

**CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC HEALTH
AIR MANAGEMENT SERVICES (AMS)**

**REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)
(VOC RACT)
STATE IMPLEMENTATION PLAN (SIP) REVISION
UNDER THE 2008 75 ppb 8-HOUR OZONE
NATIONAL AMBIENT AIR QUALITY STANDARD (NAAQS)**

March 15, 2018

Table of Contents

| | |
|---|-----------|
| 1.0 INTRODUCTION | 3 |
| 1.1 Background and Requirements | 3 |
| 1.1.1 Health Effects of Ozone | 3 |
| 1.1.2 Philadelphia’s Ozone Designation | 3 |
| 1.1.3 CAA RACT Requirements | 5 |
| 1.2 Responsible Agency | 6 |
| 2.0 CTG RACT CERTIFICATION | 6 |
| 2.1 Summary | 6 |
| 2.1.1 VOC RACT Regulations | 7 |
| 2.1.2 RACT Regulations | 8 |
| 3.0 NEGATIVE DECLARATIONS | 23 |
| LIST OF FIGURES | |
| Figure 1. Philadelphia-Wilmington-Atlantic City PA-DE-MD-NJ Marginal Non-Attainment Area | 4 |
| LIST OF TABLES | |
| Table 1. Philadelphia VOC RACT Regulations under the 2008 8-Hour Ozone NAAQS | 9 |
| Table 2. VOC Source Categories with Negative Declarations | 23 |
| REFERENCES | 24 |

1.0 INTRODUCTION

On March 12, 2008, the United States Environmental Protection Agency (EPA) announced its revisions to the National Ambient Air Quality Standards (NAAQS) for ozone (73 FR 16436). This action revised the primary and secondary standards to a level of 75 parts per billion (ppb) over an 8-hour period. The EPA's final rule *Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements* set out the requirements for Reasonable Available Control Technology (RACT) State Implementation Plans (80 FR 12264).

1.1 Background and Requirements

The federal Clean Air Act (CAA) of 1990 gives states the primary responsibility for achieving the NAAQS. The NAAQSs are established by the EPA as the maximum concentrations in the atmosphere for specific air contaminants to protect public health and welfare. The principal mechanism at the state and local level for complying with the CAA is the State Implementation Plan (SIP). A SIP outlines the programs, actions, and commitments a state will carry out to implement its responsibilities under the CAA. Once approved by the EPA, a SIP is a legally binding document under both state and federal law.

1.1.1 Health Effects of Ozone

Ground level ozone, one of the principal components of "smog," is a serious air pollutant that harms human health and the environment. High levels of ozone can damage the respiratory system and cause breathing problems, throat irritation, coughing, chest pains, and greater susceptibility to respiratory infection. High levels of ozone also cause serious damage to forests and agricultural crops, resulting in economic losses to logging and farming operations

Ozone is generally not directly emitted to the atmosphere; rather it is formed in the atmosphere by photochemical reactions between volatile organic compounds (VOC), oxides of nitrogen (NO_x), and carbon monoxide (CO) in the presence of sunlight. Consequently, in order to reduce ozone concentrations in the ambient air, the CAA requires all non-attainment areas to apply controls on VOC/NO_x emission sources to achieve emission reductions. Since CO's role in forming ozone is relatively insignificant, the CAA does not specify requirements on CO emission reductions regarding ozone attainment. Among effective control measures, the RACT controls are a major group for reducing VOC and NO_x emissions from stationary sources.

1.1.2 Philadelphia's Ozone Designation

In 2004, EPA designated 126 areas of the country as "non-attainment" under the 1997 8-hour ozone NAAQS, effective June 15, 2004. Among those non-attainment areas is the Philadelphia-Wilmington-Atlantic City Moderate Non-Attainment Area (NAA), which includes three counties in Delaware, five counties in eastern Pennsylvania and eight counties in southern New Jersey, as

shown in Figure 1. Since this moderate NAA is centered by Philadelphia, it is often referred to as “Philadelphia NAA.” See 69 FR 23858, at 23931 (April 30, 2004).^{1,2}

In 2012, EPA designated 46 areas throughout the country as nonattainment for the 2008 ozone NAAQS, effective July 20, 2012, and established classifications for the designated nonattainment areas. See 77 FR 30088 (May 21, 2012) and 77 FR 34221 (June 11, 2012). The Philadelphia area was designated as a 2008 8-hour Marginal Non-Attainment Area.

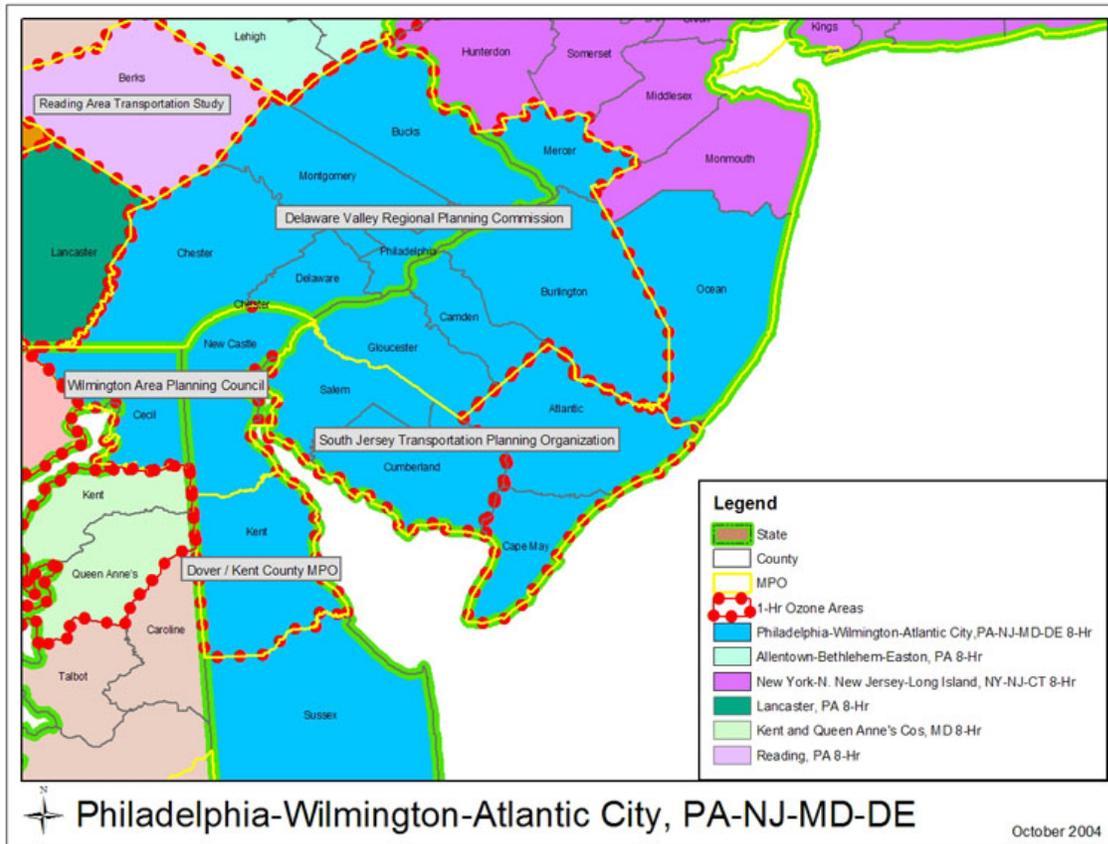


Figure 1. Philadelphia-Wilmington-Atlantic City PA-DE-MD-NJ Marginal Non-Attainment Area

¹ On April 11, 2016, the EPA determined that the Philadelphia Area did not attain the 2008 standard by the July 20, 2015, attainment date, but that it qualified for a 1-year attainment date extension.

² On November 2, 2017, the EPA determined that the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE marginal ozone nonattainment area (the Philadelphia Area) has attained the 2008 ozone national ambient air quality standard (NAAQS) by the July 20, 2016, attainment date (82 FR 50814).

1.1.3 CAA RACT Requirements

The EPA has defined RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility (44 FR 53761 at 53762, September 17, 1979). Section 182 of the CAA sets forth two separate RACT requirements for ozone non-attainment areas. The first requirement, contained in section 182(a)(2)(A) of the CAA, and referred to as RACT fix-up, requires the correction of RACT rules for which EPA identified deficiencies before the Act was amended in 1990. Philadelphia has no deficiencies to correct under this Section of the CAA. The second requirement, set forth in section 182(b)(2) of the CAA, applies to moderate or worse ozone non-attainment areas as well as to any areas in ozone transport regions (OTRs) established pursuant to section 184 of the CAA, and requires states to implement in these areas RACT controls on all major VOC and NO_x emission sources and on all sources and source categories covered by a Control Technique Guideline (CTG) issued by EPA. In addition, section 184 of the CAA establishes that RACT applies in major sources in the OTR as if it was a moderate nonattainment area.

Under section 183 of the CAA, EPA was required to issue by certain timeframes several guidance documents for RACT controls that would help states meet the requirements of section 182(b)(2). This requirement upon EPA includes developing (1) CTGs for controls of VOC emissions from stationary sources, and (2) Alternate Control Techniques (ACTs) for controls of VOC and NO_x emissions from stationary sources.

The EPA issued three groups of CTG documents, establishing a “presumptive norm” for RACT for various categories of VOC sources: Group I, issued before January 1978 including 15 CTGs; Group II, issued in 1978 including 9 CTGs; and Group III, issued in the early 1980s with 5 CTGs. Sources not covered by the issued CTGs are referred to as non-CTG sources. The EPA has also issued over a dozen Alternative Control Technique documents (ACTs) for various categories of VOCs and NO_x sources, which describe available control technologies and their respective cost effectiveness.

The EPA determined that for 13 VOC product categories in Groups II-IV, issuing CTGs would be as effective as National rules. The CTG documents were issued in 3 Groups: 4 in 2006, 3 in 2007 and 4 in 2008 (one 2006 and one 2008 CTG document includes two categories). All published CTG and ACT documents, along with other documentation, are listed in Table 1 of this document. In general, states meet the CAA’s RACT requirements by imposing controls that meet the control requirements established in final CTG documents and considering the information in ACT documents to relevant VOC and NO_x sources in their moderate or worse non-attainment areas.

Although designated as a marginal NAA under the 2008 8-hour ozone standard, Philadelphia continues to be treated as a moderate NAA given its location in the OTR. Applicability of RACT requirements for CTG VOC sources is provided in the Pennsylvania’s CTG RACT rules which have been approved into the SIP, in accordance with EPA’s recommendations in the respective CTGs.

According to the EPA’s Final Rule to Implement the 2008 75 ppb 8-Hour Ozone NAAQS (80 FR 12264), areas classified as moderate nonattainment or higher must submit a demonstration

that their current rules fulfill 8-hour ozone RACT requirements for all CTG categories and all major to their SIPs. Such demonstrations can be made with either a new RACT determination or a certification that previously required RACT controls represent RACT for the 8-hour ozone standard. A certification shall be accompanied by appropriate supporting information such as consideration of information received during the public comment period and consideration of new data, and that may supplement existing RACT guidance documents that were developed for the 1997 8-hour standard, such that SIPs accurately reflect RACT for the 2008 8-hour ozone NAAQS based on current availability of technically and economically feasible controls. The RACT SIP submittal is in addition to the area's 8-hour ozone attainment demonstration plan, which is also a SIP submittal.

1.2 Responsible Agency

The agency with direct responsibility for developing and submitting this SIP document for Philadelphia is Philadelphia's Department of Public Health, Air Management Services (AMS), under the Agency's Director, Dr. Kassahun Sellassie. The working responsibility for air quality planning falls within Program Services, under Mr. Henry Kim.

2.0 CTG RACT CERTIFICATION

2.1 Summary

The City of Philadelphia, Department of Public Health, Air Management Services (AMS) has prepared this RACT analysis to demonstrate that Philadelphia has met its obligations for VOC sources covered under CTGs as required under the CAA for the 2008 8-hour ozone NAAQS. AMS' air pollution control program is operated under the approval of the Pennsylvania Department of Environmental Protection (PADEP) in accordance with the provisions of 25 Pa Code Section 133. AMS controls air pollution from air contamination sources by means of visible, mass, and concentration emission standards equal to, or more stringent than, those standards established by the Department for emissions (25 Pa Code Section 133.4 (b) (2)). Since the early 1990s, Philadelphia has implemented numerous RACT controls to meet the CAA's RACT requirements.

RACT controls for VOC sources in Philadelphia have been adopted and promulgated by AMS in Philadelphia's *Air Management Regulation (AMR) V – Control of Emissions of Organic Substances from Stationary Sources* and by PADEP in 25 Pa Code Section 129. AMS implements the provisions of 25 Pa Code 129 in Philadelphia under *AMR I – General Provisions, Section X. Compliance With Regulations of the Environmental Quality Board Of Pennsylvania* and *AMR V Control of Emissions of Organic Substances From Stationary Sources, Section X. Compliance With Pennsylvania Standards For Volatile Organic Compounds (VOC)*.

RACT analysis needs to be done for all CTG sources and all major non-CTG sources. While the CTGs provide a starting point for such an analysis, RACT can change over time as new technology becomes available or the cost of existing technology adjusts. States are encouraged to use the latest information available in making RACT determinations, whether that information is in CTGs, other guidance that is available or through information submitted during the public review

process. As further discussed later, RACT control measures have been adopted, implemented, and approved into the SIP as regulations for VOC sources in Philadelphia covered by EPA's CTGs.

Most VOC RACT regulations have been adopted consistent with EPA's CTGs and were determined adequate by EPA for purposes of meeting RACT under the 1997 8-hour ozone NAAQS. Additional VOC RACT regulations have been adopted by PADEP to satisfy those CTGs promulgated by EPA after 2006. Based on our review of current technologies and feasibility of those technologies for the affected source categories, AMS has found no data indicating that the existing levels of control for the affected VOC sources should not satisfy CTG RACT. Therefore, AMS is certifying that existing CTG regulations are consistent with EPA's CTGs and represent RACT for the 2008 8-hour ozone NAAQS, as they reflect the most current pollution control technologies and economic considerations.

Philadelphia's minor source permitting program requires a detailed administrative and technical review of sources that emit air contaminants far below the "major" threshold" and CTG cutoffs (i.e., permits are required for the emission of 1 ton per year or more of any pollutant, except for sources specifically exempted in Air Management Code. Some small sources may just require a permanent operating license (registration). This permitting program gives confidence that all major and CTG covered sources are controlled by RACT level or better controls.

AMS is certifying that it has adopted all necessary control requirements based on the current availability of technically and economically feasible controls to meet RACT under the 2008 ozone standard for VOC sources covered by CTGs. The proposed SIP revision consists of a certification that RACT has been addressed for all existing VOC sources in Philadelphia covered by CTGs, as supported by the following: (1) a determination that previously adopted RACT regulations in the Pennsylvania SIP that were approved by EPA under the 1997 8-hour ozone NAAQS continue to represent RACT for 2008 8-hour ozone implementation purposes for CTG VOC source categories, (2) confirmation that recently adopted regulations address additional CTG RACT requirements for the 2008 8-hour ozone NAAQS, and (3) negative declarations for all such CTG VOC source categories for which there are no affected facilities in Philadelphia.

2.1.1 VOC RACT Regulations

All existing CTG VOC sources in Philadelphia are subject to regulations in 25 Pa. Code Chapter 129 and AMR V previously adopted and approved into the SIP to meet RACT under the previous ozone NAAQS. Pursuant to AMR V Section X, the owner or operated of any affected source of VOC emissions must comply with the applicable RACT standards established in these regulations. Where a source is subject to dual compliance requirements under AMS and PADEP's regulations, AMS will consider as RACT compliance with the most stringent of the RACT standards for that source category.

From 2006 to 2008, EPA adopted 11 additional CTGs which became applicable requirements under the 2008 8-hour ozone NAAQS. Newer regulations consistent with the underlying CTG requirements have been adopted by PADEP and/or AMS, and are adequate as RACT for 2008 75 ppb 8-hour ozone NAAQS. AMS is certifying that these regulations are based on the current availability of technically and economically feasible controls and that they represent RACT for 2008 75 ppb 8-hour ozone NAAQS implementation. AMS is also certifying there are no sources in Philadelphia under the following CTG source categories: (1) VOC equipment leaks from natural gas and gasoline processing plants and (2) coating from wood paneling. Therefore, there is no need to adopt RACT controls for these source categories (see section 3.0).

2.1.2 RACT Regulations

Identification and certification of VOC RACT controls are provided in Table 1 below.

Explanations for each column of Tables 1 are as follows:

- Column 1: The Source Category for the Identification of VOC RACT controls.
- Column 2: Identifies the underlying basis for the RACT determination (CTG, ACT, etc.)
- Column 3: Identifies each section of the Air Management Regulation or PA DEP Code.
- Column 4: Identifies the date the rule was approved into the Pennsylvania SIP, along with the Federal Register citation.
- Column 5: Explains RACT control applicability and requirements.
- Column 6: Certifies whether or not the current rule represents RACT under the 2008 75 ppb 8-hour ozone NAAQS. Where Philadelphia has certified that a current SIP approved regulation represents RACT under the 2008 75 ppb 8-hour ozone standard, AMS affirms that it is not aware of any significant changes in control technology that affect the original RACT determination, unless otherwise explained in Column 5. Also, note that any discussion on cost effectiveness is relative only to this RACT SIP, and is not relevant as to whether or not control of a particular source or source category is cost effective relative to the entire SIP.

Table 1. Philadelphia VOC RACT Regulations under the 2008 8-Hour Ozone NAAQS

| VOC Source Category | RACT Basis | Regulation | SIP Revision Approved by EPA | RACT Rule Applicability and Requirements | Represents RACT under the 2008 8-hour Ozone NAAQS? |
|---|---|---|------------------------------|---|--|
| Gasoline Storage Tank Control (Stage I) | CTG: Design Criteria for Stage I Vapor Control Systems - Gasoline Service Stations, November 1975 | SOURCES OF VOC Section 129.61.-Small gasoline storage tank control (Stage I control). | 08/11/92, 57 FR 35777 | This section applies to stationary gasoline storage tanks at gasoline dispensing facilities. The requirements include (1) loading with submerged fill method, and (2) installing vapor recovery system that returns the displaced vapors to the delivery vessels and then to the bulk plant or terminal. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Petroleum Liquid Storage | CTG: Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed Roof Tanks, EPA-450/2-77-036, December 1977 (Group I). CTG: Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks, EPA-450-2/78-047, December 1978 (Group II). | AMR V Section II. – <i>Storage Tanks</i> | 5/31/72; 37 FR 10842 | This section applies to any stationary storage tank or container of 40,000 gallon capacity or greater with a vapor pressure greater than 1.5 psia or 11 psia. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes, as implemented in combination with PA DEP Regulations This section fully implements the CTG specified control in Philadelphia, and represents RACT control level over the covered sourced under the 2008 8-hour ozone NAAQS. |
| | | SOURCES OF VOC Section 129.56.- Storage tanks greater than 40,000 gallons | 07/26/00, 65 FR 45920 | This section applies to petroleum liquid storage tanks with external floating or fixed roofs and with a | Yes. This section fully implements the CTG- specified control and represents RACT control level |

| | | | | | |
|---|---|---|----------------------|--|---|
| | | capacity containing VOCs | | capacity of greater than 40,000 gal. The rule establishes sealing standards for storage tanks, including a vapor collection and recovery system. | over the affected sources under the 2008 8-hour ozone NAAQS. |
| | | SOURCES OF VOC Section 129.57.- Storage tanks less than or equal to 40,000 gallons capacity containing VOCs | 01/19/83, 48 FR 2319 | This section applies to petroleum liquid storage tanks with external floating or fixed roofs and with a capacity of 40,000 gal or less. The rule establishes sealing standards for storage tanks, including a vapor collection and recovery system. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Refinery Equipment: Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds | CTG: Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds, EPA-450/2-77-025, October 1977 (Group I). | <u>AMR V Section III.</u> – Oil-Effluent Water Separator | 5/31/72; 37 FR 10842 | This section applies to oil-effluent water separators that receive 200 gallons a day or more of organic materials. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes, as implemented in combination with PA DEP Regulations |
| | | SOURCES OF VOC Section 129.55. - Petroleum refineries— specific sources | 01/19/83, 48 FR 2319 | This section applies to vacuum-producing systems, wastewater separators and process unit turnaround at petroleum refineries. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|------------------------|---|--|----------------------|--|---|
| | | | | Requirements include (1) no uncompressed VOC emission from vacuum producing systems, (2) covers, lids or seals for wastewater separators, and (3) depressurization of process unit or vessel to reduce its internal pressure to 136 kPa or less and then venting to vapor recovery system, flare or firebox. | |
| Bulk Gasoline Plants | CTG: Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77- 035, December 1977 | <u>AMR V Section V.</u> – <i>Organic Material Loading</i> (<i>Except for paragraphs V.C. and V.D.</i>) | 5/31/72; 37 FR 10842 | This section applies to any loading facility loading organic material of 4.0 pounds or greater. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes, as implemented in combination with PA DEP Regulations |
| Solvent Metal Cleaning | CTG: Control of Volatile Organic Emissions from Solvent Metal Cleaning, EPA-450/2-77-022 November 1977 (Group I). | SOURCES OF VOC Section 129.63.- Degreasing operations | 01/16/03, 68 FR 2208 | This section applies to solvent cleaning machine that contains solvent in which VOC is more than 5% by weight. This rule establishes standards for (1) batch cold cleaning machines, (2) batch vapor cleaning machines, (3) inline cleaning machines, (4) and cleaning machines | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|---------------------------------------|--|--|-----------------------|---|---|
| | | | | without a solvent-air interface. It also specifies an alternative standard for (2) and (3) above. | |
| Tank Truck Gasoline Loading Terminals | CTG: Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals, EPA-450/2-77-026, December 1977 | <u>AMR V Section V.</u> – <i>Organic Material Loading</i> (<i>Except for paragraphs V.C. and V.D.</i>) | 5/31/72; 37 FR 10842 | This section applies to any loading facility loading organic material of 4.0 pounds or greater. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes. |
| | | SOURCES OF VOC Section 129.59.-Bulk gasoline terminals | 08/11/92, 57 FR 35777 | This section applies to the total of all the loading racks at any bulk gasoline terminal that delivers liquid product into gasoline tank trucks. Requirements include control using a vapor collection and control system designed to collect and destroy the organic compound liquids or vapors displaced from gasoline tank trucks during product loading; and | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|-------------------------------|--|---|-----------------------|---|---|
| | | | | various other equipment and operational requirements. | |
| Bulk Gasoline Plants | CTG: Control of Volatile Organic Emissions from Bulk Gasoline Plants, EPA-450/2-77-035, December 1977 | SOURCES OF VOC Section 129.60.-Bulk gasoline plants | 08/11/92, 57 FR 35777 | This section applies to all unloading, loading, and storage operations at bulk gasoline plants and to any gasoline tank truck delivering or receiving gasoline at a bulk gasoline plant. Requirements include the use of vapor balance, and various equipment and work practice standards. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Use of Cutback Asphalt | CTG: Control of Volatile Organic Compounds from Use of Cutback Asphalt, EPA-450/2-77-037, December 1977 | SOURCES OF VOC Section 129.64.- Cutback asphalt paving | 07/27/84, 49 FR 30183 | This section establishes requirements related to the use of cutback asphalt and establishes VOC content limits for emulsified asphalt. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Leaks from Petroleum Refinery | CTG: Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment, EPA-450/2-78-036, June 1978 | SOURCES OF VOC Section 129.58.- Petroleum refineries— fugitive sources. AMR V Section IV Pumps and Compressors | 07/27/84, 49 FR 30183 | This section applies to equipment in VOC service in any process unit at petroleum refineries. The rule establishes standards for proper valve operations under various scenarios to prevent VOC leak emissions. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|--|---|--|-----------------------------|---|--|
| Leaks from Gasoline Tank Trucks and Vapor Collection Systems | CTG: Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051, December 1978 | SOURCES OF VOC Section129.62.- General standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks | 8/26/05 70 FR 50199 | This section applies to gasoline tank trucks equipped for gasoline vapor collection. The rule requires that the affected gasoline tank trucks must be vapor-tight. | . Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| | | <u>AMR V Section XIII.</u> <i>Process Equipment Leaks</i> | 4/6/93; 58 FR 17778 | This section applies to VOCs leaking from flanges, gaskets, seals, connections, joints, fittings or other process equipment components not involving moving parts. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes, as implemented in combination with PA DEP Regulations |
| Graphic Arts - Rotogravure and Flexography | CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VIII: Graphic Arts - Rotogravure and Flexography, EPA-450/2-78-033, December 1978 | SOURCES OF VOC Section129.67.- Graphic arts systems | 07/26/00, 65 FR 45920 | This section applies to any rotogravure or flexographic printing process at a facility with potential uncontrolled VOC emission greater than 100 tons per year. The rule establishes the limits of VOC contents in coatings and inks used in the covered facilities, and specifies standards for control devices for various printing processes. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|--|---|--|-----------------------|--|---|
| Manufacture of Synthesized Pharmaceutical Products | CTG: Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, 450/2-78-029, December 1978 | <u>AMR V Section XII. Pharmaceutical Tablet Coating</u> | 6/16/93; 58 FR 33200 | This section applies to pharmaceutical tablet coating at pharmaceutical manufacturing facilities that emit greater than 50 tons of VOC per year. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes, as implemented in combination with PA DEP Regulations |
| | | SOURCES OF VOC Section 129.68.- Manufacture of synthesized pharmaceutical products | 08/11/92, 57 FR 35777 | This section applies to VOC sources at synthesized pharmaceutical manufacturing facilities, including reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers. The rule establishes standards for controlling and reducing VOC emissions from all covered sources. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Manufacture of Pneumatic Rubber Tires | CTG: Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires, EPA-450/2-78-030, December 1978 | SOURCES OF VOC Section 129.69.- Manufacture of pneumatic rubber tires | 12/22/94, 59 FR 65971 | This section establishes VOC emission limits for pneumatic rubber tire manufacturing operations. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|------------------------|--|---|-----------------------------|--|---|
| <p>Surface Coating</p> | <p>CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks, EPA-450/2-77-008, May 1977</p> <p>CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume III: Surface Coating of Metal Furniture, EPA-450/2-77-032, December 1977</p> <p>CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume IV: Surface Coating for Insulation of Magnet Wire, EPA-450/2-77-033, December 1977</p> <p>CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume V: Surface Coating of Large Appliances, EPA-450/2-77-034, December 1977</p> <p>CTG: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VI: Surface Coating of Miscellaneous Metal Parts</p> | <p>SOURCES OF VOC Section 129.52. - Surface coating processes</p> | <p>7/20/01, 66 FR 37908</p> | <p>This section applies to the following coating operations:</p> <ol style="list-style-type: none"> (1) Coating at automobile and light-duty truck assembly plants, and to any can, coil, paper, fabric, or vinyl coating unit and establishes maximum allowable VOC emissions per unit of coating solids. (2) Coating of metal furniture, and establishes max allowable VOC emissions per unit of coating solids. (3) Coating of magnetic wire and establishes max allowable VOC emissions per unit of coating solids. (4) Coating of large appliances and establishes max allowable VOC emissions per unit of coating solids. (5) Any miscellaneous metal parts coating line, and establishes max allowable VOC emissions per unit of coating solids. | <p>Yes.</p> <p>This section fully implements the CTG- specified controls, and represents RACT control levels over the affected sources under the 2008 8-hour ozone NAAQS.</p> |
|------------------------|--|---|-----------------------------|--|---|

| | | | | | |
|---|---|--|-------------------------|---|---|
| | and Products, EPA-450/2-78-015, June 1978 | | | | |
| Large Petroleum Dry Cleaners | CTG: Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners, EPA-450/ 3-82-009, September 1982 (Group III). | <u>AMR V Section XI.</u> <i>Petroleum Solvent Dry Cleaning</i> | 4/12/93; 58 FR 19066 | This section applies to petroleum solvent dry cleaning facilities that consume more than 100 gallons of petroleum solvent daily. The rule establishes organic material vapor control devices properly installed and well maintained. | Yes This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins | CTG: Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins, EPA-450/3-83-008, November 1983 | SOURCES OF VOC Section129.71.- Synthetic organic chemical and polymer manufacturing— fugitive sources | 12/22/94, 59 FR 65971 | This section establishes provisions for minimizing leaks, and establishes a leak detection and repair program for process equipment. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing | CTG: Control of Volatile Organic Compound Fugitive Emissions from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment, EPA-450/3-83-006, March 1984 | Section129.71.- Synthetic organic chemical and polymer manufacturing— fugitive sources | 12/22/94, 59 FR 65971 | This section establishes provisions for minimizing leaks, and establishes a leak detection and repair program for process equipment. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Synthetic Organic Chemical Manufacturing Industry | CTG: Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing | <u>AMR V Section XVI.</u> <i>Synthetic Organic Manufacturing Industry(SOCMI)Air Oxidation, Distillation and Reactor Processes</i> | 10/17/2016; 81 FR 69687 | This section applies to the unit process of oxidation of organic compounds that involves the chemical reaction with an oxidizing agent in the | Yes This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|--|---|---|-----------------------------------|---|---|
| | Industry, EPA-450/3-84-015, December 1984 CTG: Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry, EPA-450/4-91-031, August 1993 | | | synthetic organic chemical manufacturing industry. This section addresses the Control of VOC emissions from two types of process vents, reactors and distillation columns, in the synthetic organic chemical manufacturing Industry. | |
| Wood Furniture | CTG: Wood Furniture (CTG-MACT) - draft MACT out 5-94; Final CTG, EPA-453/R-96-007, April 1996; see also 61 FR 25223, and, 61 FR 50823, September 27, 1996 | WOOD FURNITURE MANUFACTURING OPERATIONS Sections 129.101-129.107 | 07/20/01, 66 FR 37908 | This section establishes VOC emission limitations and work practice standards for wood furniture manufacturing operations with the potential to emit 25 tpy or greater of VOC. | Yes. This section fully implements the CTG specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Surface Coating at Shipbuilding and Ship Repair Operations | CTG: Control Technique Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating) 61 FR-44050 8/27/96 – 1996/08 | <u>AMR V Section XV.</u> <i>Control of Volatile Organic Compounds (VOC) from Marine Vessel Coating Operations</i> | 8/27/96; 61 FR 44050, August 1996 | This section applies to shipbuilding and ship repair industry, to reduce air emissions of VOC and particulate matter from coatings (paints) and solvents used at new and existing shipbuilding and ship repair facilities | Yes This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Aerospace Manufacturing | CTG: Aerospace (CTG & MACT) (see 59 FR 29216, June 6, 1994); CTG (Final), EPA-453/R-97-004, December 1997 | Section 129.73.- Aerospace manufacturing and rework | 06/25/01, 66 FR 33645 | This section applies to any aerospace manufacturing and rework facility. In brief, the rule establishes vapor | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|------------------------------|--|--|--|--|---|
| | | | | pressure limits, VOC content limits, emission limits and/or work practice standards for: (a) handwipe, spray gun, or flush cleaning operations, (b) primer, topcoat, self-priming topcoat, and specialty coating operations, (c) chemical milling maskant application, (d) depainting of aerospace vehicles, and (e) handling and storing of VOC. | |
| Industrial Cleaning Solvents | CTG: Industrial Cleaning Solvents, EPA-453/R-06-001, September 2006/09 | INDUSTRIAL CLEANING SOLVENTS, Sections 129.63a | Will be submitted to EPA for approval pending final rule. Rule proposed in PA Bulletin July 2017, Comment Ends August 2017. | This CTG applies to industries that have to use organic solvent for cleaning unit operations such as mixing vessels (tanks), spray booths, and parts cleaners, where a facility emits at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls in an ozone nonattainment area. The cleaning activities for removal of foreign material from substrate being cleaned include actions (activities) such as wiping, flushing, or spraying. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|--|---|--|---------------------------|---|--|
| Flexible Package Printing | CTG: Flexible Package Printing, EPA-453/R-06-003, EPA-453/R-06-003, September 2006 | FLEXIBLE PACKAGING PRINTING PRESSES, Sections 129.67a and 129.67 | 6/28/14 80 FR 36481 | This CTG provides control recommendations for reducing VOC emissions from inks, coatings, adhesives and cleaning materials used in flexible packaging printing. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Offset Lithographic and Letterpress Printing | CTG: Offset Lithographic and Letterpress Printing, EPA-453/R-06-002, September 2006 | OFFSET LITHOGRAPHIC PRINTING PRESSES AND LETTERPRESS PRINTING PRESSES, Sections 129.67b | 6/25/15 80 FR 36481 | This CTG provides control recommendations for reducing VOC emissions stemming from the use of fountain solutions, cleaning materials and inks in offset lithographic printing and cleaning materials and inks in letterpress printing. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Large Appliance Coatings | CTG: Large Appliance Coatings, EPA-453/R-07-004 September 2007/09 | LARGE APPLIANCE SURFACE COATING AND METAL FURNITURE SURFACE COATING PROCESSES, Section 129.52a | 8/24/11 76 FR 52867 | This CTG provides control recommendations for reducing VOC emissions stemming from the use of coatings in large appliance coating operations and in metal furniture surface coating operations. Coatings include paints, sealants, caulks, inks, adhesives, and maskants. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |

| | | | | | |
|---|--|--|-------------------------------|--|--|
| Metal Furniture Coatings | CTG: Control Techniques Guidelines for Metal Furniture Coatings, EPA 453/R-07-005, September 2007. | LARGE APPLIANCE SURFACE COATING AND METAL FURNITURE SURFACE COATING PROCESSES, Section 129.52a | 8/24/11 76 FR 52867 | This CTG provides control recommendations for reducing VOC emissions stemming from the use of coatings in large appliance coating operations and in metal furniture surface coating operations. Coatings include paints, sealants, caulks, inks, adhesives, and maskants. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Paper, Film, and Foil Coatings | CTG: Paper, Film, and Foil Coatings EPA 453/R-07-003 September 2007 | PAPER, FILM AND FOIL SURFACE COATINGS, Sections 129.52b | 05/23/2011, 76 FR 29649 | This CTG provides control recommendations for reducing VOC emissions stemming from the use of coatings in paper, film, and foil surface coating operations for the following industry sectors: pressure sensitive tape labels; photographic film; industrial and decorative laminates; and abrasive products and flexible packaging. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS |
| Miscellaneous Metal and Plastic Parts Coating | CTG: Miscellaneous Metal and Plastic Parts Coating, EPA-453/R-08-003, September 2008 | MISCELLANEOUS METAL AND PLASTIC PARTS SURFACE COATING, Section 129.52d | 10/16/17 82 FR 47988 | This CTG provides control recommendations for reducing VOC emissions from the use of coatings in miscellaneous metal | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS |

| | | | | | |
|---|--|---|----------------------------|--|--|
| | | | | products and miscellaneous plastic parts surface coating operations. | |
| Automobile and Light-Duty Truck Assembly Coatings | CTG: Automobile and Light-Duty Truck Assembly Coatings EPA-453/R-08-006 September 2008 | AUTO AND LIGHT-DUTY TRUCK ASSEMBLY coating operations and heavier vehicle coating operations. COATINGS, Section 129.52e | 10/24/17 82 FR 49166 | This section provides recommendation for reducing VOC emissions stemming from the use of coatings in Automobile and Light Duty Truck Assembly Coatings. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS. |
| Fiberglass Boat Manufacturing | CTG: Fiberglass Boat Manufacturing, EPA 453/R-08-004, September 2008 | FIBERGLASS BOAT MANUFACTURING, Sections 129.74 | 8/17/16 81 FR 31885 | This section applies to facilities that manufacture hulls or decks of boats from fiberglass, or build molds to make fiberglass boat hulls or decks (referred to as “fiberglass boat manufacturing facilities). | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS |
| Miscellaneous Industrial Adhesives | CTG: Miscellaneous Industrial Adhesives, EPA 453/R-08-005, September 2008 | MISCELLANEOUS INDUSTRIAL ADHESIVES, Sections 129.77, 130.701-704 | 80 FR 36481 06/25/15 | This CTG provides control recommendations for reducing VOC emissions from miscellaneous industrial adhesives and adhesive primer application processes. | Yes. This section fully implements the CTG- specified control and represents RACT control level over the affected sources under the 2008 8-hour ozone NAAQS |

3.0 NEGATIVE DECLARATIONS

After evaluating AMS’ emission statements and permitting databases for source categories per Standard Classification Code (SCC), AMS has determined that Philadelphia has no affected sources under the source categories listed in Table 3 below. For CTG sources, AMS relied on the definitions provided in the relevant CTGs

Table 2: VOC Source Categories with Negative Declarations

| Source Category | Pollutant | RACT Basis |
|--|-----------|---|
| Natural gas and gasoline processing plants | VOC | CTG VOC RACT: Natural gas and Gasoline processing plants: Control Techniques Guidelines for the Oil and Natural Gas Industry. EPA 453/B-16-001. October 2016. |
| Coating of flat wood paneling | VOC | CTG VOC RACT: Control of Volatile Organic Emissions from Existing Stationary Sources, Volume VII: Factory Surface Coating of Flat Wood Paneling. EPA-450/2-78-032, June 1978. Control Techniques Guidelines for Flat Wood Paneling Coatings EPA-453/R-06-004, September 2006. |

REFERENCES

U.S. EPA's Control Techniques Guidelines (CTG) documents, Alternative Control Techniques (ACT) documents, and Additional Reference Documents, cited in this SIP and Other Supporting Documents.

Please see link below:

<https://www.epa.gov/ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques-documents-reducing>