.
9. 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 escaped from above ground fittings.
10. MARICOPA COUNTY (MC) VAPOR TIGHTNESS TEST: The complete pressure, vacuum, and vapor-valve testing of a gasoline cargo tank that is performed according to Maricopa County specifications as described in Maricopa County Air Quality Rule 352.
11. POPPETTED DRY BREAK: A type of vapor loss control equipment that opens only by connection to a mating device to ensure that no gasoline vapors escape from the stationary dispensing tank before the vapor return line is connected.
12. STAGE 1 VAPOR RECOVERY (VR) SYSTEM: At a gasoline dispensing facility, the use of installed vapor recovery equipment designed to reduce by at least 95% the VOC vapor that would otherwise be displaced into the atmosphere from a stationary dispensing tank when gasoline is delivered into the tank by a gasoline cargo tank. This reduction may be done either by capturing the displaced vapors within the gasoline cargo tank, and or by processing the vapors on site with an emission processing device.
13. STATIONARY DISPENSING TANK: Any stationary tank which dispenses gasoline directly into a motorized vehicle's fuel tank, dispenses gasoline into an aircraft's fuel tank, or dispenses gasoline into a watercraft's fuel tank that directly fuels its engine(s).
14. SUBMERGED FILL: Any discharge pipe or nozzle which meets the applicable specifications as follows:
    a. Top-Fill or Bottom-Fill Tanks: The end of the discharge pipe or nozzle is totally submerged when the liquid level is six inches (15 cm) from the bottom of the tank.
    b. Side-Fill: At its highest point within the storage tank that is less than 2,000,000 gallon capacity, 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.
    c. Horizontal Fill: At its highest point within a floating roof tank of 2,000,000 gallons or greater capacity, the end of the discharge pipe or nozzle may be up to 39.4 inches (1 meter) above the tank bottom if the discharge pipe or nozzle is kept completely submerged, including when the roof rests on its legs, except when the tank is being emptied completely.



15. VAPOR LOSS CONTROL EQUIPMENT: Any piping, hoses, equipment, or devices which are used to collect, store and/or process VOC vapors at a service station or other gasoline dispensing operation.
16. VAPOR TIGHT: A condition in which a suitable detector at the site of (potential) leakage of vapor shows less than 10,0000 ppmv when calibrated with methane; or the detector shows less than 1/5 LEL (lower explosive limit) subsequent to calibration with a gas specified by the manufacturer and is used according to the manufacturer’s instructions.

5-20-300. STANDARDS

1. MANUFACTURERS, SUPPLIERS, AND OWNERS OR OPERATORS:
    a. A manufacturer, supplier, owner or operator shall not supply, offer for sale, sell, install or allow the installation of an aboveground or underground storage tank, any type of vapor recovery system or any of its components unless the tank, system and components meet the following:
        i. Replacement Components for a Vapor Recovery System: A vapor recovery system for which there is a CARB specification shall be replaced with components that comply with one of the following:
            1. The equipment is supplied by the manufacturer as a CARB-certified component; or
            2. The equipment is rebuilt by a person who is authorized by CARB to rebuild that specific CARB-certified component.
        ii. All vapor return lines from dispensing tanks shall be equipped with CARB-certified, spring loaded, vapor-tight, poppetted dry break valves.
        iii. After [date of rule adoption], each new or rebuilt installed component shall be clearly identified with a permanent identification affixed by the certified manufacturer or rebuilder.
    b. A licensed Vapor Recovery Registered Service Representative (RSR) in the State of Arizona shall install an aboveground or underground storage tank or vapor recovery system components.
    c. Coaxial Vapor Balance System Prohibition: An owner or operator shall not
        i. Install a coaxial fill pipe in a new installation; or
        ii. Reinstall a coaxial fill pipe during any changes to the tank when the top of the tank is exposed and the vapor port bung is pre-configured to accept vapor recovery piping.
    d. The owner or operator of a stationary dispensing tank shall verify that vapor recovery equipment (if required by this rule) is properly connected and in use at all times while gasoline is actively being loaded. If the gasoline dispensing facility is unattended or there is only one owner or operator under control of the gasoline dispensing facility on-site, the owner or operator of the cargo tank is responsible for the proper

connection and use of the vapor recovery equipment (if required by this rule) while gasoline is being actively loaded.

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

2. GENERAL HOUSEKEEPING REQUIREMENTS:
   a. An owner or operator shall not store gasoline or permit the loading of gasoline in any stationary gasoline storage tank located above or below ground unless all of the following conditions are met:
      i. Minimize gasoline spills;
      ii. Clean up spills as expeditiously as practicable;
      iii. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
      iv. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling equipment, such as oil/water separators;
      v. Properly dispose of any VOC containing material.

3. GASOLINE STORAGE EQUIPMENT AND OPERATION REQUIREMENTS:
   a. An Underground Storage Tank (UST) must meet all of the following conditions unless exempt from the vapor recovery system requirements per §5-20-100.3 of this Article:
      i. The UST is equipped and maintained according to §5-20-300.1 of this rule;
      ii. For an existing GDF, maintain a dual-point vapor recovery system OR a coaxial vapor balance system. For new installations or modifications to existing GDF, install and maintain a dual-point vapor recovery system with separate fill and vapor connection points;
      iii. A pressure vacuum vent is installed and maintained per manufacturer specifications;
      iv. The vapor recovery system is maintained and operated according to the manufacturer's specifications and the applicable CARB Executive Orders including the corresponding CARB approved Installation, Operation and Maintenance Manual;
      v. A permanent submerged fill pipe is installed and maintained to ensure the highest point of the discharge opening is no more than six inches (6”) from the bottom of the UST;
      vi. Each fill pipe is equipped with gasketted vapor tight cap;
      vii. Each poppetted dry break is equipped with vapor tight seal and gasketted vapor tight cap;
      viii. Each gasketed vapor tight cap is maintained in a closed position except when the fill pipe or poppetted dry break it serves is actively in use;
      ix. The fill pipe assembly, including fill pipe, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the vapor recovery system; and
      x. A spill containment receptacle is installed and maintained free of standing liquid, debris and other foreign matter. The spill containment receptacle shall be equipped with an integral drain valve or other CARB-certified equipment, to return spilled gasoline to the underground stationary storage tank. The drain valve shall be maintained closed and free of vapor emissions at all times except when the valve is actively in use.
   b. An Above Ground Storage Tank (AST) with a capacity greater than 250 gallons must meet all of the following conditions:
      i. A permanent submerged fill pipe is installed and maintained to ensure the highest point of the discharge opening is no more than six inches (6”) from the bottom of the AST. If the AST is side filled, the fill pipe discharge opening is no more than 18 inches above the tank bottom;
      ii. A pressure vacuum vent is installed and maintained per manufacturer specifications;
      iii. Each fill pipe is equipped with a gasketed vapor tight cap;
      iv. Each poppetted dry break is equipped with a vapor tight seal and is covered with a gasketed vapor tight cap;

v. All threads, gaskets, and mating surfaces of the fill pipe assembly shall prevent liquid or vapor leakage at the joints of the assembly;
vi. Each gasketed vapor tight cap is maintained in a closed position except when actively in use;
vii. If an AST is equipped with a spill containment receptacle, it shall be maintained to be free of standing liquid, debris and other foreign matter;
viii. A spill containment receptacle is installed at each fill pipe;
ix. Each spill containment receptacle equipped with an integral drain valve or other approved equipment that returns spilled gasoline to the aboveground storage tank shall be maintained closed vapor tight except when the valve is actively in use; and
x. Any overfill prevention equipment shall be approved, installed and maintained vapor tight to the atmosphere. Any device mounted within the fill pipe shall be so designed and maintained that no vapor from the vapor space above the gasoline within the tank can penetrate into the fill pipe or through any of the fill pipe assembly into the atmosphere.

4. LOADING OF GASOLINE:
   a. When more than one owner or operator is present at a gasoline dispensing facility, prior to accepting a load of gasoline, the owner or operator of a gasoline dispensing facility shall verify all of the following:
      i. The gasoline cargo tank clearly displays a valid Maricopa County (Mc) Vapor Tightness Test decal that is permanently mounted near the front on the right (passenger) side of the vessel.
      ii. The owner or operator of the gasoline cargo tank connects the vapor return hose.
5. CONTROL OF VOC VAPORS:
   a. Gasoline vapors displaced from a stationary dispensing tank by gasoline being delivered shall be handled by a Stage 1 Vapor Recovery System, unless the tank is exempted by §5-20-100.3 of this rule.
   b. Stage 1 Vapor-Recovery System Configuration:
      i. Replacement: No part of a vapor recovery system for which there is a CARB specification shall be replaced with anything but CARB-certified components.
      ii. Vapor Valves:
         1. All vapor return lines from a stationary dispensing tank shall be equipped with CARB-certified, spring-loaded, vapor-tight, poppetted dry break valves.
         2. Vapor valves shall be inspected weekly to determine if closure is complete and gaskets are intact; a record shall be made pursuant to §5-20-500.2 of this rule.
      iii. Above Ground Systems: An above ground dispensing tank shall have CARB-certified fittings wherever CARB so specifies.
      iv. Installation of New Gasoline Tank: Each new gasoline tank installation shall use CARB-certified fittings exclusively wherever CARB so specifies, and:
         1. Shall have its own separate, functioning dual-point vapor return line;
         2. Is allowed to have a combination vapor recovery system that in addition to having a separate dual-point vapor return line, also has vapor piping/fittings linking it to one or more (other) stationary gasoline dispensing tanks.
      v. New Coaxial Prohibited:
         1. No coaxial fill pipes shall be installed in new installations; and
         2. No coaxial fill pipes shall be reinstalled in major modifications in which the top of the tank is exposed and the vapor port bung is pre-configured to accept vapor recovery piping.
   c. Equipment Maintenance and Use Required:
      i. All vapor loss control equipment shall be:
         1. Installed as required;
         2. Operated as recommended by the manufacturer; and
         3. Maintained leak-free, vapor-tight and in good working order.
      ii. Coaxial Systems: Both spring-loaded and fixed coaxial fill pipes shall be
         1. Maintained according to the standards of their manufacturer(s); and

2. Be operated so that there is no obstruction of vapor passage from the tank to the cargo tank.

5-20-400. ADMINISTRATIVE REQUIREMENTS

1. The owner or operator of a gasoline dispensing facility shall conduct inspections of the stationary gasoline storage tank.
    a. The inspection shall include, but is not limited to all of the following:
        i. The spill containment receptacle shall be maintained:
            1. Free of cracks, rust and defects;
            2. Free of foreign material;
            3. Empty of liquid, including gasoline; and
            4. The drain valve, if installed, shall properly seal.
        ii. The external fittings of the fill pipe assembly shall be:
            1. Intact and not loose;
            2. Covered with a gasketed cap that fits securely onto the fill pipe.
        iii. The poppetted dry break shall be:
            1. Equipped with a vapor tight seal;
            2. Covered with a gasketed cap that fits securely onto the poppetted dry break.
    b. The inspections shall be conducted:
        i. At least once per calendar week; or
        ii. If the gasoline dispensing facilities receives gasoline loads less than once per calendar week, the inspection shall take place upon completion of the receipt of the load of gasoline.
2. Burden of Proof:
    a. Proving Exempt Status: The burden of proof of eligibility for exemption from a provision of this rule is on the owner or operator. An owner or operator seeking such an exemption shall maintain adequate records and furnish them to the Control Officer upon request.
    b. Providing Proof of Equipment Compliance: It is the responsibility of the owner or operator to provide proof, when requested by the Control Officer, that a vapor recovery system or its modifications meet the requirements of this Article.
3. CARB Decertification: An owner or operator shall not install or reinstall a component related to vapor recovery that has been decertified by CARB.

5-20-500. MONITORING AND RECORDS

1. MONITORING FOR LEAKS
    a. Combustible Gas Detector or Organic Vapor Analyzer – Test Procedure: During loading of gasoline into storage tanks, the peripheries of all potential sources of leakage at the loading facility are checked with a combustible gas detector (CGD) or organic vapor analyzer(OVA) as follows:
        i. Calibration: Within four hours prior to monitoring, the CGD or OVA shall be suitably calibrated in a manner and with the gas specified by the manufacturer for 20 percent LEL response, or calibrated with methane for a 10,000 ppm response.
        ii. Probe Distance: The probe inlet shall be one inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be one inch (2.5 cm) from the leak source when the highest detector reading is being determined for a discovered leak. When the probe is obstructed from moving within one inch (2.5 cm) of an actual or potential leak source, the closest practicable probe distance shall be used.
        iii. Probe Movement: The probe shall be moved slowly, not faster than 1.6 inches per second (4 centimeters per second). If there is any meter deflection at a potential or actual leak source, the probe shall be positioned to locate the point of highest meter response.

iv. Probe Position: The probe inlet shall be positioned in the path of the vapor flow from a leak such that the central axis of the probe-tube inlet shall be positioned coaxial with the path of the most concentrated vapors.

b. Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3:
   i. 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.
   ii. 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 §5-20-500.1.a of this rule shall be used to determine if a vapor leak exists.

c. Optical Gas Imaging: An owner or operator may use an optical gas imaging instrument to identify vapor leaks. If a vapor leak is detected, the instrument techniques listed in Section §5-20-500.1.a of this rule shall be used to determine if a vapor leak exists.

2. COMPLIANCE INSPECTIONS: Any gasoline dispensing facility required by this rule to be equipped with vapor loss control devices may be subject to monitoring for vapor tightness and liquid leak tightness during any working hours. Such a tank may be opened for gauging or inspection when loading operations are not in progress, provided that such tank is part of an open system or is served by a positive-pressure relief valve with a relief setting not exceeding +1/2 lb psig.

3. GASOLINE DISPENSING FACILITY RECORDKEEPING: The owner or operator of each gasoline dispensing facility in the Pinal County portion of the Phoenix 8-hour ozone nonattainment area shall maintain records as follows:
   a. The total amount of gasoline received each month shall be recorded by the end of the following month.
   b. The owner or operator of a gasoline dispensing facility shall record inspections in a permanent record or log book:
      i. By the end of Saturday of the following week; or
      ii. If the gasoline dispensing facilities receives gasoline loads less than once per calendar week, the owner or operator shall record the inspection within three days after the receipt of the load of gasoline.
      iii. These records and any reports or supporting information required by this rule or by the Control Officer shall be retained for at least 5 years.
      iv. Records of the past 12 months shall be in a readily accessible location and must be made available to the Control Officer within 24 hours upon verbal or written request.

4. COMPLIANCE DETERMINATION: The test methods referenced in §5-20-500.5 of this rule, shall be used in the ways given in the subsections that immediately follow. When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule. For routine information collection, the Control Officer may accept a manufacturer's data sheet (MSDS), data certified by an officer of the supplying company, or test data for the product of inquiry.
   a. Control efficiency of vapor loss control equipment and vapor collection/ processing systems shall be determined according to EPA Method 2A and either EPA Method 25A or 25B, or by CARB-approved test methods. EPA Method 2B shall be used for vapor incineration devices.
   b. Vapor pressure of gasoline shall be determined using ASTM D323-15a Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method or ASTM D4953-15, Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method. ASTM D323-15a shall be used for gasoline either containing no oxygenates or MTBE (methyl tertiary butyl ether) as the sole oxygenate. Method ASTM 4953-15 shall be used for oxygenated gasoline.

c. Vapor Leaks:
    i. If a determination of leak tight status is to be made on Stage 1VR system or spill containment equipment at a gasoline dispensing facility or on a cargo tank at the station, the method in §5-20-500(4)(c) of this rule shall be used.
    ii. §5-20-500(4)(c) of this rule probe distance and movement parameters not with-standing, if it has been established that there are no other interfering vapor escapes, it is an exceedance if a reading by the Control Officer from an established vapor escape above 1/5 LEL (or 10,000 ppm as methane) is sustained for at least 5 seconds, and the probe is either consistently further than 1 inch from the source and/or the probe is consistently being moved faster than 4 cm per second.
    iii. The Control Officer may count it as a failure to perform weekly inspections pursuant to §5-20-300.3 of this rule if foreign material is found in a spill containment receptacle and there is no record of an inspection's being performed in the preceding 10 days.

5. TEST METHODS: The EPA test methods as they exist in the Code of Federal Regulations (CFR) as listed below, are adopted by reference. The CARB test methods as they exist in Stationary Source Test Methods, Volume 2, on April 8, 1999, as listed in §5-20-500(5)(c) of this rule, are adopted by reference. The other test methods listed here are also adopted by reference, each having paired with it a specific date that identifies the particular version/revision of the method that is adopted by reference. These adoptions by reference include no future editions or amendments.
    a. EPA Test Methods:
        i. EPA Methods 2a ("Direct Measurement of Gas Volume Through Pipes and Small Ducts"), and 2b ("Determination of Exhaust-Gas Volume Flow-Rate From Gasoline Vapor Incinerators").40 CFR 60, Appendix A.
        ii. EPA Method 21 - Determination of Volatile Organic Compound Leaks.
        iii. EPA Method 21-Determination of Volatile Organic Compound Leaks, Alternative Screening Procedure 8.3.3
        iv. EPA Method 25 ("Determination of Total Gaseous Nonmethane Organic Emissions as Carbon") and its submethods (40 CFR 60, Appendix A).
        v. EPA Method 27 ("Determination Of Vapor Tightness Of Gasoline Delivery Tank Using Pressure-Vacuum Test") in 40 CFR 60, Appendix A.
        vi. 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 instead of a 40 CFR part 60, Appendix A-7, Method 21to monitor for equipment volatile organic compound leaks.
    b. ASTM Standards:
        i. ASTM D323-15a "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).
        ii. ASTM D4953-15 "Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)
    c. CARB Certification and Test Procedures for Gasoline Vapor Recovery Systems:
        i. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1B, Static Torque of Rotatable Phase 1 Adaptors, October 8, 2003 edition, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.
        ii. California Air Resources Board Vapor Recovery Test Procedure TP-201.1,—Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003.
        iii. CARB Test Procedure TP-201.1A - "Determination of Efficiency of Phase I Vapor Recovery Systems of Dispensing Facilities with Assist Processors".
        iv. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1E, Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, October

8, 2003 edition, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.

v. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1C, Leak Rate of Drop Tube/Drain Valve Assembly, October 8, 2003 edition, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.

vi. California Environmental Protection Agency, Air Resources Board Vapor Recovery Test Procedure TP-201.1D, Leak Rate of Drop Tube Overfill Protection Devices and Spill Container Drain Valves, October 8, 2003 edition, California Air Resources Board, P.O. Box 2815, 2020 L. Street, Sacramento, California 95812-2815.

vii. California Air Resources Board Vapor Recovery Test Procedure TP-201.3—Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended July 26, 2012.

viii. Bay Area Air Quality Management District Source Test Procedure ST-30—Static Pressure Integrity Test—Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994.

d. Additional Test Methods:

i. San Diego County Air Pollution Control District Test Procedure TP-96-1, March 1996, Third Revision, Air Pollution Control District, 9150 Chesapeake Drive, San Diego, CA 92123-1096.

ii. 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).

BOS Resolution goes here